# Fluency Assessment Guide


HOUGHTON MIFFLIN
LEARNING TECHNOLOGY

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# Introduction to Fluency Assessment Guide

This book is intended to provide teachers with the materials and knowledge necessary to administer Fluency Assessments to their students as part of the *Earobics Reach* reading intervention program. This book includes instructions on how to schedule, administer, grade, and report scores of the formal Fluency Assessments. The entire text of each of the program's reading passages is provided as part of this book to enable students to read aloud from a printed page during the assessments.

For instructions on how to use *Earobics Reach* in the classroom and details on the instructional material found in the program, see the *Earobics Reach Teacher's Resource Guide*.

## The Purpose of Fluency Assessments

*Earobics Reach* contains a sequence of instructional units based around 72 reading passages of gradually increasing Lexile level. Each unit consists of four different instructional areas—Phonics, Vocabulary, Comprehension and Fluency. Each of the four areas instructs the student on distinct literacy skills. A student achieves mastery of all four instructional areas within a unit before moving to the next unit.

In the instructional areas of Phonics, Vocabulary and Comprehension, the system automatically measures student mastery of the material presented by scoring student responses to the activities. In Fluency, however, the activities consist of self-directed Fluency Practice, where the student builds skills through recording and hearing himself or herself read aloud.

Because Fluency Practice has no mastery hurdle that must be cleared before the student can advance to the next unit, *Earobics Reach* measures the student's progress using a system of teacher-graded Fluency Assessments administered at regular intervals. These Fluency Assessments also produce student performance data that is recorded by the system and can be presented in various individual and aggregate reports.

## Fluency Practice vs. Fluency Assessment

It is important to understand a few distinctions between Fluency Practice and Fluency Assessment. Both activities involve the student reading passages aloud (and potentially making audio recordings), but the two activities differ in a number of fundamental ways.

1. **Student-Led vs. Teacher-Led:** Fluency Practice is an entirely self-directed activity that students can engage in for a period of time limited only by the Fluency Practice timer in the student settings (15 minutes is the default). Fluency Assessment, by contrast, is a short (generally one minute) reading administered and graded by the teacher. (An alternate scenario involves the student recording an assessment without the teacher being present; see "What Is a Student-Administered Fluency Assessment?" on p. 8.)

2. **Frequency:** Fluency Practice is presented to the student multiple times in each unit (except the program's first unit, A11). A Fluency Assessment is normally administered only when the student reaches the last unit of each three-unit sub-theme (except the program's last unit, D63). Teachers also have the option of manually scheduling a Fluency Assessment at any time.
3. **Passages Used:** Fluency Practice utilizes text familiar to the student, while Fluency Assessment uses reading passages that the student has not seen previously. Thus, when the student is in Fluency Practice mode, he sees the passage from the *previous* unit. When the Fluency Assessment is administered, the student reads from the *next* passage in the *Earobics Reach* unit sequence.
4. **On-screen vs. Print:** During Fluency Practice, the student reads from a passage presented on-screen. In a typical Fluency Assessment, the student reads aloud from one of the passages in this book.
5. **Support:** In Fluency Practice the student has different levels of support available, including word cards, pacing guidance, and instructional commentary. There are no such supports available to the student during the Fluency Assessment.
6. **Decision to Record:** In Fluency Practice the student has the option of making an informal recording of himself, which he may or may not submit to the teacher for review. During the formal Fluency Assessment, it up to the teacher to decide whether the in-person assessment will be recorded for later grading.

| | Fluency Practice | Fluency Assessment |
|---|---|---|
| Student-Led vs. Teacher-Led | Student engages in self-directed activity | Teacher administers and grades assessment |
| Frequency | Presented to the student multiple times in each unit | Administered every three units, or as desired by the teacher |
| Passages Used | Familiar text; student practices on the passage found in previous unit's Comprehension activities | Unfamiliar text; student tested on passage found in next unit's Comprehension activities |
| On-screen vs. Print | Text presented on-screen | Text presented in print |
| Support | Word cards, pacing guidance, instructional commentary | No support available |
| Decision to Record | Student decides whether to submit self-assessment recording for teacher review | Teacher decides whether formal assessment will be recorded for later grading |

This guide is focused on the steps the teacher must take to administer and evaluate the Fluency Assessment. For more details on how students navigate Fluency Practice, see the *Earobics Reach Teacher's Resource Guide.*

## What Is a Student-Administered Fluency Assessment?

The student-administered Fluency Assessment makes it possible for students to record a formal Fluency Assessment even when the teacher is not available to administer the assessment in person. It is launched automatically by the program only when a student has mastered all the activities in a unit and the scheduled in-person Fluency Assessment has not yet been administered by the teacher. After the student has submitted a one-minute assessment recording, the student is allowed to progress to the next unit.

During the student-administered Fluency Assessment, the student is prompted to make a one-minute recording of himself or herself reading an unfamiliar passage displayed on-screen. Once the recording has been submitted, the student begins working on the next unit. However, the Fluency Assessment is not complete until the teacher listens to the one-minute recording, evaluates the student's performance, and submits scores for the prosody skills of phrasing, smoothness, pace, and expression.

The student-administered Fluency Assessment is a type of contingency feature, designed to keep a student progressing through the program in the event that a Fluency Assessment has been scheduled but the teacher has not administered it. It is recommended that the student-administered assessment be used only when absolutely necessary, as the in-person Fluency Assessment administered by the teacher is a more precise tool for measuring reading rate. The accuracy of the student-administered Fluency Assessment may be affected by the fact that students must read text displayed on a computer monitor and may be required to scroll or click through to subsequent pages, potentially interfering with the student's pacing.

# Fluency Assessment Instructions

## Earobics Reach Fluency Assessment Steps

### Scheduling
Fluency Assessment is scheduled for a student (automatic or manual).

### Launching
Teacher launches assessment with student present.

### Reading
Student reads aloud from assigned passage found in this guide.

### Recording
Teacher records the assessment for grading later.

### Grading
Teacher grades assessment and submits scores.

### Viewing Scores
Fluency scores are viewed in Unit Score Report.

## Steps for Teacher-Administered In-Person Assessment (no recording)


When a student begins the third unit of any three-unit sub-theme in *Earobics Reach,* the program schedules a Fluency Assessment for that student. It is the teacher's responsibility to administer and grade this assessment before the student completes the unit. Follow the steps below to complete the assessment.

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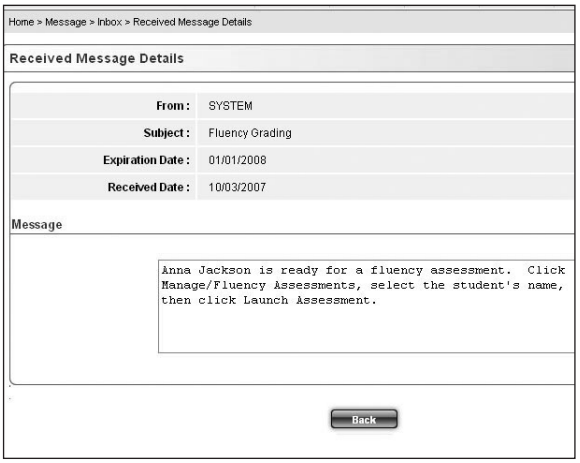
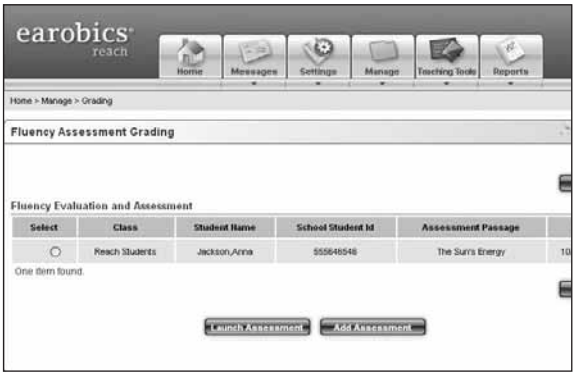
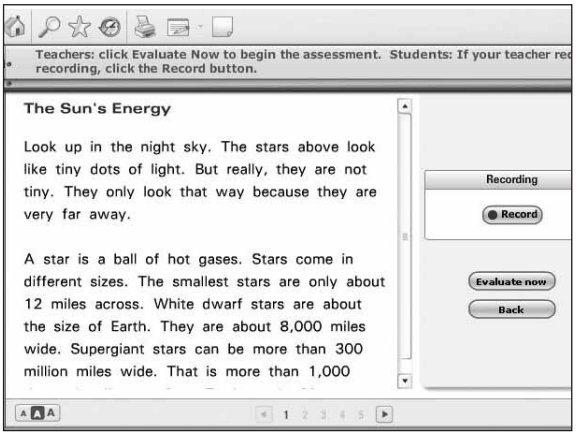
1. You will receive a message in your inbox titled "Fluency Grading" indicating that it is time to administer a Fluency Assessment to the student.




2. Select **Manage** from the main menu and click **Fluency Assessments.** The **Fluency Assessment Grading** screen appears.

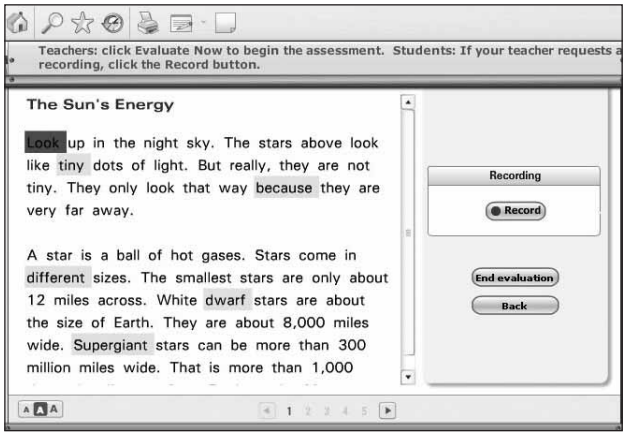



3. Select the student's name and click **Launch Assessment.** A screen displays the text of the passage. In the right column are buttons that control the Fluency Assessment.




4. At this point, the student should join you at the computer. The student should be positioned so that he or she cannot see the computer screen. Locate the passage displayed on screen in the pages of this book (an alphabetical index is included at the back). Hand the passage to the student and ask the student to read from the beginning of the passage once you give the signal to begin.

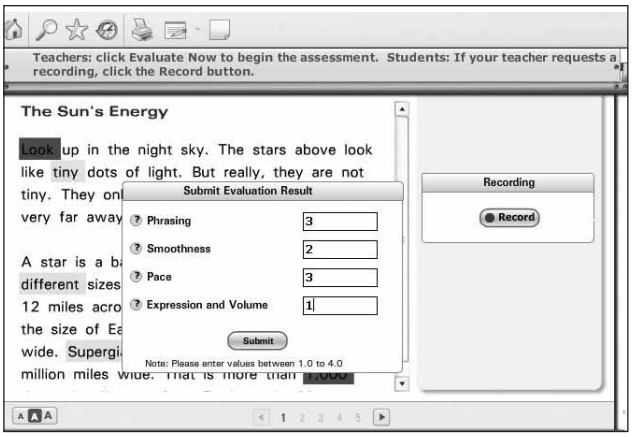
5. Click **Evaluate Now.** Once you click this button, an automatic timer will begin measuring the time elapsed during the assessment in order to calculate the student's reading rate. A pop-up window asks you to mark a starting point for the assessment. Click **Continue** and ask the student to begin reading aloud. Click on the first word the student reads (the first word in the passage); after you select the word it will be highlighted in dark blue.




6. As the student reads from the page, follow along with the text on screen. Click any words that the student skips or pronounces incorrectly; these words will be highlighted in violet. You may need to page forward by clicking the right arrow at the bottom of the screen.

7. Once the student has read enough of the passage to demonstrate his or her fluency skills, (assessments may last longer or shorter than one minute) click the **End Evaluation** button. Clicking this button stops the automatic timer used to calculate the student's reading rate. The student is now finished with the assessment.

8. A pop-up window asks you to mark the last word that the student read. After clicking **Continue,** click on the final word read by the student during the assessment. A pop-up window titled **Submit Evaluation Result** appears.




9. Evaluate the student's performance by entering numerical scores between 1.0 and 4.0 in the boxes next to the four prosody skill areas displayed: Phrasing, Smoothness, Pace, and Expression and Volume. (For detailed descriptions of the scoring criteria, click on the question mark icon next to each skill.) Once the four scores have been entered, click **Submit.**

10. Click the **Finish** button in the right column, and the **Fluency Assessment Grading** screen appears again. You have completed the administration and evaluation of the Fluency Assessment.

## Steps for Teacher-Administered Recorded Assessment

Scheduling → Launching → Reading → Recording → Grading → Viewing Scores

You may choose to administer the in-person Fluency Assessment by recording the student before entering the assessment scores. This approach may be useful if you need to administer assessments to many students at one time and prefer to complete the grading part of the evaluation later. To use this approach, make sure the student is wearing the headset with microphone in position before you begin recording.

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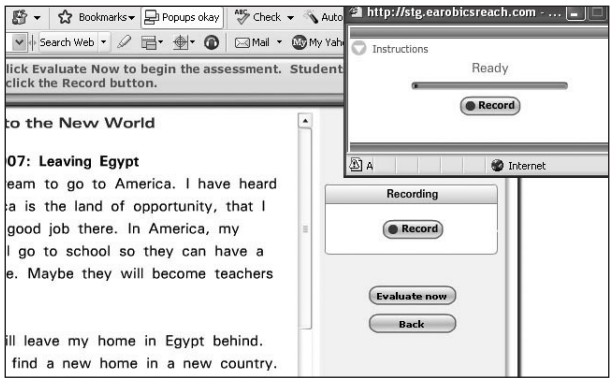
1. Follow steps 1 - 4 for the teacher-administered in-person assessment on p.10. When the screen displays the text of the passage, click the **Record** button. A pop-up window appears with another **Record** button.

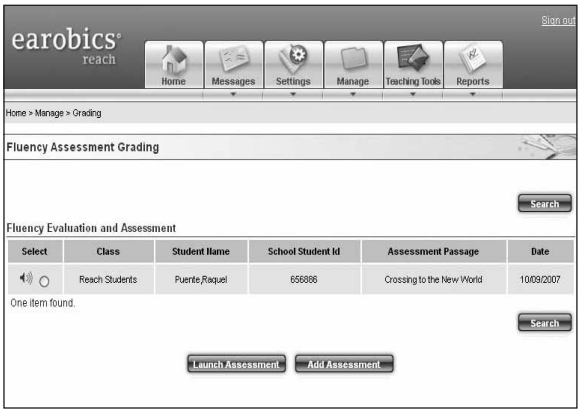



2. Ask the student to read from the beginning of the passage and click the **Record** button in the pop-up window. The system begins recording and will stop automatically after one minute of audio has been recorded.

3. When the recording is complete, ask the student to stop reading. The student is now finished with the assessment. You may want to check the audio by clicking the **Listen** button in the pop-up window and listening to the headphones to make certain that the recording is audible.

4. Once the recording has been verified, click **Submit** in the pop-up window. Once the recording has been saved successfully, a dialog box will display the message "Recording submitted." Click the **OK** button.


5. Click the **Back** button in the right column. This will take you to the **Fluency Assessment Grading** screen. You should now see an audio icon in the left column for this assessment. The icon indicates that this Fluency Assessment has a recording associated with it that can be played back and graded at a later time.



## Steps for Evaluating Previously Recorded Fluency Assessments

Scheduling → Launching → Reading → Recording → **Grading** → Viewing Scores

Once a recording of a Fluency Assessment has been submitted—either during a teacher-administered recorded assessment or during a student-administered assessment—it must be evaluated and graded by the teacher. The steps for evaluation are the same regardless of how the recording was made.

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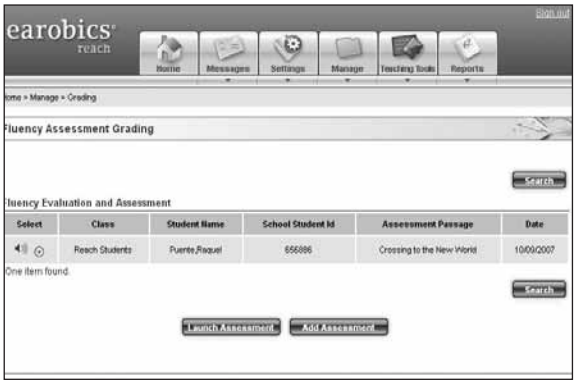
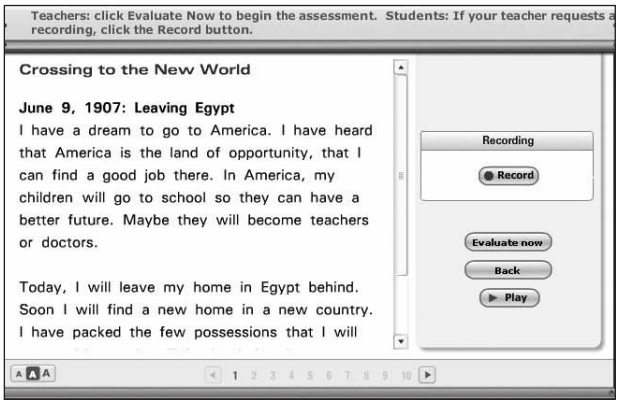
1. Select **Manage** from the main menu and click **Fluency Assessments.** The **Fluency Assessment Grading** screen appears.

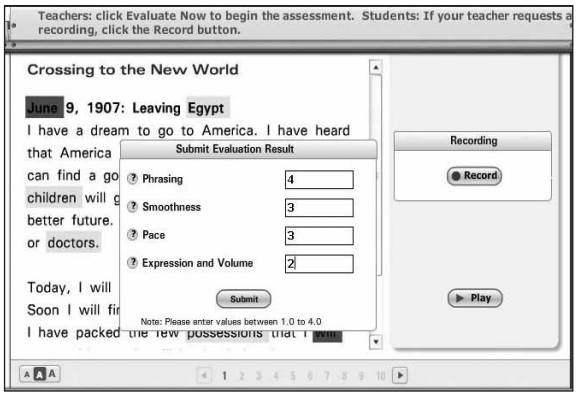



2. Select a Fluency Assessment record marked with an audio icon. (The icon indicates that a recording has been submitted for this assessment but it is not yet graded). Click the **Launch Assessment** button. A screen displays the text of the passage. In the right column are buttons that control the Fluency Assessment.



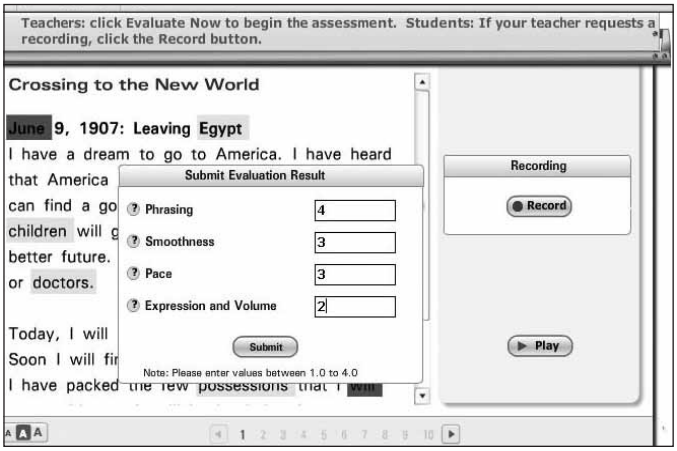

3. Click **Evaluate Now.** Once you click this button, an automatic timer will begin measuring the time elapsed during the assessment in order to calculate the student's reading rate. A pop-up window asks you to mark a starting point for the student to begin reading. Click **Continue** and then click on the first word in the passage; the word will be highlighted in dark blue once it has been selected.

4. Now click the **Play** button in the right column. As you listen to the recording, follow along with the text on screen. Click any words that the student skips or pronounces incorrectly; these words will be highlighted in violet. You may need to page forward by clicking the right arrow at the bottom of the screen.



5. When the recording ends, click **End Evaluation** in the right column. Clicking this button stops the automatic timer used to calculate the student's reading rate.

6. A pop-up window asks you to mark the last word the student read. After clicking **Continue**, click on the final word read by the student during the recording. A pop-up window titled **Submit Evaluation Result** appears.




7. Evaluate the student's performance on the passage by entering scores between 1.0 and 4.0 in the boxes next to the four prosody skill areas displayed: Phrasing, Smoothness, Pace, and Expression and Volume. (For detailed descriptions of the scoring criteria, click on the question mark icon next to each skill.) Once the four scores have been entered, click the **Submit** button.

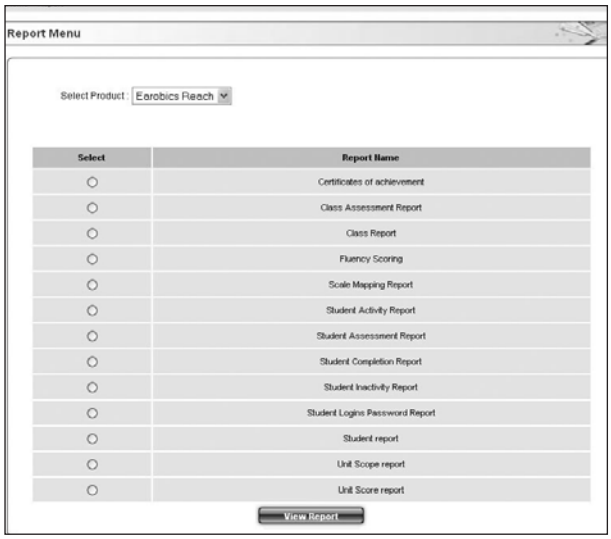
8. Click the **Finish** button in the right column. The **Fluency Assessment Grading** screen appears again. The evaluation of the Fluency Assessment is now complete.

## Steps for Viewing Fluency Assessment Scores

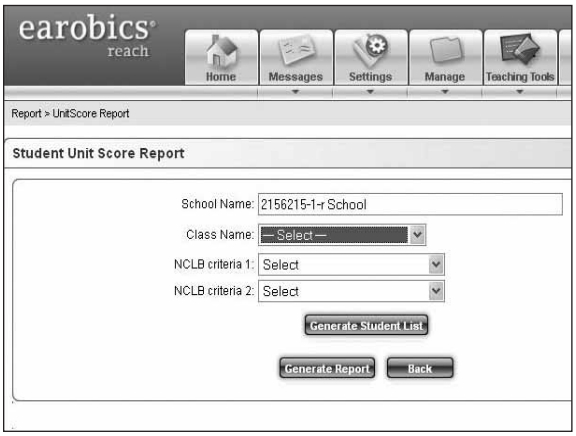
Scheduling → Launching → Reading → Recording → Grading → **Viewing Scores**

To view the scores recorded by the Fluency Assessment, you must generate the Student Unit Score Report for the unit the student was working on when the assessment was administered.

1. Click **Reports** in the main menu. Select **Earobics Reach** from the **Select Product** menu. A list of reports appears.

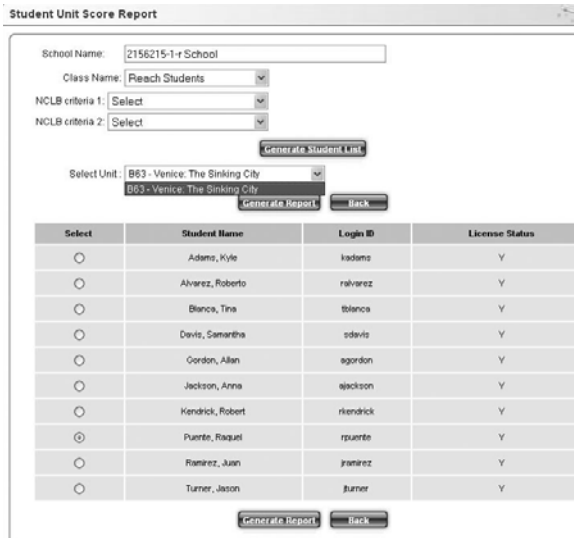



2. Scroll to the bottom of the screen, select **Unit Score Report,** and click the **View Report** button. The **Student Unit Score Report** screen appears.

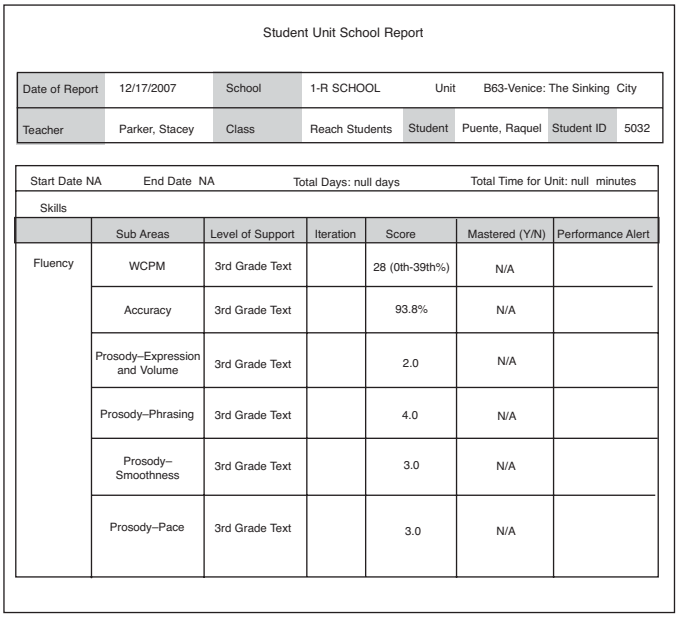



3. Select your class from the **Class Name** menu and click the **Generate Student List** button. The screen displays a list of your students.

4. Select a student from the list. Then use the **Select Unit** menu to choose the unit for which you want to generate the report.




5. After selecting the unit, click the **Generate Report** button. A new window opens with a printable report in PDF format. This report displays the rate (Words Correct Per Minute) and accuracy scores calculated by the program, as well as the teacher-evaluated scores for the four prosody skills.



Student Unit School Report

| Date of Report | 12/17/2007 | School | 1-R SCHOOL | Unit | B63-Venice: The Sinking City | | |
|---|---|---|---|---|---|---|---|
| Teacher | Parker, Stacey | Class | Reach Students | Student | Puente, Raquel | Student ID | 5032 |

Start Date NA End Date NA Total Days: null days Total Time for Unit: null minutes

Skills

| | Sub Areas | Level of Support | Iteration | Score | Mastered (Y/N) | Performance Alert |
|---|---|---|---|---|---|---|
| Fluency | WCPM | 3rd Grade Text | | 28 (0th-39th%) | N/A | |
| | Accuracy | 3rd Grade Text | | 93.8% | N/A | |
| | Prosody–Expression and Volume | 3rd Grade Text | | 2.0 | N/A | |
| | Prosody–Phrasing | 3rd Grade Text | | 4.0 | N/A | |
| | Prosody–Smoothness | 3rd Grade Text | | 3.0 | N/A | |
| | Prosody–Pace | 3rd Grade Text | | 3.0 | N/A | |

## Steps for Scheduling Fluency Assessments Manually

Scheduling → Launching → Reading → Recording → Grading → Viewing Scores

In addition to the Fluency Assessments that the program automatically schedules for students every three units, the teacher can manually schedule a Fluency Assessment for any student at any time. This option may be useful when a current assessment of Fluency skill is desired immediately, or when the teacher is not able to evaluate a previously recorded assessment due to problems with the recording. To manually schedule a Fluency Assessment:

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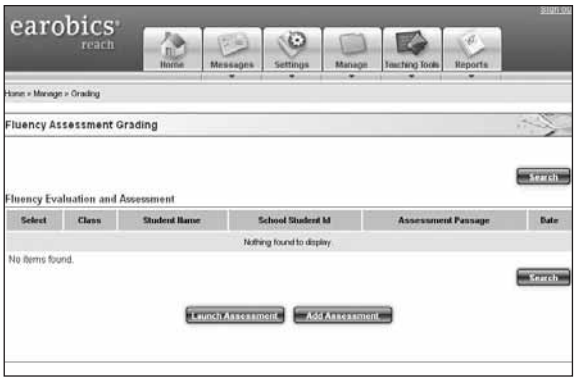
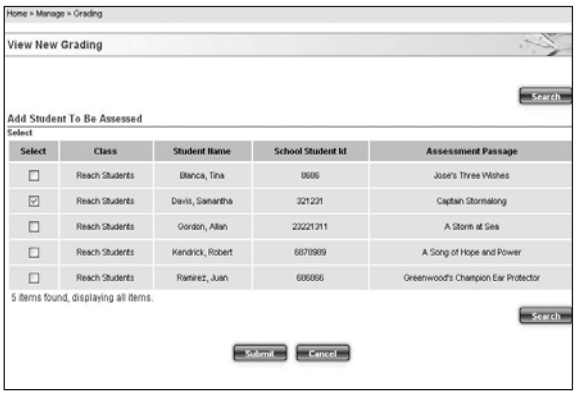
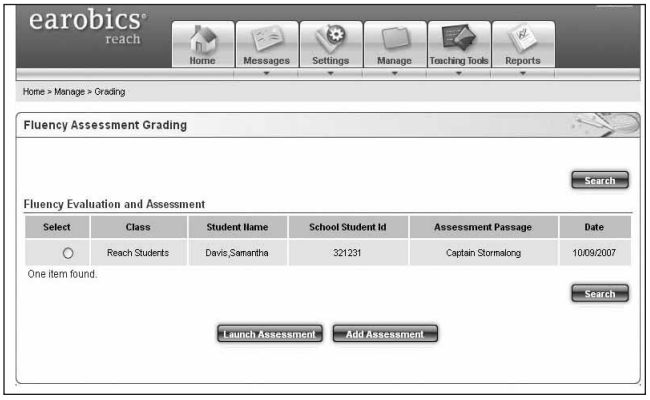
1. Select **Manage** from the main menu and click **Fluency Assessments.** The **Fluency Assessment Grading** screen appears. Click the **Add Assessment** button.




2. Select the name of the student to be assessed and click the **Submit** button.




3. The screen returns to the **Fluency Assessment Grading** page. The assessment is now scheduled and should appear in the list of assessments.




4. The newly scheduled Fluency Assessment may be immediately administered by following the instructions in "Steps for Teacher-Administered In-Person Assessment" on pp. 10–11.

## Scoring Rubric for Prosody

When grading the Fluency Assessment, teachers should evaluate students according to the following scoring criteria for prosody skills:

**Phrasing**

1 = monotonic with little sense of phrase boundaries

2 = frequent two- and three-word phrases giving the impression of choppy reading; improper stress and intonation that fail to mark the end of sentences and clauses

3 = mixtures of run-ons, mid-sentence pauses for breath, and possibly some choppiness; reasonable stress/intonation

4 = generally well-phrased, mostly in clause and sentence units, with adequate attention to expression

**Smoothness**

1 = frequent extended pauses, hesitations, false starts, repetitions, and/or multiple attempts

2 = several rough spots in text where extended pauses, hesitations, etc. are more frequent and disruptive

3 = occasional breaks in smoothness caused by difficulties with specific words or structures

4 = generally smooth reading with some breaks, but word and structure difficulties are quickly resolved usually through self-correction

**Pace**

1 = slow and laborious

2 = moderately slow

3 = uneven mixture of fast and slow reading

4 = consistently conversational

**Expression and Volume**

1 = reads with little expression of enthusiasm in voice; reads word as if to simply get them out

2 = some expression; begins to use voice to make text sound like natural language in some areas of the text but not others

3 = sounds like natural language throughout most of passage; occasionally slips into expressionless reading

4 = reads with good expression and enthusiasm throughout text

## Fluency Rate Chart

During Fluency Assessment, *Earobics Reach* automatically evaluates reading rate by calculating the student's words correct per minute (WCPM) score. The program also determines a percentile ranking for the student's raw WCPM score, based on the difficulty of the text and the time of year when the assessment was taken. The chart below provides information on how raw fluency rate scores are converted into percentile rankings.

| | | **Fall** | **Winter** | **Spring/Summer** |
|---|---|---|---|---|
| 2nd Grade | 39% or lower | 44 or less | 64 or less | 79 or less |
| | 40–49% | 45–50 | 65–71 | 80–88 |
| | 50–74% | 51–78 | 72–99 | 99–116 |
| | 75–89% | 79–105 | 100–124 | 117–141 |
| | 99%+ | 106+ | 125+ | 142+ |
| 3rd Grade | 39% or lower | 64 or less | 84 or less | 99 or less |
| | 40–49% | 65–70 | 85–91 | 100–106 |
| | 50–74% | 71–98 | 92–119 | 107–136 |
| | 75-89% | 99-127 | 120-145 | 137-161 |
| | 90%+ | 128+ | 146+ | 162+ |
| 4th Grade | 39% or lower | 87 or less | 104 or less | 114 or less |
| | 40-49% | 88-93 | 105-111 | 115-122 |
| | 50-74% | 94-118 | 112-138 | 123-151 |
| | 75-89% | 119-144 | 139-165 | 152-179 |
| | 90%+ | 145 | 166+ | 180+ |
| 5th Grade | 39% or lower | 104 or less | 119 or less | 129 or less |
| | 40-49% | 105-109 | 120-126 | 130-138 |
| | 50-74% | 110-138 | 127-155 | 139-167 |
| | 75-89% | 139-165 | 156-181 | 168-193 |
| | 90%+ | 166+ | 182+ | 194+ |

## Fluency Assessment Unit Table

The Fluency Assessment is a "cold reading" that utilizes a passage that the student has not seen previously. When the Fluency Assessment is administered, the student reads the passage from the next unit in the program sequence. Please note, however, that in order to view Fluency Assessment scores for a particular passage, it is necessary to generate the student's Unit Score Report for the instructional unit the student was working on when the assessment was administered. The table below illustrates the Fluency Assessment passage associated with each instructional unit in *Earobics Reach*.

| Unit Code | Unit Name | Fluency Assessment Passage |
|---|---|---|
| A11 | Exploring Lechuguilla | Rescue! |
| A12 | Rescue! | Wild About Worms |
| A13 | Wild About Worms | Life in the Rainforest |
| A21 | Life in the Rainforest | Sea Turtle Night |
| A22 | Sea Turtle Night | Rhino Man |
| A23 | Rhino Man | Up in the Air |
| A31 | Up in the Air | The Flight Contest |
| A32 | The Flight Contest | Daredevils in Flight |
| A33 | Daredevils in Flight | A Picture of Peace |
| A41 | A Picture of Peace | Captain Stormalong |
| A42 | Captain Stormalong | Bugs and Crime |
| A43 | Bugs and Crime | The Sun's Energy |
| A51 | The Sun's Energy | Sun Power |
| A52 | Sun Power | Mission to Mars |
| A53 | Mission to Mars | Celebrating a Neighborhood |
| A61 | Celebrating a Neighborhood | Seth's Birthday Party |
| A62 | Seth's Birthday Party | Light Up the Night |
| A63 | Light Up the Night | Into the Great Unknown |
| B11 | Into the Great Unknown | The Oklahoma Land Rush |
| B12 | The Oklahoma Land Rush | Bill Picket: Rodeo Cowboy |
| B13 | Bill Picket: Rodeo Cowboy | Treasures of the Deep |
| B21 | Treasures of the Deep | Jose's Three Wishes |
| B22 | Jose's Three Wishes | Graham Hawkes: Pioneer of the Deep |
| B23 | Graham Hawkes: Pioneer of the Deep | Smokejumpers |
| B31 | Smokejumpers | Storm! |
| B32 | Storm! | Give Them Space |
| B33 | Give Them Space | Accidental Foods |
| B41 | Accidental Foods | Greenwood's Champion Ear Protectors |
| B42 | Greenwood's Champion Ear Protectors | Success at Last: Jan Matzeliger |
| B43 | Success at Last: Jan Matzeliger | The Power of Dance |
| B51 | The Power of Dance | Tattercoat |
| B52 | Tattercoat | Alvin Ailey: 1931-1989 |
| B53 | Alvin Ailey: 1931-1989 | Underneath a City |
| B61 | Underneath a City | Deven in New York |
| B62 | Deven in New York | Venice: The Sinking City |

| Unit Code | Unit Name | Fluency Assessment Passage |
|---|---|---|
| B63 | Venice: The Sinking City | Crossing to the New World |
| C11 | Crossing to the New World | La Amistad: A Child's Journey |
| C12 | La Amistad: A Child's Journey | Angel Island |
| C13 | Angel Island | What a Gem! |
| C21 | What a Gem! | Wally's Tale |
| C22 | Wally's Tale | Point of View: Offshore Drilling |
| C23 | Point of View: Offshore Drilling | Buried in Ash |
| C31 | Buried in Ash | The Scariest Day of My Life |
| C32 | The Scariest Day of My Life | The Hindenburg Tragedy |
| C33 | The Hindenburg Tragedy | A Musical Wonder |
| C41 | A Musical Wonder | The Great Jazz Quartet |
| C42 | The Great Jazz Quartet | A Song of Hope and Power |
| C43 | A Song of Hope and Power | The 1988 Jamaican Bobsled Team |
| C51 | The 1988 Jamaican Bobsled Team | Racing to Victory |
| C52 | Racing to Victory | Remembering Dale Earnhardt |
| C53 | Remembering Dale Earnhardt | Writing with Symbols |
| C61 | Writing with Symbols | Fitting In |
| C62 | Fitting In | The Rosetta Stone |
| C63 | The Rosetta Stone | The Massachusetts 54th |
| D11 | The Massachusetts 54th | The Boston Tea Party |
| D12 | The Boston Tea Party | A Brave Soldier |
| D13 | A Brave Soldier | Mount Everest |
| D21 | Mount Everest | The Giant Rock: A Sierra Miwok Tale |
| D22 | The Giant Rock: A Sierra Miwok Tale | Sherpas |
| D23 | Sherpas | Kenya James: A Teenage Inspiration |
| D31 | Kenya James: A Teenage Inspiration | The Little Rock Nine |
| D32 | The Little Rock Nine | Cesar Chavez: Uniting Farm Workers |
| D33 | Cesar Chavez: Uniting Farm Workers | Cool Art |
| D41 | Cool Art | The Cartoonist |
| D42 | The Cartoonist | Everyone: the Artist |
| D43 | Everyone: the Artist | Legendary Volcanoes |
| D51 | Legendary Volcanoes | San Francisco's Tragic Day |
| D52 | San Francisco's Tragic Day | When Earthquakes Strike |
| D53 | When Earthquakes Strike | The Great Wall of China |
| D61 | The Great Wall of China | My Days at Mesa Verde |
| D62 | My Days at Mesa Verde | The Skywalking Mohawks |
| D63 | The Skywalking Mohawks | N/A |

## Exploring Lechuguilla

Imagine you're on an adventure. You go deep into the earth. There are stone shapes everywhere. Over your head, you see shapes hanging from the ceiling. They look like 20-foot icicles. You pass stone bushes. Other shapes rise from the floor. You have just walked into Lechuguilla (le-choo-GEE-yah) cave!

Caves are dark spaces underground. Some caves are only a few feet deep. Others can go on for miles! Lechuguilla is the deepest cave in the United States. It is 1,565 feet deep. That's taller than any skyscraper. It also has 50 miles of tunnels!

Lechuguilla was discovered in 1986. It was found by some cavers. Cavers are people who like to explore caves. A group of cavers found the opening. It was 90 feet below the ground. Everyone was surprised when wind blew out of the soil and rocks.

Lechuguilla formed over millions of years. It formed slowly. It was carved by acid. Underground water flowed into the cave. It mixed with sulfur from the cave's rocks. This made sulfuric acid. Sulfuric acid is very strong. It ate away the rock.

Water also mixed with other minerals from rocks. The water dripped through cracks. Then it evaporated. That means it dried up. When it evaporated, it left behind minerals. Over time, the minerals built up. They formed shapes. New rock shapes can be tiny. Old ones can be huge.

Lechuguilla has amazing rock shapes. Stalagmites and stalactites are twisting columns or pillars. They both look like giant icicles. Stalagmites rise from the ground. Stalactites hang from the ceiling of a cave.

Cavers love Lechuguilla. But Lechuguilla can be a very dangerous place. It is very dark. It has many levels. One chamber is called

Freakout Traverse. Climbing there is scary. Another chamber is called The Void. A void is an empty place. You could get lost there!

It's important to be well prepared to enter Lechuguilla. Caving is difficult. Cavers must be in good shape. A trip inside the cave can last 24 hours! Cavers must carry heavy equipment. They also wear special clothing. It protects them from the sharp rocks. Because the cave is very dark, cavers always wear headlamps.

Protecting the cave is important, too. Cavers wear special shoes because they don't want to leave marks on the cave floor. They're also careful not to touch anything, either. One wrong step can break the rock shapes.

Caving is hard work. But you get to see things few people have ever seen before. You can be a caver. An adult guide can teach you the ropes. Remember, never go in a cave alone. It is fun to plan a safe caving adventure.

## Rescue!

Mom and I went to visit Aunt Liz. She is my favorite aunt, but I really didn't want to go. All week I'd been afraid. My mother was excited, though. She loves to explore caves, but I have always been afraid of dark places like caves.

We got to Aunt Liz's house Thursday night. "We'd better get to sleep," Mom said. "We're going to see the big cave tomorrow!" That was supposed to sound exciting, but it sure didn't sound that way to me. I went to sleep worrying.

I woke up early and got dressed. At breakfast I said, "What a beautiful day…the weather is so nice! We should go for a hike instead."

"Come on, honey," Mom said. "It'll be an adventure. Besides, I need you. I've got lots of experience in caves. But I need a backup in case something happens."

"What do you mean, 'in case something happens'?" I asked. I was more scared every minute.

"Well, exploring caves means taking some risks, just as hiking does," Mom said. "But there's nothing to worry about. It will be a nice walk."

I said, "Yeah, sure, it will just be a nice walk…underground…in the dark."

Nothing about this sounded nice to me. But I didn't want to upset Mom. "Okay, okay," I said.

Mom started handing out supplies. She had helmets for us. "In case you bang your head," she said. I didn't like the sound of that.

She brought a canteen of water and two pairs of work gloves. Mom said, "We probably won't need to wear gloves. I'll bring them just in

case."

At the cave, she gave me a bandanna to tie around my head, under my helmet. She was wearing one already. "This will keep the cave crickets out of your hair," she said.

"Oh, this sounds better every minute," I said. Mom paid no attention. She seemed very happy. I slowly stumbled through the narrow tunnel. We came out into an open space in the cave.

Mom said, "Water drips into the cave from above. The slow dripping forms limestone shapes." She pointed up.

Huge stone spikes hung from the roof. They looked like icicles, only bigger. "Those are stalactites," Mom said. Then she pointed toward the floor. "And these are stalagmites." They seemed like the teeth of a giant animal. They were white and smooth. I took deep breaths and tried to stay calm. But it was cold and dark and wet in the cave. There was no sunlight. I was feeling worse.

"Well, that's really interesting," I lied. "I'm glad we came." I turned to leave.

"Hey, where are you going? We've just started!" Mom said.

She led me through the next tunnel. Some of the stone shapes looked like crystal butterflies.

"These are called helictites," Mom whispered. "No one is sure how they form. They're incredible. I've got to take some pictures!" She pulled out her camera and hurried across the cave.

Suddenly, I heard a loud cry. Mom! She'd slipped and fallen! She

*Continued*

**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A11 in step 4.

was lying on the cave floor, her face twisted in pain. I hurried to her. "I think my leg is broken," she said.

I would have to go for help. It would take too long to go back the same way we came. Mom told me the shortest way out of the cave. "It's a narrow tunnel called a chimney that goes straight up," she said. I imagined a dark, scary tunnel filled with bats.

Then I forced myself to stop. I'd deal with it when I got there.

I gave her some water and made her a pillow with her backpack. Then I took a deep breath. I was fighting my fear.

"All right, Mom, just keep still. I'll be right back with help. Don't worry, okay?" I said.

Mom handed me a pair of gloves. "Just in case," she said, trying to smile bravely.

Following Mom's directions, I soon found the chimney. When I saw it, I wanted to run away. It was narrow and went straight up, just as she'd said. I had no choice. I had to keep going.

I stepped into the opening. The pitch-black tunnel seemed to go on forever. I took another deep breath. I began to climb.

Rocks scraped my sides. I pulled myself up the narrow tunnel inch by inch. Then I hit a dead end. I felt for an opening between the rocks. I thought I might fall, but I held on.

Finally, I found a small gap. I curled my body and squeezed sideways into the opening. This space was even tighter! I fought back my fear. I kept going. Sweat poured down my face.

## Wild About Worms

Americans make a lot of garbage. Getting rid of all that trash is a huge problem. Most garbage is carted off to landfills, but many are full. People are looking for new ways to get rid of garbage.

One way is to recycle. You may already recycle glass and paper. Did you know you can also recycle leftovers? Old lettuce, corn, and pizza crust can be turned into compost. Many other kinds of leftover food will work, too.

Compost is a kind of rich soil. It forms when leaves or plants rot. Composting happens all the time. Think of a forest. The leaves die and fall from the trees. They lie on the forest floor.

Bacteria and worms work on the dead leaves. Little by little the leaves decay. They turn into soil. This can take a year or more.

Gardeners love compost. It makes rich, healthy soil. Plants that grow in compost-rich soil grow better. They are stronger.

**Making Compost**
Many gardeners use compost piles to speed things up. Compost piles need air in them. That means the piles must be turned often. Gardeners shovel the compost. They move it from one pile to another. It is hard work!

However, there is another way to speed things up. You can use worms!

Worms are very simple animals. They have no eyes, ears, or noses. They have large mouths. They have no teeth. Worms are mostly one long stomach. Food goes in one end and comes out the other. This "worm poop" is full of nutrients. It is good for plants.

**How to Get Started**

Worm composting is easy to do. All you need is a container, some bedding, garbage, and some worms.

1. Get a large plastic bin.
   - Find a sharp tool. Poke holes in the bottom of the bin.
   - Put the bin on blocks or bricks.
   - Put a tray under the bin. It will catch liquid. The liquid can be used to feed plants.
   - Use a solid cover. It will keep out rain. It will also keep out animals.
   - Remember, worms need air. Be sure to make air holes!

2. Make a bed for the worms.
   - Use shredded newspaper, straw, or grass cuttings.
   - Fill the bin about three-fourths full.
   - Add water to the bedding. Make it about as wet as a damp sponge. Be careful. Don't add too much water. Worms can drown!

3. Add worms.
   - The best worms to use are red worms.
   - You can dig them out of the ground. You can also get worms from gardeners' catalogs. Check a pet store. Some pet stores have them, too.

4. Feed your worms twice a week.
   - Feed them garbage. Use leftover food.
   - Do not use meat, bones, fish, or dairy products. This kind of garbage smells bad.
   - Bury the garbage in the bedding. Cover it up. The worms will eat it.

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A12 in step 4.

**Helpful Hints for Composting**

Keep your bin in a warm spot. Check it in three to five months. There will be very little bedding left. The bin will be full of brown, earthy compost.

Use the compost on houseplants. Put some in a garden. You can sprinkle it on a lawn, or you might put it around some shrubs. Congratulations, you have helped to keep garbage out of landfills! You've turned it into a useful fertilizer.

## Life in the Rainforest

Rainforests are rich with life. There are lush green trees. There are strange plants. There are amazing creatures of every color. There's so much to see. Many plant and animal species live in the rainforest.

Rainforests are often hot and wet. Many trees have broad leaves. Plants and flowers grow thick and full. They grow all year long. They also feed millions of animals.

All forests have layers. Layers run from the ground to the treetops. Some rainforests have two layers. Others have five. Sometimes the layers blend together.

One layer is the treetops. Many animals live in this layer. The treetops form a leafy roof over the forest. It's called the canopy. Some of these trees can be 100 feet tall. The branches spread out in all directions. Flying lizards glide through the air. Monkeys swing from branch to branch. Toucans feast on ripe fruit. Snakes slither among the branches. Many animals never leave the canopy.

Not much light gets through the canopy. The forest below is often dark. The air is still. Few green plants grow in this lower layer.

Many animals live here, too. Large spiders hunt for prey. Anteaters feed on insects. Striped tigers hide in the leafy ferns.

Tropical rainforests are also home to many people. Their way of life depends on the rainforest. The rainforest is their source of food and work. People gather nuts. Rubber tappers collect sap from trees.

Look around your house. Can you spot a pair of sneakers? Can you find a bottle of shampoo? If so, you also depend on rainforests.

Rubber trees are tapped for rubber used in shoes. Rosewood tree oils are used in perfumes and soaps.

Rainforests produce much of your food. Do you eat cereal for breakfast? Do you like chocolate? How about nuts? These are only a few of the foods that often come from the rainforest.

Some uses destroy the rainforest. Many people cut down trees. Loggers cut down trees for lumber. Farmers burn down trees to clear the land. Every day the rainforest shrinks. Most people agree we need to protect the rainforests. Many look for ways to harvest fruit, nuts, and other products without cutting trees. The hope is to save these amazing places.

### Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A13 in step 4.

## Sea Turtle Night

One day, our class did surveys about our favorite animals. My friend Carmen chose the penguin. Michael voted for the cheetah. It's the fastest land animal. Lamar said it was a tie for him. It was between tyrannosaur and triceratops. I said that was silly. They died out millions of years ago!

"Annie, what is your favorite animal?" my teacher asked.

"The sea turtle," I said.

"Why?" she asked.

"Sea turtles are very old. They've lived in our oceans for more than 100 million years," I explained. "Sea turtles love to swim. They can swim much farther than we can. They also like our state. Female sea turtles swim back here every year. They lay eggs on our beaches."

"How do you know so many facts about sea turtles?" my teacher asked.

"My Aunt Emily helps protect sea turtles," I said. "I'm going to help her this year. So I've been learning as much as I can."

**Night of the Sea Turtles**

Aunt Emily came to get me a few nights later. I brought some chocolate milk. We drove to the beach. I was so excited! I couldn't sit still.

She told me that humans are a major threat to sea turtles. Some sea turtles die after eating plastic bags. They think the bags are jellyfish. Other sea turtles get caught in fishing nets. Some people hunt turtles for their meat, eggs, and oil.

"How are we going to find the turtles?" I asked.

"I brought a flashlight," Aunt Emily said.

"Will we get in trouble for being on the beach at night?" I asked.

"No, we're joining some volunteers," she replied.

We got to the beach. Aunt Emily waved to Dan. He was our guide.

"Female turtles come here to lay eggs. They come in the late spring and summer," Dan said. "Don't shine your lights on the sea turtles. You don't want to scare them."

"Let's go," I said to Aunt Emily.

We walked slowly down the beach. The sea was calm. The moon was full. We could see ships in the distance.

Suddenly, I saw tracks in the sand. The tracks led from the ocean. "Aunt Emily, look!" I said. "I think those are turtle tracks." We followed the tracks. There was a turtle.

"The turtle is building her nest away from the ocean," Aunt Emily whispered. "Seawater can hurt the eggs."

We crouched down and watched. The turtle used her flippers to dig a nest. Soon the hole was about 16 inches deep. The turtle stopped digging. She started to lay eggs. After an hour, she had laid about 100 eggs! Then, the turtle buried her eggs in the sand.

I found Dan. He came over to the nest. He put a metal tag on the turtle's flipper. He said the tag helps scientists follow the turtle. They'll know when she returns to lay more eggs. Then we helped him measure the turtle's shell.

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**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A21 in step 4.

The turtle crawled back to the sea. The nest looked safe. But people or animals could disturb it.

We helped Dan put a metal cage around the nest. It would stay up until the eggs hatched.

I hugged my aunt. I felt very happy. "I guess people can make a difference," I said.

**Hometown Turtles**
On Monday, I made a poster for my class report. It listed ways to keep sea turtles safe.

"Are you ready, Annie?" my teacher asked.

I taped my poster on the board. I told the students about my night on the beach. Then I held up a picture of baby sea turtles.

"The eggs will hatch in two months," I said to the class. "Baby sea turtles are tiny. They crawl toward the water. Then they swim away.

"Many babies won't reach the water. Seabirds eat them. Fish like to eat them, too. But humans are more dangerous than anything else.

"I'm sending my poster to the Ocean Protection Project," I said at the end of my report. "It's a group that protects sea turtles. The best posters are put on their Web site! Who wants to help me make more posters?"

Everyone raised their hands. The class quickly got into groups. Each group made a poster about turtles. Soon there were stacks of posters. We sent them to the Ocean Protection Project.

We also voted on our favorite animals again. The sea turtle was everyone's favorite this time!

## Rhino Man

The black rhino is an endangered animal. Killing black rhinos is against the law. They are in danger of becoming extinct.

People are the biggest threat to black rhinos. Some people kill them. The people are called poachers. They sell the horns. The horns are worth a lot of money. People crush them to make a powder. Some people think the powder will make them feel better.

Michael Werikhe was a security guard in Kenya. He decided to do something to help the rhinos.

He has walked thousands of miles to protect the black rhino. In 1985, he walked across Africa. He talked to lots of people about black rhinos. People called him Rhino Man.

Werikhe has walked through Europe and North America, too. He raised money to save endangered animals. He even led parades. This interview took place during his visit to the United States.

**Interviewer:** What made you decide to help the rhino?

**Michael:** The black rhino is very special. It is Kenya's symbol of wildlife protection. We see the black rhino the same way that Americans see the bald eagle.

**Interviewer:** Is it true that there are only about 500 left?

**Michael:** There are only 500 left in Kenya. There are about 3,600 left in Africa. Africa has lost 96 percent of its black rhinos. And it's because the horn is worth money. Many people think the horn can cure sickness. It can't, of course.

**Interviewer:** How did you become so concerned?

**Michael:** Well, I always wanted to help nature! I used to keep all sorts of creatures. I worked in a place called the Ivory Room when I left school. That's a place where rhino horns and elephant tusks were kept. These had been taken away from poachers. It really made me upset.

**Interviewer:** Oh, yes, that would be very hard.

**Michael:** I knew we were losing the animals. And it seemed there was nothing I could do. The hunting was out of control. I made my decision. I quit my job. I decided to do something else. I wanted to help the rhino. I was out of work for about one year, but I had made myself a promise. I would find a way to help.

**Interviewer:** How many wildlife parks are there for the rhino?

**Michael:** We have several in Kenya. The number of rhinos is going up!

**Interviewer:** On your first walk, you carried a snake in your pocket?

**Michael:** Yes, I strongly believe that snakes are also misunderstood, just like the rhino. People came over to see the snake. They would touch it. I had instant crowds wherever I went.

**Interviewer:** It was a baby snake. Did it have a name?

**Michael:** Survival.

**Interviewer:** Survival?

**Michael:** We were fighting for the survival of the black rhino.

**Interviewer:** What do you tell children who want to help endangered

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A22 in step 4.

animals?

**Michael:** Read a lot. Talk to people about animals. I think children play an important role. They love nature. And, of course, children are very honest and real.

**Interviewer:** Some children might think they can't make a difference. What do you tell them?

**Michael:** Children can make a difference. They can plant trees. They can fight pollution. They can take care of animals. They can write a letter to a newspaper. They can write a letter to a group that protects endangered animals.

**Interviewer:** What other message would you like children to have?

**Michael:** Well, I have a lot of respect for kids. I have a lot of respect for the future. I believe in leaving this world a better place than we found it.

## Up in the Air

Today, air travel is a fact of life. Gliders soar above fields. Helicopters check traffic. Jet planes carry hundreds of passengers. Few people think about flight. It's been over a hundred years since its invention.

In 1899, Wilbur and Orville Wright began making planes. They tested different wings and tails. They learned about wind patterns. In 1903, they flew the first gas-powered plane. Orville was at the controls. The plane started slowly. Then it picked up speed. Finally, it lifted into the air.

**Pilots and Their Planes**

There were many more planes made by 1913. They were stronger and faster. Daring pilots flew these new planes. They performed stunts. They also set many flying records.

One pilot was Charles Lindbergh. In 1927, he became the first person to fly across the Atlantic Ocean. He used only compasses to guide him. Amelia Earhart flew across the Atlantic a year later. She was the first female pilot to do so.

**Faster Planes**

Jet engines were invented in the 1930s. Planes could fly faster than ever. But scientists wanted to design even faster planes. They started designing planes to fly faster than the speed of sound. Sound travels 740 miles per hour. Planes traveling very fast would shake. Scientists changed the shape of the plane. They thought changing the shape would make the plane stop shaking.

The first plane to succeed was the *Bell X-1.* This was a small plane. It had thin wings. In 1947, Chuck Yeager flew the *X-1.* He flew faster than the speed of sound. Everyone was excited by the news.

Scientists experimented with many more designs. One airplane had wings that pointed forward. Scientists thought that design would make planes fly faster. Someday airliners might have wings like that.

**Special Airplane Designs**

Planes have been designed to meet special challenges. One such plane was *Voyager.* It was designed to fly around the world. In 1986, it did. It flew 25,017 miles without stopping. It took 9 days, 3 minutes, and 44 seconds. What an amazing journey!

Another plane was the *Gossamer Penguin.* It was designed to run on solar power. Solar power is energy from sunlight. It flew very slowly on its first flight. People could keep up with it on their bicycles!

Ultralights are also planes. They are designed to be very light weight. They look like hang gliders. They have an engine and landing wheels. They also have a place for the pilot to sit.

Today you can see lots of different planes. The improvements have not ended. Scientists keep inventing new materials. These materials are very light. People still like to find ways to conquer the skies.

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A23 in step 4.

## The Flight Contest

Wren lived high in the treetops. She was friendly with many birds. Even the mighty Eagle was her friend. Unfortunately, Eagle bragged a lot. Wren and the other birds got very tired of that.

One cloudy day, Eagle sat high in the trees with some of the other big birds. They were talking about who could fly the highest.

"There's no question about it. I can fly much higher than any of you," Eagle announced.

The other birds looked at Eagle. He might be right. But they didn't like hearing him brag.

"You're going down!" said Hawk. "Let's have a contest to see who can fly the highest. We can train for a few weeks. Anyone who wants to be in the contest can meet at the bridge by the muddy path."

All of the big birds nodded their heads. They thought this was a good idea. "Take as long as you want. You'll need lots of training if you want to keep up with me," said Eagle.

The smaller birds had been listening to the bigger birds talk. Wren was sick of hearing Eagle's bragging. She sat in her nest and thought about the contest. Suddenly, she had an idea.

"Yes, Mr. Bragging Eagle," she thought, "we'll see who can fly the highest. We'll see about that!"

The bigger birds started training for the high-flying contest. Most of the little birds didn't bother to try. They knew they were too small to win. They had no chance to win the contest. They were surprised to see Wren training with the big birds. She was practicing her high flying. Her wings were getting stronger and stronger.

After practice one day, Wren flew up to a branch. She sat next to Sparrow.

"Wren, are you going to enter that contest?" asked Sparrow.

"Why not?" chirped Wren as she stretched her wings.

"But you can't keep up with Eagle and those other big birds," said Sparrow. "Have you forgotten? Their feathers are too big."

Wren's eyes twinkled. "We'll see about that!" she said. She had a plan.

"Are you up to one of your tricks?" asked Sparrow.

Wren just looked at Sparrow and smiled.

On the morning of the contest, all of the birds met by the muddy path. Some of the birds came to fly. Others came to watch. The race would be very exciting. Wren got close to Eagle. Owl gave a screech as a signal to begin the contest. Then the birds took flight. They soared above the trees. They flew up toward the clouds.

Most of the birds gave up when they reached the clouds. But not Wren! She was still flying right behind Eagle. All that practice had made Wren's wings very strong.

Wren and Eagle flew into a large fluffy cloud. It was time for Wren to quickly make her move.

Wren quietly landed on Eagle's back.

Eagle and Wren passed through the cloud. The other birds could see them again. They couldn't believe their eyes. Wren was riding on Eagle's back. All of the birds began to cheer.

*Continued*

**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A31 in step 4.

## The Flight Contest *Continued*

Of course, Eagle thought everyone was cheering for him. He flapped his wings even harder. Then he shouted, "Who's flying the highest?"

"I am!" cried a little voice.

Eagle couldn't believe his ears. He stopped flapping his wings. Then he thought, "I must not have heard right." He flew higher and called again, "Who's flying the highest?"

"I am!" said the little voice again.

Eagle flew higher. He kept asking the same question. He kept hearing the same answer. Eagle finally gave up. He started to glide back down to the ground.

Just then, Wren flew off Eagle's back. She flew up a little higher. The birds began to sing a song. "Wren wins! Wren wins! Wren beat Eagle!" Eagle looked up. He saw Wren high in the sky. Eagle never even felt Wren on his back. He had been tricked.

Later, all the birds had a party. Everybody laughed about Wren's trick. Eagle laughed too. He was a pretty good sport. Everybody enjoyed the party.

Eagle didn't stop bragging after the contest. But he didn't brag as much. Eagle and Wren still fly high in the sky together. And on some days, Wren even helps Eagle play a few tricks of his own!

## Daredevils in Flight

Imagine that you are a kid living in the Midwest. The year is 1911. You see an airplane flying over your farm. You have seen pictures of planes. But you have never seen a real airplane before. Planes were invented in 1903. That was only eight years ago.

You hear your father shouting. He is yelling at the pilot. Your father doesn't want the pilot to land on his crops. The pilot lands anyway. He waits for your father to calm down. Then he offers to take you both for a ride. "Two dollars for five minutes," he says. Your father agrees. You sit behind the pilot. Then you go for a thrilling ride.

You look down on the houses and other buildings in the fields below. They look so small! The pilot you have just met is a barnstormer. He is headed to an air show nearby. He will perform stunts, or tricks, with his airplane.

Barnstorming was a very dangerous thing to do. The barnstormer's plane had two sets of wings. The pilot sat in an open cockpit. The motor was located behind the pilot. It could get loose in a crash landing. The pilot could be injured or killed. There were other dangers. Airplanes had no seat belts in those days. Barnstormers could be thrown out of the cockpit. These early planes were made of light wood. The landing fields were often bumpy. The planes could crash on landing. One of the biggest problems was that the planes had no brakes. Pilots had to roll to a stop. Sometimes they hit a tree or a bump in the ground.

The crowds loved watching pilots do dangerous stunts. People held their breath as the pilots flew upside down. They cheered when the airplanes "buzzed" over their heads. This is when the plane flew dangerously close. A favorite stunt was the "Daring Death Dive." The pilot would point the nose of the plane down. Then the plane would go into a steep dive. The crowd thought the airplane was about to crash. At the last minute, the pilot gunned the motor. The plane lifted up into the air. This was a crazy stunt. Several pilots died trying to do

it.

Barnstorming stopped during World War I (1914-1918). Many American pilots were away in the war. After the war, air shows became even more popular. During the 1920s, the stunts became wilder and crazier. Parachute jumping was a big attraction. "Wing walkers" would jump or fall off a wing. Then they would free-fall for a few seconds.

Their parachutes were hidden. At the right time, they would open their parachutes. Then they would float safely to the ground. That was a big surprise!

The wild stunts that thrilled crowds came to an end in 1926. The government passed laws against them. It felt the stunts were too dangerous. There were too many accidents. As a result, the air shows soon disappeared. But the stunts of fearless barnstormer still inspire people today. Skydivers free-fall from planes. Stunt fliers still work in movies. The spirit of the barnstormers lives on!

**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A32 in step 4.

## A Picture of Peace

Outdoor art can be found in many places. Where do you see art in your neighborhood? On signs or billboards? On storefront windows? Maybe murals painted on outdoor walls? Murals are a special form of art. A mural often tells a story or sends a message.

Miguel Ramos is an artist who paints murals. Miguel grew up in Los Angeles, California. He always wanted to be an artist. As a kid, he drew cartoons of his friends. He thought it was fun. When he was older, he found a new reason to draw. Miguel wanted to change the way people think about the world. He wanted to share a message of peace.

At college, Miguel heard about a mural contest. It was open to all students. Miguel didn't think he had a chance to win. But he decided to enter the contest anyway. He thought a mural would be a good way to share his message. His design would remind all people to live together in peace. "Maybe my mural will make a difference," he thought.

After days of planning, Miguel drew many flags. He put the Earth at one end of the design. Then he drew a rainbow spilling over the flags. The rainbow represented unity among people. A rainbow is made of many colors.

Miguel won the contest. He received the grand prize of $1,000. Making Miguel’s mural became a city art project. Neighborhood children came to paint the flags.

The flags of all countries were in the mural. This made everyone feel included.

Miguel's mural was huge! It was over 64 feet long. It showed the flags

of 183 nations. The mural was mounted on the wall of a building. Miguel hoped the mural would help bring the community together.

People stopped to look at the mural. They were excited about the mural's message. One man was from Ethiopia. He was surprised to find the flag of his country. Ethiopia's flag was one of the many African flags. "There's my country, Nigeria! It is right there at the top!" shouted another man. This made him very happy. He brought food to all the volunteers.

Children from a nearby school chose their favorite flags. Then they tried to learn more about those countries.

Then something even more wonderful happened. The city had a street fair to celebrate the mural. Miguel and all the artists were invited to the fair. A flag ceremony was held. International dancers and singers came to celebrate. Restaurants served foods from many nations. Everyone felt the power of peace. Everyone worked together to make their neighborhood a better place to live.

Miguel was right. His mural had made a difference.

**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A33 in step 4.

## Captain Stormalong

Sailors often spend a long time at sea. Many years ago, sailors would tell stories to pass the time. Some of these stories were tall tales. This is one of those stories. It is the story of Captain Stormalong. It takes place in a town on the Atlantic Ocean.

The sailors who lived there worked on huge ships. These sailors knew the ocean was full of dangers. Giant waves could drag a ship to the bottom of the ocean. Winds could blow sailing ships off-course. And hiding in the seaweed were scary sea monsters.

One stormy day, a huge wave crashed down on the shore by a small sea town. It was as tall as a tidal wave.

When the wave washed back out to sea, the townspeople heard a strange cry. It got louder. It seemed to be coming from the beach.

Folks say the cry sounded like a foghorn. People stopped what they were doing. They scrambled to the beach. They couldn't believe their eyes. A giant baby was crawling across the sand. He was over 18 feet tall!

The people put the baby into a giant wheelbarrow. They pushed the wheelbarrow to the schoolhouse. There they fed the baby barrels and barrels of milk.

"What shall we name the baby?" asked the mayor of the town.

"How about Alfred Bulltop Stormalong?" said a little boy. "We'll call him Stormy for short."

Stormy loved living in the schoolhouse. It had the best view of the ocean. As he grew older, Stormy would spend all his time swimming in the deep ocean waters. He liked to ride whales and dolphins. His love of the sea was very strong. "A sailor's life is the only one for

me," said Stormy.

When Stormy turned twelve, he was over 30 feet tall. He was too tall to live in the schoolhouse. He was too tall to work in a store. It was time for Stormy to leave the small town to find a job. So he strolled down to the docks. Of course, a captain quickly hired him! Stormy's job was to watch for trouble. Stormy was good at this. He was so tall that he could easily see any trouble coming.

It wasn't long before Stormy spotted trouble. A pirate ship was coming! It was going to try to steal the ship's cargo.

"Captain!" Stormy shouted, "we've got trouble. How fast can this ship sail?" The crew went right to work. They tried hard to get away. But the pirates were closing in fast! Luckily, Stormy had a brain to match his size. He was very smart.

The pirates pulled close to the ship. Stormy cried, "Get the kegs of molasses!" Molasses is a sticky, sweet syrup. The crew covered the boat deck with the thick syrup. When the pirates climbed onto the ship, they got stuck in the molasses. It was a sticky mess! Stormy had saved the ship. The captain made him first mate.

On his very next voyage, Stormy saved the ship again. He showed the captain how smart it was to keep him. The sea was smooth and calm. It was so calm the sailors fell asleep. Then...SMASH! A huge, slimy thing crashed down on the ship. The thing began munching on the deck like it was a cookie. It cleaned its huge sharp teeth on the sails. The sails were ripped to pieces. "It's a kraken!" screamed a sailor.

Now, a kraken is half octopus and half dragon. It eats ships for breakfast. It eats islands for lunch. And it can eat a whole country for supper! Stormy wasted no time. He wasn't frightened. He dove into the

*Continued*

**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A41 in step 4.

water. The splash was big. It sent a tidal wave to China!

Down, down, he swam after the monster. Stormy fought the monster for six hours. The underwater battle was fierce! The sea looked like it was boiling!

Finally, Stormy came up alone. The kraken had escaped. Stormy said the monster would not be so lucky next time.

Soon, Stormy became captain of his own ship. It was the largest ship in the world. The sails were so tall! The crew had to fold them down to let the moon go by. But, even a ship that big couldn't keep the kraken from coming back. This time, Stormy had a new plan.

Stormy rushed to the front of the ship. He grabbed a coil of rope. He twirled it like a lasso and caught the kraken by the neck. He pulled the rope tight.

The monster got so angry! Its thrashing caused a hurricane. It tried to get away. It dragged the ship across the ocean. Stormy held on tight.

When the kraken ran into a giant whirlpool, Stormy let go. Down went the kraken. It was never seen again.

Of course, Alfred Bulltop Stormalong wasn't real. But it could be that every brave sailor is a little bit like Stormy.

## Bugs and Crime

Tempers flare in a small village. Two workers begin to argue. A razor-sharp knife swings through the air. Afterwards, one man is dead. When the police arrive, no one talks. The police order the workers to stand in the hot sun. They wait. Flies arrive and hover. They swarm to the guilty man's blade. They were attracted by the smell of blood.

Did you know insects can help solve murders? Bugs can't talk. But they can tell a story. Bugs play an important role in solving crimes. But police don't wait for flies to swarm. They use more advanced methods to break a case.

The study of insects is called entomology. An entomologist is an insect scientist.

A forensic entomologist studies insects at crime scenes. Insects can be found on murder victims. These insects can give evidence!

What can scientists learn from bugs found on bodies? The most important thing is the time of death. Flies often lay eggs on a body. The eggs hatch into larvae. The larvae become maggots. Maggots grow as they feed on the body. Scientists can measure their growth. Scientists can tell how old the maggots are. They know how quickly maggots grow. Then they can figure out when the flies laid their eggs. The victim probably died just before that.

A body might be outside for a long time. It might be badly decayed. Ants and beetles may come to feed on the body. They also lay eggs. Forensic entomologists know about these insects, too. This helps them find more facts.

Bugs can show other things, too. Scientists know where bugs are from. This helps them locate crime scenes. If a body is found in New York City, scientists expect to find bugs from that city. If they don't, that is an important clue! Police know the murder probably didn't happen there.

What if there are no bugs on a body? That's a clue, too. No bugs might mean that the body was kept wrapped up. Perhaps it was hidden in a trunk. Maybe the trunk was buried underground!

Sometimes, scientists may need to look for poison. What if the body has been dead too long to be tested? The maggots that feed on the body can be tested. Traces of poison will show up in their bodies.

Forensic entomologists can also help to prove an alibi or explanation. A suspect might say she was driving home from one state. Are the squashed insects on the windshield from a different state? The suspect must have lied. That's a new clue!

Criminals always leave clues at crime scenes. Forensic scientists look for the smallest clues. They use the clues to find facts. Insects play an important role in their investigations. These tiny creatures can help solve the toughest cases.

### Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A42 in step 4.

## The Sun's Energy

Look up in the night sky. The stars above look like tiny dots of light. But really, they are not tiny. They only look that way because they are very far away.

A star is a ball of hot gases. Stars come in different sizes. The smallest stars are only about 12 miles across. White dwarf stars are about the size of Earth. They are about 8,000 miles wide. Supergiant stars can be more than 300 million miles wide. That is more than 1,000 times the distance from Earth to the Moon.

Did you know that the Sun is a star? It is the largest body in our solar system. More than 1 million Earths would fit inside the Sun. Even so, it is just a medium-sized star. The Sun is the closest star to Earth. But it is still very far away. The Sun is about 93 million miles away from Earth.

Earth would be a frozen rock without the Sun. Light and heat from the Sun allow life to exist on Earth. The Sun warms the land. It warms the oceans. It warms the atmosphere. Plants could not grow without energy from the Sun.

In fact, the Sun is the source of almost all the energy on Earth. Energy that comes from the Sun is called solar energy.

The Sun is very hot. The inner part of the Sun is the core. It is the hottest part of the Sun. Energy from the core moves to the surface. Then it moves out through space. This solar energy is the heat and light that comes to Earth. It reaches Earth in almost 9 minutes. That's 93 million miles in 9 minutes. That's fast!

People have been using the Sun's energy for thousands of years. Ancient Greeks built cities in checkerboard patterns. Every house faced south. The houses were warmed by the Sun all year round.

Today, solar cells gather energy from the Sun. They change sunlight into electricity. Light striking the cells makes an electric current. The electric energy is then stored in a battery. You may have seen solar panels on the roofs of homes.

Maybe you have seen solar panels on pay phones. Perhaps you have seen small solar panels on a calculator. Someday we might be driving solar-powered cars, boats and airplanes!

The Sun is an important energy source. Oil, coal, and natural gas are expensive. They get used up. They also pollute the air. Sunlight is free. It won't run out. It doesn't pollute. The Sun's energy has been giving Earth light and heat for 4.5 billion years. Today, the Sun's energy is more important than ever.

### Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A43 in step 4.

## Sun Power

Once upon a time, there was a kind and wise emperor. He ruled a peaceful country. His people were happy. They had fresh food, clean water, and good land. They had herds of horses and cows. The trees were full of chirping birds. The pure rivers were filled with schools of fish. The land was full of gardens and crops.

The land had ten suns. They lived together in a mulberry tree. The emperor had ordered these suns to provide light and heat to the earth. The suns' duty was simple, but very important. The suns liked to shine as brightly as possible. They loved to help things grow.

Each morning, one of the ten suns rose up to the sky. That sun gave light and heat to everyone for one day.

After the earth revolved once, the sun returned to the tree.

As that sun arrived at the tree, another sun left for a day of work. Each sun worked only for a single day every ten days.

The suns began to become bored. "Why do we all have to stay in this tree?" asked one sun. "I want to explore. I want to see what happens on the earth. I hate just sitting here waiting!"

The youngest sun knew that the emperor had assigned them this task. She said, "The emperor asked us to do this job. We should make him proud."

The eldest sun disagreed. He exclaimed, "One sun in the sky is good. But ten suns must be ten times better.

I think we should rise and set together. Wouldn't that be more enjoyable?"

"But that might make the emperor angry," protested the youngest sun.

"Who cares?" cried the eldest. "We want to try something new. Who can stop us?"

In the end, the suns agreed. They decided they would rise and set together. The youngest sun was a bit worried, but she thought it could do no harm.

The next morning, the ten suns rose together. They watched the events on Earth. They saw the majestic rivers and saw the great green mountains. They watched the people and animals. They were very interested.

But now there were ten suns in the sky. It was always noon.

Soon, people began to droop. Many began to lie down in the shade. The water buffaloes stopped pulling their carts. They leaned against trees. Everything seemed to be melting in the heat. The suns said, "All these creatures move so slowly. They must get tired easily."

The combined heat of ten suns was too much to bear. People, animals, and plants were too hot.

The ten suns did not notice. They were too busy enjoying themselves. They had contests to see who could be brightest and hottest.

"Please stop!" pleaded the people. "We can't handle so much heat!" The suns didn't listen. They played tag and chased each other across the sky.

Waves of heat and light flowed across the earth. "The whole world will become a desert," the people said.

The emperor decided to do something. He climbed to the highest tower. He bellowed in his most commanding voice. "Stop this imme-

*Continued*

**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A51 in step 4.

diately! Can't you see what harm you're causing?"

The suns didn't listen. "He's just jealous of our fun," they said. They only cared about their games.

The emperor was desperate. He called for the great hero Hou Yi.

Hou Yi was famous for his skill with a bow and arrow. People said that he could shoot a silkworm out of a mulberry tree.

The emperor explained to Hou Yi about the ten suns and asked for his advice. The hero smiled and assured him the problem would be solved. "I do not fear the heat of the suns. Any fire can be put out," he said.

Hou Yi walked out into the suns' scorching heat. He carefully aimed his arrows at the suns. One by one, he shot the suns down.

As each sun was struck, it landed in the ocean. Each one exploded in a puff of gold and orange fire. Hou Yi quickly shot down six of the ten suns.

As each sun fell, the air grew cooler. People found it easier to move and breathe. The villagers clapped with gratitude. They could not cheer because their throats were so dry.

After he had shot down six suns, Hou Yi rested. He got more arrows. Then he kept on with his task.

Swish! The seventh one fell.

Swish! The eighth one fell.

Swish! The ninth one fell.

The youngest sun was the last. She had watched the other suns fall. Was she going to be shot down? Hou Yi then reached for his last arrow. It wasn't there! He looked around.

He saw a serious-looking young boy. The boy was holding the arrow. "If you shoot down the last sun, we will have no light or heat," said the boy. "Our harvests will not grow. There will be only cold nights. Please do not shoot this last sun."

Hou Yi recognized the truth of the boy's words. "You are very wise, young man," he replied. "I will leave this one sun. The earth will again grow under its warmth and light."

The youngest sun heard the words of the boy and Hou Yi. She knew that they were true. From then on, she shone bright enough to bring life to the earth. But she did not shine enough to harm it. Now that she was the only sun, she was ten times more important than she had ever been before.

The earth was saved. All living creatures on Earth once again began to live and grow. The plants grew green again. The emperor was pleased with the sun. He asked the people to celebrate beauty in songs and stories. To this day, one sun watches over the earth.

## Mission to Mars

Look up at the stars on a clear night. There's one bright red light in the sky. That's not a star. It's the red planet, Mars. It is the fourth planet from the Sun. Of all the planets, it's the one closest to Earth.

Many people find Mars interesting. It is a cold, dry planet. Scientists think that once Mars was warmer. They think it once had water. They also think humans might be able to live there someday.

There have been many missions to Mars. Each mission gives scientists important information.

The National Aeronautics and Space Administration (NASA) sent a machine to Mars in 1996. It was called Pathfinder. Pathfinder was a lander. Inside it was a little robot car, or rover. It was named Sojourner. They were put on a rocket and launched into space.

**Pathfinder's Mission**
Pathfinder's trip to Mars took seven months. It landed on July 4, 1997. It was designed for a crash landing. Pathfinder entered Mars's atmosphere. Then the parachutes opened. The spacecraft slowed to 150 miles per hour.

Before Pathfinder hit the ground, giant airbags inflated. It slammed into the ground at 30 miles per hour. It bounced 40 feet into the air. It bounced 16 times, just like a giant beach ball. Finally, Pathfinder rolled safely to a stop in the red dust.

Pathfinder's airbags let out their air. Its doors opened. Pathfinder let down a ramp. The ramp was for Sojourner. Sojourner was the size of a microwave oven.

It weighed 25 pounds on Earth. It weighed only 9 pounds on Mars. The gravity there is weaker than Earth's gravity. Sojourner had six wheels. It was the first moving vehicle to ever visit another planet.

**In the Driver's Seat**

The rover's motors began to whir. It moved down the ramp. It rolled onto the rocky surface. Sojourner didn't move by itself. It was operated by a remote control from Earth. Brian Cooper controlled how Sojourner moved. Cooper is a computer engineer. He wrote the computer program that controlled Sojourner. He was also the lead driver. His job was to control Sojourner as it explored Mars.

Cooper sat in front of a computer. The computer received pictures from Pathfinder. Then the pictures were turned into a landscape of Mars. Cooper wore 3-D goggles. They made the landscape 3-D. He could see how big the rocks were. He used a joystick that moved Sojourner on the computer screen. He could steer the rover away from craters and holes. He could move it around the rocks. He had to watch out for bumps that could tip Sojourner over.

Controlling the rover was not easy. Mars is 119 million miles away. Each message took about 11 minutes to reach Mars from Earth. Sojourner could fall off a cliff by the time it got a message telling it to stop.

Cooper had to find the best way for the rover to move on Mars. He used the computer to plan safe routes.

Scientists wanted to examine interesting rocks on Mars. They asked Cooper to move Sojourner. Cooper sent commands to Sojourner. He had to bring Sojourner right next to the rocks. Imagine how hard this would be with an 11-minute delay. The rover turned around. Then it headed toward the rock. The rock was only 10 feet away. The rover crept closer to the rock. Full stop! It was a perfect parking job. A special tool on Sojourner pressed against the rock. It was used to collect information.

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A52 in step 4.

**Results of the Mission**

The Mars mission was a huge success. Sojourner was designed to work for only one week. But it worked for two and a half months. Sojourner lost touch with Earth on September 27, 1997. That's when Pathfinder's batteries died.

Scientists learned a lot about Mars. They learned what many of the rocks are made of. They also learned about the temperature and wind patterns on Mars. They proved that a lander and rover could explore Mars. There will probably be more missions to Mars in the future.

## Celebrating a Neighborhood!

Saludo! Konnichi wa! Zdusty! Those words mean "Hello!" in Spanish, Japanese, and Russian. You don't have to go far to hear these greetings. People from all over the world bring their languages to the United States. Their traditions add excitement to many neighborhoods.

At city festivals, people celebrate with their neighbors. They share the food of their homelands. They play music. They share their arts. Everyone finds something to do. People may come to the United States for a new life. But they also bring new life to the United States!

Chicago, Illinois has many neighborhoods. Rogers Park is one of the most interesting. It has welcomed people from many nations.

People from Ireland, Sweden, and Germany moved to the United States. Many arrived during the 1800s. Some chose Rogers Park as their new home. Large numbers of Russian and Polish people arrived, too.

Later, African Americans became part of the neighborhood. Many moved from the southern United States. Next came people from the Caribbean islands. More people came from Mexico and China. Some recent newcomers are from the former Soviet Union. Others are from India and Korea. Each group added its own flavor to the community.

Take a walk around the neighborhood. You can hear more than 80 languages in Rogers Park. Many street signs have two names. One street name is in English.

The second street name is in another language. You can eat a Chinese egg roll if you're hungry. You might choose a Polish sausage instead. You can buy a Russian newspaper. You might see women from India wearing graceful silk.

People from different backgrounds work side by side in Rogers Park.

Neighbors relax on the beaches. Children play baseball and basketball on the playgrounds. All the people here are proud of their traditions. They are also proud of the new community they share with their neighbors.

### Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A53 in step 4.

## Seth's Birthday Party

**Cast List**
(in order of appearance)
Mom
Seth
Tonya

**Setting**
The town of Woodsville

**Time**
The present

**SCENE 1**
(A hot day in August. MOM and SETH are sitting in their living room.)

**MOM:** Okay, Seth, let's start planning your birthday party. Your birthday is two weeks from Sunday. Let's go over your guest list. Who do you want to invite this year? What do you want to do?

**SETH:** (pulling a list from his pocket) Here's my list. I want to go see the movie "Return of the Giant RoboCows." Where's the telephone? I want to call Pete, Rob, Luisa, Tommy, Emma, and T-Bone.

**MOM:** (handing SETH the phone) T-Bone? What kind of name is that?

**SETH:** It's really Tyrone. All the kids call him T-Bone. He's one of the best players on our football team.

**MOM:** Hmmmm...I see. I thought you were going to have a big cookout this year. Looks like you only have six friends on your guest list: Pete, Rob, Luisa, Tommy, Emma, and Tyrone.

**SETH:** T-Bone! It's T-Bone!

**MOM:** There's a name you left off your list. How about your girlfriend Tonya? Why isn't her name on your list?

**SETH:** She is not my girlfriend. Tonya has not been my friend since last summer!

**MOM:** I think you should invite her. She lives right next door. You don't want her to feel left out.

**SETH:** Mom, don't you remember what happened last year? We went to the park downtown. We all had to leave early because Tonya got sick on the merry-go-round! Can you imagine that? Who gets sick on a merry-go-round?

**MOM:** Tonya is very sensitive. She's also a year younger than you.

**SETH:** Then she shouldn't come to my party! How about the year before when we went to the swimming pool? Do you remember what happened?

She actually brought her math books. She wanted to study under the umbrella all day. The pool smell made her faint. She does it on purpose. I wish she had stayed home.

**MOM:** Seth, don't say that. I'm putting Tonya's name on your list. Who knows? Maybe she and Wish Bone will become friends.

**SETH:** Mom!

**SCENE 2**
(Later that day. SETH is in his room, calling his friends.)

**SETH:** Hey, Pete, can you come to my birthday party two weeks from Sunday? We're going to see that movie "Return of the Giant RoboCows."

*Continued*

Teacher Note
To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A61 in step 4.

Then we'll come back to my house for a cookout, and…. Oh, you're going to California for a vacation? Umm…okay…well…have a good time. Bye.

(SETH hangs up, then dials again.)

**SETH:** Hi, Rob, my birthday party is two weeks from Sunday. We're going to see "Return of the Giant RoboCows." Then we'll have some hot dogs, burgers, and cake. Can you come? (SETH listens.) You're going to music camp? I didn't know you played the guitar. Call me when you get back. Bye. (SETH hangs up.)

**SCENE 3**
(Still later that day. SETH enters the kitchen, where MOM is cooking.)

**SETH:** Mom, I called everyone on my list. Nobody can come to my party. Why was I born in the summer? Everyone is away at camp or on vacation!

**MOM:** You know you can't change your birth date. Did you call Tonya yet?

(SETH rolls his eyes. Then he picks up the phone and dials.)

**SCENE 4**
(Two weeks later. It's SETH'S birthday. The doorbell rings. MOM opens the door and TONYA enters.)

**MOM:** Hello, Tonya! It's so nice to see you!

**TONYA:** Hello, Mrs. Jackson. Hello, Seth. This is for you. (She hands SETH a wrapped box.) There was a big sale at my favorite store. It was just by chance that I found this special gift for you. It's my favorite color. And here's a card. I made it myself.

**SETH:** (He rips the wrapping off and opens the box. Inside is a tie.) A pink tie. A pink tie with polka dots. Great! (He looks disgusted.) I can't believe you put a tie in this giant box.

**MOM:** It's a very nice tie! Seth, what do you need to say to Tonya? Don't forget your manners.

**SETH:** Thank you, Tonya.

**MOM:** (looks at her watch) We'd better get a move on, kids, or we'll be late for the movie. "Return of the Giant RoboCows" is only playing in the city.

**TONYA:** (looking in her bag) Where's my comb? I thought I put it in my bag. What movie are we seeing?

**SETH:** I told you on the phone. We're going to see "Return of the Giant RoboCows!" These robots that look just like ordinary cows take over the universe, and then this guy Artron comes along and….

**MOM:** (interrupting) Seth has been talking about this movie for weeks.

**TONYA:** But robot movies make me break out in a rash. Can't we see the movie about the evil doctors?

**SETH:** A rash? A rash? I told you we were going to that movie! AAARGH! How can you break out in a rash watching a movie about robot cows? That's impossible.

*Continued*

**SCENE 5**
(SETH stands alone in a spotlight, speaking to the audience.)

**SETH:** It's a good thing Tonya was just joking. So we went to the movie after all, and it was fantastic. Tonya even gave me money to buy some candy. Over the summer, Tonya and I went to see "Return of the Giant RoboCows" twelve more times. Mom said once was enough for her. It was a pretty fun birthday…until we got home, anyway.

**SCENE 6**
(SETH's backyard, after returning from the movie.)

**MOM:** (Finishes singing birthday song as she carries the cake outside and sets it down in front of SETH and TONYA.) . . . Happy birthday to you!

**TONYA:** Aaah-choo! (TONYA sneezes all over the cake.)

**SETH:** You ruined my cake!

**TONYA:** Sorry, Seth. My allergies make me sneeze. I'm allergic to cake.

(Lights dim. SETH lies back on the couch, covered in frosting. Speaks to the audience.)

**SETH:** Well, I still had fun with Tonya. I might even invite her again next year. I mean, you know someone's a pretty good friend if she never misses your birthday party. I'll just have to keep Tonya away from the cake.

(Curtain)

## Light Up the Night

Ooooh! Ahh! Oooooh! Why is it that fireworks excite us? Is it their power? Is it their beauty? Is it the noise? The brilliant colors and shapes of fireworks always thrill a crowd at celebrations.

Did you know fireworks have another name? They are also called pyrotechnics (PY ruh TEK niks). The name comes from Greek words that mean "fire arts."

Fireworks have been around a long time. They were invented in China over 2,000 years ago. Some people believe it all began in a kitchen.

A Chinese cook mixed some ingredients together. It led to combustion. Combustion is a chemical change that creates heat and light. It must have been an unexpected flash and boom!

That cook had really made gunpowder. Later, someone put gunpowder into a closed tube. When the tube was lit, heat was added. This created an explosion in the rocket. WHOOSH! The rocket shot up into the sky. More gunpowder inside the rocket exploded. KAPOW!

Over the years, many other people learned to make fireworks. In the early 1700s, an Italian family experimented with skyrockets. They shot mice up into the air, then the mice floated back down with little parachutes.

Fireworks come in all colors, shapes, and sizes. Some fireworks are huge rockets. They have lots of stars packed inside. Stars are mixtures of chemicals. They make dazzling shapes in the sky. Some shapes look like palm trees. Some look like weeping willows. Some look like the American flag! A good fireworks master can even time the fireworks with music!

Fireworks can explode by accident. Sparks can make this happen. People who work in fireworks factories must be very careful. They must never cause a spark. The factory might explode! Some factories put a copper plate in the doorway. Everyone who enters must touch the plate. The copper removes any static electricity. Have you ever touched a metal doorknob after walking across a carpet? Did you get a shock? That's static electricity at work!

Making fireworks is a serious business. The people who made the grandest fireworks kept their recipes secret. They didn't want anyone to know how they did it.

Many of the recipes were never written down. They were handed down orally.

Pyrotechnics are a big part of our lives. The discovery of fireworks gave us guns and dynamite. Dynamite is used for mining and road building. We also use a kind of firework to make flares. People use flares to call for help. There are fireworks that light up battlefields. There are even fireworks used to change the weather! They scatter chemicals in clouds to try to make rain.

Just think, all this is possible because of something that happened in a kitchen thousands of years ago!

**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A62 in step 4.

## Into the Great Unknown

### The Louisiana Purchase

In 1803, the United States bought a giant piece of land in North America. This land was known as the Louisiana Territory. It stretched from the Mississippi River to the Rocky Mountains. This purchase doubled the size of the United States.

Many Native Americans lived in the Louisiana Territory. Few other people had visited this territory. President Thomas Jefferson wanted to send someone to explore the land west of the Mississippi River.

Jefferson asked Meriwether Lewis to travel from Missouri to the Pacific Ocean. The Pacific Ocean is almost 2,000 miles from Missouri. On the way, Lewis was to explore the Louisiana Territory and beyond. Lewis spent eighteen months preparing for the journey.

Lewis asked William Clark to explore the Louisiana Territory with him. Clark agreed. Lewis and Clark picked forty men to travel with them.

### The Journey Began

In May 1804, Lewis, Clark, and the forty men began their journey. The explorers left from St. Louis, Missouri. They traveled up the Missouri River. They rode in one large boat and two smaller boats. Sometimes strong currents made it hard for the boats to travel up the river. At these times, the explorers had to walk along the river. They pulled their boats with ropes.

In September, the explorers reached the Great Plains. They saw huge herds of buffalo. They had never seen anything like these huge herds before. Clark wrote down everything they saw. He recorded 178 new plants. He recorded 122 new animals.

### A Long Winter

In October, the explorers reached what is now North Dakota. They

came across five villages.
Nearly 5,000 Native Americans lived in the villages. The Native Americans were friendly to the explorers.

In one village, Lewis and Clark met a French Canadian man. The man's name was Toussaint Charbonneau. Charbonneau spoke many languages, including English. He was able to speak with Lewis and Clark. Charbonneau also spoke some Native American languages. Lewis and Clark asked Charbonneau to travel with them. Charbonneau would help the explorers talk to the Native Americans they'd meet on their trip.

Charbonneau's wife was a young Native American woman. Her name was Sacagawea. Lewis and Clark asked Sacagawea to travel with them, too. Sacagawea knew the land well. They hoped she could guide them through the Native American territories.

Winter arrived. The days grew cold. Lewis and Clark decided not to travel during winter. They postponed the next part of their trip. Lewis, Clark, and the explorers built a fort. They stayed at the fort until spring.

**The Journey Continued**
Spring arrived. Lewis, Clark, and the rest of the men left the fort. Charbonneau and Sacagawea left with them. The group returned to the Missouri River. They traveled in two boats and six canoes.

The explorers approached the Rocky Mountains. The river became shallow. Big rocks made boating difficult. There were many waterfalls, so the explorers had to travel on land. The ground was steep and muddy. As they walked, they pulled their boats and canoes.

In July 1805, the explorers found a Native American village. Here, the Missouri River split into three rivers. This was the place where Sacagawea had grown up.

*Continued*

Teacher Note
To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit A63 in step 4.

Sacagawea led the men into the village. Then, they found the chief. He was Sacagawea's brother! Sacagawea asked her brother for horses. The explorers needed horses for the next part of their journey. They had to cross the mountains. They would leave their boats and travel on horseback. Sacagawea's brother gave them the horses. He decided to help the explorers because they were traveling with his sister.

Lewis led the group to the Rocky Mountains. They had to cross these mountains to continue west. The explorers rode their new horses over the mountains. It took them almost a month.

By September, the explorers were over the mountains. There, they found another Native American village. The Native Americans were helpful. They taught the explorers to make canoes. The explorers needed the canoes because they were ready to travel by water again. They left the village and continued their trip.

The group traveled on three more rivers in their new canoes. Finally, in November, they reached the Pacific Ocean. Lewis and Clark knew Jefferson would be pleased.

**The Journey Home**

Again, the days grew cold. The explorers built a fort in what is now Oregon. They stayed at the fort during the winter. Lewis and Clark planned their journey home.

Spring came. The explorers traveled east toward St. Louis. When they arrived at their village, Sacagawea and Charbonneau said good-bye to the explorers.

In September 1806, Lewis and Clark arrived in St. Louis. They had been gone for over two years. They had traveled 8,000 miles!

Hundreds of people gathered to welcome the explorers home. Everyone was eager to find out what the West was like. Lewis and Clark amazed the people with stories of everything they had seen. They described the herds of buffalo on the Great Plains. They described Sacagawea and the other Native Americans who helped them.

Jefferson called Lewis and Clark's journey a great success. Because of Lewis and Clark's journey, many more people began to go west.

## The Oklahoma Land Rush

The United States was a growing country throughout the 1800s. Settlers were moving west to look for land. The settlers needed land for houses and farms.

In March 1889, the United States government announced that settlers could move into the Oklahoma country. The Oklahoma country was not the same as the state of Oklahoma. The Oklahoma country was a small area that later became part of the state of Oklahoma.

The government declared it would open the Oklahoma country to settlers at noon on April 22, 1889. Then settlers could enter the Oklahoma country. They could claim pieces of land for themselves. Thousands of people crowded the borders of the Oklahoma country. They waited there for weeks. Everyone wanted to be first to enter the Oklahoma country. They all wanted to claim a piece of land.

While the settlers waited, soldiers on horses watched the borders of the Oklahoma country. The soldiers made sure no one crossed the borders early. The soldiers fired their guns into the air at noon on April 22. This was the signal the settlers were waiting for. The settlers rushed across the borders. They rushed into the Oklahoma country to claim land. People called this event the Oklahoma Land Rush.

Many people wrote about their adventures during the Oklahoma Land Rush. This diary tells the story of a boy from Kansas who went to the Oklahoma country with his father. The diary is fiction, but it describes real events.

**Sunday, April 21, 1889**
Tomorrow is the day we've been waiting for! Tomorrow we can claim a piece of land for our new home. Finally! We've been camping at the border for weeks. I'm sure glad we arrived as early as we did. There were only a dozen people here when we arrived. Now there are more people than I can count! Good thing we'll be ahead of them

tomorrow when the race begins.

Pa and I studied a map of the Oklahoma country. We found a piece of land that we think we'll like. The land is on a hill next to a river. It's good to be on a hill. If the river floods, our land won't be under water. And we'll have a nice view.

There's another reason we chose this land. Pa thinks we'll be the first people there. Even so, we'll have to be fast to be first!

Pa thinks that most people will go first to the land next to the river. The best soil for farming is next to the river. So settlers will claim all the land by the river quickly. Then, Pa thinks they will claim the land they can get to the fastest.

The land we chose is not the closest land. We have to cross the river to get there. And we have to climb the hill.

Pa and I will each carry a map tomorrow. These are the same maps we've been looking at for weeks. We won't try to stay together. I'll drive the wagon. Pa will ride his horse. This way Pa can get to the land first. Horses are much faster than wagons.

Tomorrow is going to be a big day!

**Monday, April 22, 1889**
Whew! Today was the most exciting day of my life!

This morning seems like weeks ago! Pa and I woke up early. We looked at our maps again. We went over our plan to meet at the land we had chosen.

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B11 in step 4.

Then we talked about Ma and Bess back in Kansas. Bess is my baby sister. I wish they were here too. I miss Ma's cooking. Pa is not a very good cook.

Just before noon, I got into our wagon. Pa jumped on his horse. To my right, left, and behind me, I could see horses, wagons, and people everywhere. In front of us, there were green hills and woods. They stretched all the way to the horizon.

At noon, we heard the gunshot. The race started! Pa quickly rode out of sight. Thousands of people on horses galloped ahead. The galloping horses sounded like thunder! It was hard to drive the wagon with so many people and wagons all around me.

I was alone in the wagon. I was worried about finding Pa. There were so many people and so much land.

I felt very relieved when I got to the river. I knew exactly where I was on the map. I could see the hill! I went carefully across the river. Then I rushed up the hill.

I arrived at our land just before sunset. Pa was already there. The land was beautiful. The top of the hill was flat and grassy. There were trees to give good shade. Pa had claimed the best piece of land on the hill.

It's dark now. I can see faint campfires twinkling along the river and on the other hills.

**Thursday, April 25, 1889**
It's amazing. This whole area was empty just a few days ago. All of a sudden, there are hundreds of tents along the river. People, horses, and wagons are scattered everywhere I look.

Pa and I have been so busy! We set up our tent. We're planning the farm. We even started digging a well. I hope we brought enough food.

A man visited us yesterday. He was selling sandwiches and vegetables. The food here costs an arm and a leg! He was charging twenty-five cents for a sandwich! Who could spend that much on a sandwich?

**Monday, April 29, 1889**
Every day I realize how amazing this place is. In the valley, some people are building a town near the river bend. I can see them from our land. I have been watching their progress all week. They're constructing many buildings and roads. I bet this land is the quickest settled in the history of the world!

People seem to be getting more comfortable in this new place. They are starting to build houses and plow the soil. I can't wait until we start building our house.

Down in the town, two buildings are already done. Three more are nearly complete. Soon it will look like our town back home!

Living out here is not going to be a piece of cake. But it is certainly an adventure to be a part of this exciting new place.

## Bill Pickett: Rodeo Cowboy

From the late 1800s through the early 1900s, the Wild American West cultivated many cowboys. Often these young men were hardworking, daring adventurers. But one cowboy stood out from the rest. Bill Pickett was that cowboy. He was fearless. And he had an unusual skill that made him a legend.

Bill Pickett was born in 1870 in Texas. His parents were former slaves. Bill was the second of thirteen children. His family was very poor. Bill quit school at the age of ten. He had to help his family earn money. But Bill never stopped learning.

**Bill Pickett, Ranch Hand**
Bill found a job as a cowboy on a ranch. He enjoyed riding horses and roping cattle. He was a good cowboy. He did his job well.

But being a cowboy was a dangerous job. A large and fierce animal could easily hurt him. And Bill was not as big as most cowboys. He was only five feet and seven inches tall. He had to be smart and strong to keep from getting serious wounds.

One of the ways Bill learned to do his job well was through watching a rancher use dogs to gather steers. The dogs were part bulldog. This breed is known for their powerful bite. To herd the steers, the rancher let the dogs loose. When a dog caught up with a steer, it jumped up and bit the steer on the upper lip. This stunned the steer. The steer stood still. The rancher then roped the animal. This technique was known as bulldogging. Even a small dog could hold a large steer still by bulldogging it.

**Bill Pickett, the Bulldogger**
One day, Bill decided to use the dogs' trick. The cowboys he worked with needed help branding some young wild steers. The men did not believe that tiny Bill could help. Bill went to work. He slowly approached one wild steer. He grabbed it around its neck. Then, he

sank his teeth into its lip. The move was brave. It was bold. And it worked! The steer stood still. Bill wrestled the steer to the ground. Finally, he roped it. The other cowboys were amazed.

For years, Bill perfected his bulldogging technique. He practiced on the ranch. Then, in the 1890s, Bill began performing in rodeos. He delighted rodeo audiences with how well he rode wild horses. But they were most excited to see his daring bulldogging trick. This man could tame an angry steer!

**Bill Pickett, Rodeo Star**

In 1905, Bill went to New York City to perform in a huge rodeo show. Many people came to the rodeo to see Bill's famous trick.

Just before the show began, a steer got loose from its pen. The fierce steer crashed through a fence. He ran into the audience! Bill knew what to do. He immediately jumped on his horse. He chased after the steer. When his horse caught up to the steer, Bill leapt onto the steer's back. Then, he grabbed onto its horns. He twisted the steer's head. The steer fought back. He bucked wildly.

Luckily, Bill's friend was there to help him. As Bill held the steer tight, the friend caught the animal with a rope. Together they pulled the steer back into its pen. They suffered only minor wounds. Bill and his friend saved the show. The next day, newspapers praised the cowboys and their daring feat.

Bill's fame grew. In 1907, the popular Millers' 101 Ranch Wild West rodeo show hired Bill. They wanted him to be their star performer. The rodeo show traveled all over the world. Everywhere the show went, huge crowds came. People wanted to see the famous bulldogging cowboy. Bill even performed his trick for the king of England.

After bulldogging nearly 5,000 steers and traveling around the globe,

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B12 in step 4.

Bill Pickett decided to quit the rodeo life. Bill stopped performing in 1916. He wanted to be a ranch cowboy again. Sadly, in 1932, a horse kicked Bill in the head. He died from his wounds. Yet Bill's fame lived on.

**Bill Pickett, an American Legend**

In 1972, Bill Pickett became the first African American cowboy to be honored by the National Rodeo Hall of Fame. In 1994, the United States Postal Service honored him, too. They made a Bill Pickett stamp.

Bill Pickett amazed audiences all over the world with his daring rodeo trick. But Bill Pickett was more than a performer. Bill took risks. He loved strong, dangerous animals. He also loved the thrill of taming them. Bill Pickett was a true cowboy who became a legend of the Wild American West.

## Treasures of the Deep

The year was 1724. A huge ship from Spain was sailing to Mexico. The ship was called the *Conde de Tolosa.* It carried a precious load. The ship held 150 tons of mercury. Mercury is a silvery liquid metal. In 1724, mercury was worth a lot of money.

But, the *Tolosa* carried more than mercury. Over 600 passengers and crew members were on the ship. Many passengers were very rich. They brought gold, silver, and other precious belongings with them. It was to be a nice, safe voyage to Mexico.

**The Sinking of the Tolosa**
Sadly, the *Tolosa* did not reach Mexico.

A huge storm struck the ship. The ship was near an island that is now the Dominican Republic.

The storm's strong winds batted the ship around as if it were a toy boat. The ship rocked in the storm for hours. But the ship was not strong enough to bear the storm. The *Tolosa* sank on August 25, 1724. Nearly all of the passengers and crew members died. Their belongings sank with the ship.

Only seven men lived. They clung onto tangled ropes that were hanging from floating pieces of the ship.

The men drank only rainwater. They ate almost nothing. They were very weak. They watched sharks dine on dead passengers floating in the water. After thirty-two days, a ship rescued the passengers.

The survivors told tales of the *Tolosa's* sad voyage. They talked about the boat sinking. They explained how they managed to live. Their stories were written down. Eventually, these stories would provide clues to the location of the wreck.

**Searching for the Tolosa**

The *Tolosa* stayed hidden for more than 250 years. Ocean waves carried away much of the remains of the ship. Sand and coral buried the rest of the remains.

In the 1970s, a treasure hunter named Tracy Bowden became interested in the *Tolosa.* He wanted to know what happened to the lost ship. Bowden owns a company that searches for buried wrecks. His company finds and uncovers buried treasures.

Bowden read the survivors' stories about the sunken ship. He decided that he wanted to find the hidden wreck. The stories helped Bowden choose a place to begin his search.

He chose the Dominican Republic. He asked the Dominican government if he could search the waters near the island. The government said yes.

**Uncovering Buried Treasures!**

In 1976, Bowden and his crew set sail. They explored the waters off the coast of the Dominican Republic. The crew searched for the Tolosa with metal detectors. A metal detector is a type of equipment that locates anything that contains metal.

The *Tolosa* was carrying many cannons when it sunk. Cannons are made from tons of metal. The metal detectors might find the cannons.

In June 1977, Bowden's metal detectors located some cannons. Bowden and his crew were excited. They hoped they had found the Tolosa. But they wanted to be sure. They needed to find the mercury that the *Tolosa* was carrying.

Bowden and other divers entered the water. They dived forty feet. Finally, they located the ship. They quickly began their search for

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B13 in step 4.

mercury. They gently cleared sand and coral from the buried wreck. They did not want to break anything. They used special equipment, like metal detectors and air lifts, to find and remove pieces of the wreck from the water. An air lift is a big tube. It works like an underwater vacuum cleaner.

They searched for the mercury for three weeks. Then, Bowden found a small barrel. He pulled the barrel from the water. He cleared sand from the barrel and opened it. He found tiny drops of mercury at the bottom of it. The mercury proved the ship was the *Tolosa!*

The divers searched the wreck for many more months. A crew in a boat waited while the divers explored. The divers found many treasures hidden in the wreck. They discovered special plates and fine glass. The divers also recovered riches like gold and silver coins. They found necklaces and precious stones, too.

The divers loaded the treasures into baskets. Then the boat crew lifted the baskets into the boat. The divers and crew were amazed at all they found. They had discovered one of the greatest underwater treasures ever!

**Sharing the Treasures of the Deep**

The boat crew handled the treasures carefully. They cleaned and studied each object. They wrote notes about each one. After Bowden's crew was done, they sent many of the treasures to museums. They also published their notes. Now everyone can share in exploring these amazing treasures of the deep.

## José's Three Wishes

José lived in a fishing village by the sea. One day, José was looking for shells on the beach. Something caught his eye. It was a small periwinkle resting on a rock. "What a treasure!" thought José.

José pulled the snail from the rock. Then he heard a tiny voice. "Stop! Please let me go!"

José was surprised. He tried to see where the voice was coming from. He realized that the voice came from the periwinkle.

José held up the snail. He asked, "Why should I let you go?"

"This beach has been my home for many years. I would like to stay here," answered the periwinkle. "Please return me to my rock. Then I will grant you three wishes."

"Snails don't grant wishes," thought José. But he wanted to give the snail a chance. "Fine," he agreed. "But if I don't get my wish, I will come back tomorrow and take you home with me."

"What is your first wish?" asked the tiny voice.

José thought for a while. "My family and the rest of the people in our village seem happy," he told himself. "But they would be even happier if they were rich. Then they could have everything they ever wanted. I will make one wish for my village. I will save the other two wishes for myself."

Finally, José said to the snail, "If I make one wish now, may I save the other two wishes for later?"

"Sure," the snail said.

"OK," José said excitedly. "I wish for schools and schools of tuna. I

want enough to make the fishers of my town rich."

"Done," replied the snail. "Your wish will come true tomorrow."

José placed the periwinkle back on its rock. "Thank you for returning me to my home," said the snail.

The next morning, José and his family set out for their day of fishing. Soon they were pulling up nets and nets of tuna. There was barely enough room in the boat for all the fish!

"Oh my!" José's grandfather exclaimed. "I have never seen such a harvest!"

"Today we will have more tuna to sell at the mercado than anyone else in town!" cried José's mother. José just smiled.

When José's family arrived at the mercado, they were amazed at what they saw. All of the villagers had caught more tuna than ever before. Every fishing family in town had more than enough fish to sell. They would all become rich. The villagers were very happy.

The next day, José returned to the periwinkle. "You were telling the truth," he said to the snail. "The fishers caught more tuna yesterday than ever before!"

"What is your second wish?" asked the mysterious snail.

José wanted his other two wishes to be just as great as the first wish. "I need time to think about it," he replied. "I will come back."

"As you like," said the periwinkle.

For weeks, the villagers' nets were full of tuna. José wondered how

*Continued*

**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B21 in step 4.

he could possibly improve on his first wish. Everyone had extra money. Everyone was satisfied.

Many weeks passed. Sadly, the villagers good luck began to change. The sea was so full of tuna that the tuna started competing for anchovies and sardines. These tiny, tasty fish were also popular at the mercado. Both the fishers and the tuna wanted the little fish. The anchovies and sardines began to disappear.

Before long, there wasn't enough food for the tuna to eat. The fishers were catching fewer and fewer tuna. The fishers began to compete for the tuna. Soon the village people were less kind to one another. They were no longer satisfied.

One morning, the fishers were very disappointed. No one caught any tuna. José hurried to the beach. He wanted to ask the periwinkle to give the village more fish. He found his periwinkle resting on a rock.

"Hello, periwinkle. I'm back," said José.

"Hello, José," said the snail. "What is your second wish?"

"I wish for schools and schools of anchovies and sardines!" José said without hesitation.

"Tomorrow, your wish will be granted," said the periwinkle.

The next day, José and his family caught baskets and baskets of anchovies and sardines. They also caught a lot of tuna. The other villagers enjoyed the same luck. The sea seemed richer than ever. Once again, the villagers were satisfied. "My second wish came true!" José thought happily.

José wanted his last wish to be even better than the first two wishes.

He would wait before asking for his third wish.

For weeks, the fishers enjoyed large harvests. They built bigger boats to hold the fish. News of the great harvest spread to the other villages. People came from many towns to buy fish at the mercado. The wealth of the town grew. José's family became the richest of all. The villagers began wearing fancy clothing and hats. They decorated their homes with lights, fountains, and paintings of fish.

But before long, the happy days in the village ended. One day, the fishers returned to the mercado with hardly any shrimp.

It seemed that the shrimp were losing in the contest for food. The large schools of anchovies and sardines were eating all the plankton.

But the shrimp also needed plankton for food. There was not enough plankton in the sea. In just a few days, most of the shrimp disappeared.

The villagers caught fewer and fewer anchovies and sardines after the shrimp disappeared. There was not enough plankton to feed these little fish either. The villagers were afraid. They did not have enough fish to eat or sell. They began competing with one another. The villagers acted like they were in a contest to catch the few fish left in the sea. Soon, the villagers stopped speaking to each other.

José did not know what to do. He was afraid that all the fish would die. His third wish was his only chance to save the fish that were left—and the village itself.

With great sadness, José went back to the periwinkle.

"José! You've returned! Have you thought of your third wish?" asked the snail.

*Continued*

"I don't know what to do!" José cried. "How can I make things better? The shrimp are all gone. The other fish are disappearing, too. Everyone is competing to catch the fish that are left. I wish that things would return to the way they were before!"

"Done!" cried the mysterious snail. With that, the periwinkle disappeared. José had used his third wish. Feeling very sad, José headed home. He thought about all the wonderful things he could have wished for.

When José arrived in the village, something was different. Villagers were smiling and being nice to one another. No one was wearing a hat or fancy clothing. The lights, fountains, and fish paintings were gone. In the mercado, fishers were selling tuna, anchovies, sardines, and shrimp!

José ran home. His family was counting what they had earned that day. His last wish had not been wasted after all. Everything was just as it had been before he made his first wish. The villagers were not rich, but they were satisfied. And that was really what José wished for all along.

## Graham Hawkes: Pioneer of the Deep

The ocean is alive. Millions of amazing sea creatures swim in the ocean's watery depths. Yet, humans' ability to explore this awesome world is limited. The great pressure of deep ocean waters can crush almost any vehicle. Thus, much of the sea remains a mystery. But Graham Hawkes is working to change that. This pioneer builds underwater crafts that can dive deep into the ocean waters. His crafts can go to underwater places never explored.

Graham Hawkes was born on December 23, 1947. As a child in London, England, Hawkes dreamed of being a pilot. He wanted to soar through the sky. He hoped to go higher and faster than any pilot had ever gone. And, he dreamed that he could be the one to build the planes that would take him to these great heights. He wanted to be a pioneer of the sky.

**An Exciting Idea**

When Hawkes grew up, his interests changed. Airplanes had already gone farther and higher than he thought possible. The sky no longer held his dream. He could not go higher. So, his attention turned to the mysterious world of the deep sea. If he could not go higher, he would go deeper than anyone else.

In the 1970s, Hawkes started developing deep-sea diving equipment. He built the equipment. Then, he tested it. He dived deep into the ocean. He saw amazing sea creatures. He learned that an ocean is its own huge world.

But the sea also frustrated Hawkes. Hawkes realized that he knew very little about oceans. Because of the pressure of the water, Hawkes could never dive to the depths he wanted. Underwater crafts were heavy and slow. They could only travel straight down and up in the water. They had only one small window. These vehicles weren't very helpful for deep-sea exploration.

***Deep Flight***

One day, Hawkes had an idea. He would create a new underwater craft. He would build a submersible that could fly under water. Hawkes did not miss the sky. But he could use what he knew about airplanes to create his underwater craft. His craft would be light, like an airplane. It would move quickly, like an airplane. The vehicle would also be able to handle the strong pressure of the water, like a submarine. Hawkes was excited. He began building his flying submersible. Hawkes called this underwater craft *Deep Flight.*

Hawkes worked hard on Deep Flight. He spent years planning and building it. The craft had to have one important quality. It had to be able to turn and dive in any direction. He gave *Deep Flight* wings like an airplane. The wings would make turning easier. But what could he use to control the vehicle? He decided a stick could control the craft. This joystick would make *Deep Flight* easy to steer. The pilot could drive the craft with one hand.

Hawkes then gave *Deep Flight* a clear front end. The large window would let the pilot see up, down, and to the sides. He added special lights to the vehicle. These lights would allow the pilot to see in the dark ocean waters. He also fastened cameras to the craft. Deep Flight would be great for taking underwater photographs and making underwater films.

Finally, Hawkes finished building *Deep Flight.* He couldn't wait to take his craft into the sea.

**Deep in the Sea**

In 1996, Hawkes took *Deep Flight* on its first voyage. The voyage took place in the clear sea near California.

Hawkes was nervous. He began his descent. Carefully, he steered the vehicle beneath the surface of the water. *Deep Flight* worked

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B22 in step 4.

perfectly! Safe inside *Deep Flight,* Hawkes zoomed around the water. He felt like he was in a sea airplane. Hawkes glided past colorful fish. He explored thick seaweed forests. He even flew alongside a giant manta ray.

The voyage made Hawkes happy. When he returned, he described his voyage. He said, "I was in heaven, twisting and turning, pure flying." *Deep Flight* was a success. He brought back many photographs to prove it. He knew he had changed underwater travel forever. But this trip would not be Hawkes's last.

**Hoping to Dive Deeper**

*Deep Flight* can travel to a depth of nearly 3,000 feet. But Hawkes wants to travel deeper. He is working on that goal today.

Marianas Trench near Japan is 36,000 feet deep. It is the deepest place in the world. Hawkes wants to travel to the bottom of Marianas Trench. He is building a new underwater vehicle to take him there. Hawkes calls his new craft *Deep Flight II.* It will be strong. The pressure at the bottom of the ocean must not be able to crush it.

People have explored most of Earth's land. But people have seen only a tiny part of the seas. Graham Hawkes is a true pioneer of the sea. The ocean is a mysterious world. With his underwater crafts, Hawkes is solving some of these mysteries.

## Smokejumpers

The alarm sounds. There is an emergency. You're needed. You put on your gear. You rush to the fire. However, you're not climbing into a fire truck to get to this blaze. Instead, you climb into an airplane. After a short flight, you dive from the airplane toward the flames below. You're a smokejumper. You fight wilderness fires.

Can you imagine having a dangerous job like this? About 350 brave and highly trained men and women in the western United States are smokejumpers.

Smokejumpers are firefighters who jump out of airplanes to battle forest fires. Smokejumpers risk their lives to protect America's wilderness.

**Getting Ready for a Fire**
Smokejumpers always have to be ready for an emergency. They get their gear ready long before a fire starts. They pack their tools and water packs into bundles. They must be set to go at any time.

When an alarm rings signaling an emergency, smokejumpers quickly load their bundles into the airplane. Then, they put on fire-resistant clothes. Over the fire-resistant clothes, they wear padded jumpsuits. The jumpsuits help to keep them safe during parachute landings.

After they are dressed, the smokejumpers get into an airplane. The airplane rushes them to the fire.

The smokejumpers strap on their parachutes. They jump quickly out of the airplane. They free-fall for a short time. Then, they open their parachutes. The parachutes work like sails. The smokejumpers must steer their parachutes carefully. They have to land near the fire, not in it.

**From the Air to the Ground**

When the smokejumpers land on the ground, they look up to the sky. The airplane flies overhead, dropping their bundles. The bundles have parachutes, too.

The bundles fall safely to the ground. The smokejumpers gather the heavy bundles. They strap them to their backs. They head toward the blaze.

When they get as close to the fire as they can, the smokejumpers take their tools out of the bundles. Then, they get to work. The smokejumpers know that they must put out the fire fast.

**Putting Out a Fire**

The smokejumpers use their tools to dig a firebreak. A firebreak is a clear dirt path around the fire. The firebreak limits the spread of the fire.

Forest fires usually happen in the summer when there is little rain. So, the land and bushes are dry. When the wind blows, the fire can spread quickly.

The firefighters must act fast to create a firebreak. The smokejumpers use their tools to clear the bushes and trees from the firebreak. With no trees to burn, the fire does not have the fuel it needs to continue raging.

As the smokejumpers work, the hot fire is only a few feet in front of them. They must be careful not to get burned.

Once they make an effective firebreak, the daring smokejumpers approach the remaining flames. With their special axes, they scatter the burning wood and brush. They spray water from their packs on the embers. They continue this hard work until the whole fire is out.

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B23 in step 4.

Small fires may take only a day or two to control. But smokejumpers may have to fight large fires for weeks. It is hard and tiring work to fight a wilderness fire.

**Smokejumping: a Risky Job**

Sometimes, smokejumpers can't stop a fire from raging out of control. The fire spreads.

Trees and bushes burst into flames before an effective firebreak can be made. Burning trees come crashing down. The fire spreads even farther.

During uncontrolled fires like this, a smokejumper must be especially careful. Fires that spread quickly are very dangerous. If the wind shifts, the fire might move straight toward the firefighters. If this happens, the smokejumpers could get seriously hurt.

Smokejumpers can get burned in the fire. They also can get sick from the smoke.

That is why every smokejumper carries a fire-resistant tent in a pouch fastened to his or her belt. This tent is very small. But, it can save a smokejumper's life.

When a smokejumper is caught in a fire, she quickly spreads out the tent. The smokejumper climbs under the tent. She lies face down in the dirt. The flames rage around the smokejumper. But, the smokejumper remains safely tucked under the fire-resistant material. She breathes the non-smoky air under the tent. She waits until the fire passes or someone comes to help.

Being a smokejumper is a dangerous job, so why do almost 350 men and women do it? Smokejumpers are risk-takers. Many smokejumpers love adventure. Perhaps, some enjoy the thrill of facing

wilderness fires. Regardless of their other reasons for taking the job, smokejumpers feel that they are doing something important. They are saving the wilderness from destruction.

## Storm!

When I took this job on the *Captain Morgan,* I was so excited. The *Captain Morgan* is a whaling ship. Whaling ships are huge wooden sailboats used to hunt whales.

I thought it would be a great experience for me to be part of a ship's crew at my age. So, I agreed to be a cabin boy. It would be my job to help the adults on the ship do their jobs. One of my assignments was to help Mr. Bones, the ship's cook, prepare the meals.

Before I boarded the ship, I thought that sailing on the open seas would be the life for me. But after being on the ship for a week, I realized I had made a mistake.

I hated life on the *Captain Morgan.* The ship was dirty and it smelled of rotten fish and whale guts. Plus, the ship constantly rocked on the waves. I could hardly stand up. I felt horrible.

To make matters worse, the crew was mean to me. They made fun of me all the time. They called me "Greenie" because I was so seasick.

I felt very alone. I didn't think I would ever have a friend on this horrible ship. I wanted to curl up on my bed and stay there.

But I agreed to do a job, so I had to do it. Three times a day, I trudged to the kitchen to help Mr. Bones prepare and serve the meals.

Being the cook's helper was the worst assignment I could have. The sight and smell of the food made me even sicker than I already was. Plus, I had to move really slowly to keep my balance while I carried the food.

My inability to do things quickly made Mr. Bones angry. Like all the other crew members, he was very mean to me. "You're no help to

me, boy," he said over and over again. Couldn't he see that I was trying? I wondered if he even knew my name.

On the afternoon of my seventh day on the ship, I was once again in the kitchen helping Mr. Bones with the evening meal. The ship was really rocking, but for some reason I was feeling better. Maybe I was finally getting my "sea legs."

I finished cutting the vegetables, and Mr. Bones said, "Boy! Stir that soup!" I went to the stove. Suddenly, the ship jerked. I jumped away from the stove just as the huge pot crashed to the ground. Hot soup spilled everywhere.

"Boy," Mr. Bones shouted, "take care of that mess!" I knelt down and began to clean the floor, when the boat jerked again. I grabbed the leg of a table and held on.

Mr. Bones slipped a bit too, but he acted like nothing happened. "Get to work," he said again.

Just then, a man burst into the kitchen. "Storm!" he shouted. "Everyone on deck!"

"You too, Greenie," he said and pointed at me. "We need everyone to help out! Come on!"

The boat was rocking violently as Mr. Bones and I struggled up to the deck.

Just as we reached the deck, Mr. Bones shouted, "Look out!"

A huge wave rushed toward me. I grabbed a mast and hung on as tightly as I could. I knew that if I let go, the wind and waves would drag me into the sea. I didn't know what to do.

*Continued*

**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B31 in step 4.

"Up here, boy," I heard and looked up. Mr. Bones was high up on the rope ladder that went to the sails. "Come on," he yelled. "Now!"

I was afraid, but I let go of the mast. With hesitation, I started climbing the wide ladder. It swayed violently in the wind, so I struggled to keep my balance.

Finally, I reached Mr. Bones. "We have to take down the sails," Mr. Bones shouted. "Quickly, or the wind will tear them apart!"

I yanked at one of the sails. "Not like that!" Mr. Bones shouted. "Do it like this." He rolled the sail tightly and tied it down with ropes. He wrapped his legs around the ladder to hold on.

Just then, a huge wave lifted up the ship and dropped it back down hard. I grabbed the rope ladder and held on tightly. But Mr. Bones wasn't able to get a grip on the ladder with his hands. His feet slipped off the rope. He started to fall!

Without thinking, I let go of the rope with one hand. I held onto the rope with the other hand. I reached for Mr. Bones. I grabbed his hand just in time. Mr. Bones was really heavy, and my hand was cold and wet, but I was able to hold on.

The boat was rocking hard. The masts and ladders were swaying violently. Mr. Bones was struggling to catch the rope. Finally, he was able to grab the rope with his free hand. He swung around and caught the ladder with his feet.

He nodded to me to tell me that he had his balance. I let go of his hand. He climbed back up the ladder to me.

"Okay, let's get back to work," he said.

By this time, the wind had slowed a little, and the waves were smaller. It was nearly dark.

All across the deck, teams of people on the other rope ladders were taking down sails. Mr. Bones and I worked as well as any other team. After we rolled all the sails on our mast, we climbed down the ladder.

Everyone gathered on the deck to find out what the captain wanted us to do next.

"Good work," the captain said. "But the storm might not be over. I need two people to keep watch throughout the night."

Mr. Bones called out, "I'll do the all-night watch!"

The captain nodded. "Who else?"

"Tom can watch with me," Mr. Bones said.

I stared at him. I was shocked. I couldn't believe that he knew my name or that he wanted me to keep watch with him.

The others were quiet. This was a big job for a cabin boy. They didn't think I could do it. The captain looked at Mr. Bones and said, "Bones, are you sure?"

"Yes," Mr. Bones said. "I'd trust this boy with my life."

Mr. Bones smiled at me. I had to smile, too. Maybe I'd find friends on this ship after all. Maybe I already had.

## Give Them Space

Have you ever thought about becoming an astronaut? It is dangerous work. Three United States spacecraft had accidents that killed their crews. Other spacecraft never launched into space because of bad weather or broken equipment. Being an astronaut is also difficult. It takes strength and courage to go into space. The National Aeronautics and Space Administration (NASA) chooses only the smartest and most hard-working people to be part of its program.

Franklin Chang-Diaz, Mae Jemison, and Ellen Ochoa are three of those people.

**Franklin Chang-Diaz**
Franklin Chang-Diaz was born in Costa Rica in 1950. He always knew he wanted to be an astronaut. At age eighteen, he moved to the United States to chase his dream.

Chang-Diaz only spoke Spanish. He went to school to learn English. He also studied science and engineering in college. Once he graduated, he applied to become an American citizen.

Then he decided to apply to NASA. Chang-Diaz had to compete with many people to get into the program. But he refused to give up and was admitted.

The training for the program was very difficult, too. It tested his mind and body. He struggled but kept trying. In 1980, Franklin Chang-Diaz became the first American astronaut born outside the United States.

During his trips into space, Chang-Diaz had many jobs. He studied how ice and lightning form in space. He also mapped the layers of the atmosphere. Sometimes, he had to go on spacewalks outside the shuttle. And like all astronauts, Chang-Diaz had to learn about how the shuttle's systems worked. He repaired them when things went wrong.

In 2005, Chang-Diaz left NASA. He had been an astronaut for twenty-four years. In his time at NASA, he was honored many times. He received six NASA flight medals.

**Mae Jemison**

Mae Jemison was born in Alabama in 1956. Her uncle got her interested in science at a young age. She was very smart. She went to college when she was only sixteen years old.

Like Franklin Chang-Diaz, Jemison studied engineering in college. But she had other interests as well. She studied African languages and culture. Then, she went to medical school. She graduated from medical school in 1981.

After becoming a doctor, she went to Africa to treat the sick and poor. She worked there from 1983 to 1985.

In 1987, she decided to become an astronaut. Jemison applied to NASA and was admitted. She worked on science programs until she finally got the chance to go into space.

In 1992, she joined the crew aboard the shuttle *Endeavor.* She was the first African-American woman in space.

Aboard the shuttle, Jemison was able to mix her love of science and medicine. Her job was to study how being in space affected an astronaut's health.

Jemison was an astronaut for six years. She left NASA to do other things. At present, she runs a company that makes computers and robots. She also hosts a television show about the wonders of science. But she has not forgotten about her time as an astronaut. To prepare the space explorers of tomorrow, Jemison opened a space camp for kids.

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B32 in step 4.

**Ellen Ochoa**

Ellen Ochoa was born in California in 1958. Her mother valued education. She passed her love of learning onto her children. Like her mother, Ellen Ochoa was a very good student.

In college, Ochoa became interested in engineering. When she graduated, she became an engineer.

In 1985, she applied to NASA. NASA refused to admit her. But this did not break her spirit or ruin her dream.

Instead, Ochoa spent the next few years working with robots. She created systems that help robots sense light. These systems allow robots to "see." These robots can guide themselves around objects.

This work gave Ochoa the courage to apply to NASA again in 1990. This time, NASA admitted her!

In 1993, Ochoa joined the crew of the space shuttle *Discovery.* She became the first Hispanic woman to fly to space.

Ochoa was able to use her knowledge of robots aboard the shuttle. She controlled the shuttle's robotic arm. With it, she launched a satellite into space.

In later space trips, she used the robotic arm to transport equipment from the shuttle to the International Space Station. She also used the arm to transport spacewalking astronauts from one place to another!

Ochoa is still an astronaut today.

**The Next Age of Astronauts**

Now meet the next age of astronauts…maybe you! Maybe you will learn to control a robotic arm. Maybe you will go on spacewalks or be a doctor in space. You will have to work hard, like these three astronauts did. You will have to be brave, like they were. You will have to believe in yourself, like they did. You, too, might do amazing things.

## Accidental Foods

Mistakes in the kitchen happen all the time. A cook might add too much flour to cake batter, sprinkle too much salt into soup, or boil an egg for too long. Often, these accidents mean that the food is ruined. But sometimes, these accidents can be good. A few very famous foods have been created by accident. The potato chip and the Popsicle® are two examples of wonderful accidental foods.

**Crum's Chips**
It was 1853. George Crum was having a bad day.

George was a cook at a restaurant. One of the customers didn't like how George had cooked the French fries. The fries were too thick. The customer wanted his fries cut thinner. He wanted fries like the ones served in France. So the customer sent his food back to the kitchen.

George sliced thinner fries. He served them to the customer. But the customer wasn't satisfied. The customer sent the fries back to the kitchen again. He wanted the fries cut thinner.

George tried again. When the customer sent the food back yet another time, George got a bit angry. George decided to give the customer *exactly* what the customer wanted.

George got out a sharp knife and a new potato. He sliced the potato into pieces almost as thin as paper. George boiled the oil so that it was very hot. Then he fried the potatoes until they turned crisp. Finally, George sprinkled salt onto the potatoes. He sent them out to the customer.

George was sure the customer wouldn't be fond of the crisp potato slices. But he was surprised. The customer loved them! So did other customers.

Before long, the customers at the restaurant told all their friends about George's tasty "potato chips." People from all over came to the restaurant to try George's delicious creation.

George didn't mean to create a new food, but he did. His little accident made a new taste sensation.

In 1860, George opened his own restaurant. He placed a basket of potato chips on every table. His restaurant was very popular, mostly because of the chips.

Soon, restaurants around the world began serving potato chips. Today, Americans eat more than a billion pounds of potato chips a year. That's not bad for a food that was created by accident!

**Eppsicles**

Another very popular accidental food is the Popsicle. Frank Epperson didn't mean to make a new frozen treat. But, he did just that!

In 1905, Frank Epperson was eleven years old. He lived with his family in San Francisco, California. In those days, soda pop was a very popular drink. People made soda pop by mixing soda powder with water.

Frank often made this drink at home. He would stir the powder into the water with a small, wooden stick.

One evening, Frank made himself a soda pop drink. He stirred the powder into the water. Then he took his drink onto his porch to enjoy the cool evening. He stirred the stick in the soda occasionally to make sure the powder did not settle on the bottom of the cup. After a while, he went back inside because it got very chilly. But, Frank forgot his drink outside.

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B33 in step 4.

That night, it got very cold, much colder than it usually does in San Francisco. In the morning, Frank remembered that he had left his drink outside all night. When he went to get it, he saw that the cold had caused the drink to freeze. The wooden stick was still in the cup. It was stuck in the ice!

Frank slowly pulled the ice from the cup. He licked the ice. Frank liked the taste of the frozen soda pop. He decided to make his tasty treat over and over again. Frank was fond of adding new things to his icy creation.

Over the next few years, he added fruit flavoring to the liquid before freezing it. Its taste was even better with the fruit flavoring.

In 1923, Frank opened a store to sell his creation. He made his special ice in seven fruit flavors. He called his creations "Eppsicles." His children liked to call them "Pop's 'sicles." The name "Popsicle" became popular with Frank's customers. Before long, the name stuck.

Frank started to call his icy treats "Popsicles," too. Popsicles became a sensation, especially on hot summer days.

Today, millions of Popsicles are sold every year. They come in dozens of flavors. People all over the world are very fond of this delicious treat.

**Food Created by Accident**

Potato chips and Popsicles didn't start out as tasty food creations. They were more like mistakes than anything else. So the next time you make a mistake in the kitchen, it's not necessarily a disaster. Your food might not be ruined. Taste it! You may have created the next great accidental food.

## Greenwood's Champion Ear Protectors

Chester Greenwood was always thinking. He loved to think about the way things work.

One day, Chester came in from shoveling the snow.

"You know," he said to his mother. "I love being out in the snow. But I was thinking…"

"Of course you were," his mother said. "What is it this time?"

"I was thinking about how fed up I am with the cold. It makes my ears ache!" Chester said. "If I could just keep my ears warm, I'd be able to stay outside as long as I wanted."

"Why don't you wear the scarf Grandma knitted for you?"

"Bah!" Chester said. "Scarves are itchy and uncomfortable!"

"How about a hat?" said his mother.

"But hats don't cover my ears!" Chester sighed. "If only I could mix the two…" Chester looked out the window at the falling snow. He tried to think of something that would cover his ears like a scarf but be as comfortable as a hat.

His mother had heard Chester talk like this before. He was very clever. Chester's mind was full of ideas. What she didn't know was that Chester's latest idea would change his life forever.

Over the next few days, Chester thought and thought about his cold ears. Even while doing his chores, he continued to think. And, because he was thinking, sometimes Chester forgot to pay attention to the chores he was doing.

When he peeled potatoes for dinner, he lost track of what he was doing. He peeled twenty of them! When he shined his father's boots, he shined the left one twice!

And worst of all, Chester hung wet clothes outside to dry in the cold. The next morning all the clothes were frozen!

His birthday came a week later. Chester still hadn't found a solution to his cold ears problem.

For his birthday, his parents gave him a brand-new pair of ice skates. Chester was very excited about his gift. He ran to the pond to try out his new skates.

When he got there, no one was skating on the pond. But, Chester happily glided around the ice on his skates anyway.

After a little while, like always, Chester's ears started to ache! His cold ears really bothered him. He cupped his hands around his ears to warm them up.

Then he had an idea! Chester quickly took off his skates and dashed home.

"Hello, Chester," his mother said to him as he rushed through the house.

"I have it!" he shouted as he passed.

"Of course you have it," she said, calmly drying dishes. "Whatever it is...."

Chester burst into his grandma's room. Grandma was knitting a sweater for their neighbor, Mrs. Baker.

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B41 in step 4.

"Grandma, I have the greatest idea!"

"Tell me," said Grandma. Of all the people Chester knew, only his grandma truly enjoyed listening to his ideas. She liked that he was so creative. She always treasured his sharp mind.

Chester told Grandma his idea. He wanted to bend two pieces of wire into loops. Then, he wanted to sew scraps of soft material onto each wire loop to make pads. Finally, he wanted to pin the padded loops onto his hat.

"But, why?" asked Grandma.

"When you put the hat on, the pads cover your ears," explained Chester. "The pads are ear protectors against the cold."

"Chester, that's a great idea!" his grandmother said. "Let's make those ear protectors right now."

Grandma helped Chester sew scraps of fur on the outsides of the ear protectors. They sewed velvet on the insides. After that, Chester pinned the ear protectors onto his hat. He tried them on for the first time.

"Grandma, my ears are so warm!" Chester said.

Chester dashed back to the pond. He wanted to try out his invention. This time, there were other boys and girls skating on the pond. When they saw him wearing his ear protectors, they pointed and laughed.

"How come you're wearing those?" one boy said. He pointed to Chester's ears.

"You look so silly!" said a girl.

All of a sudden, Chester felt embarrassed. He had second thoughts about his invention. He took off his hat and put it in his pocket. He turned around and slowly walked home.

When he got home, Grandma asked him why he looked so sad. "Didn't the ear protectors work?" she asked him.

"They worked fine," said Chester, frowning. "But the other kids laughed at how silly they look. Maybe I shouldn't have even tried."

"Nonsense, you're a clever boy. You know better than to let what those children said bother you," said Grandma. "Don't listen to them!"

"But I was so embarrassed," Chester replied. "Maybe they're right. Maybe my ideas are silly."

"Don't talk like that!" said Grandma. "Did you know that I told Mrs. Baker about the ear protectors when she came to pick up her sweater? She wants a pair for herself!"

Chester was surprised that anyone else would want his ear protectors. "Really?" he said.

"Yes!" she said. "You need to believe in yourself. Now, let's name your wonderful invention and start making a pair for Mrs. Baker." She held up Chester's hat and ear protectors. "You watch! Once everyone sees how great these things are, everyone in town will want a pair." Chester decided to call his invention Greenwood's Champion Ear Protectors.

Grandma was right. After a few days of seeing Chester and Mrs. Baker keep their ears warm, the neighbors started asking Chester about his invention. Word spread about the ear protectors. And, soon, just as Grandma had predicted, everyone in town wanted a

*Continued*

pair. Even the boys and girls who had laughed at Chester on the pond wanted a pair.

Chester and Grandma became very busy. They had to make hundreds of ear protectors. But Chester enjoyed the hard work. He also liked feeling successful.

Even his mother and father were proud of him. From then on, they always wanted to hear his ideas.

Chester was glad that he had listened to Grandma. He believed in his invention and in himself.

"Grandma?" Chester asked one day as they sewed pieces of velvet on their biggest order of ear protectors yet. "Do you think people outside of town would want these?"

"Do you think so?" she said with a smile.

"I think they would," he said, smiling back.

And, they did.

Chester Greenwood was a real boy who grew up in Farmington, Maine, in the late 1800s. Today, we call Greenwood's Champion Ear Protectors earmuffs. And although they may look different than they did in the 1800s, today's earmuffs are basically the same as the ear protectors that Chester created long ago to warm his two cold ears.

## Success at Last: Jan Matzeliger

Before 1845, people made shoes by hand. These people were called *cobblers.* To make a shoe, a cobbler first hammered a piece of leather to make it soft. Then, the cobbler cut the *upper,* or top part of the shoe, out of the leather. Next, the cobbler cut out another piece of leather for the *sole,* or the bottom part of the shoe. Finally, the cobbler fastened the two parts together. This final process was called *lasting.*

To last a shoe, a cobbler stretched an upper onto a *last,* or foot-shaped block. Then, the cobbler nailed or sewed the upper onto the sole. The final step was to shave off any extra leather from the edges.

Lasting took a long time. The process could tire even the most skillful cobblers. So, shoes were very expensive. Few people could pay for more than one pair.

In 1845, cobblers started using machines to speed up the pace of shoemaking. These machines were able to cut out uppers and soles. But no machine could do the lasting.

Many inventors tried to build a lasting machine. All of them failed. No one thought it was possible. Then, a skillful inventor named Jan Matzeliger proved that it could be done.

**Young Jan**

In 1852, Jan Matzeliger was born in South America. He began working in his father's machine shop when he was only ten. He worked as his father's assistant. Matzeliger gained experience with engines and machines.

When he was nineteen, Matzeliger took a job on a ship. He repaired the ship's engines whenever they broke down. In 1873, the ship docked in Philadelphia. Matzeliger left the ship. He hoped to create a good life in the United States.

But, Matzeliger had trouble finding work. Many factories had job openings. But, because Matzeliger knew very little English, factory owners did not want to give him a job.

**The Shoe Business**

Finally, Matzeliger found work as an assistant in a cobbler's shop. He enjoyed the job. So, he wanted to learn more about shoemaking. He found out that factories in Lynn, Massachusetts, made most of the shoes sold in the United States.

Matzeliger moved to Lynn in 1877. Once again, he had a hard time finding a job, even though he was a skillful worker. After much searching, Matzeliger got a job as a millwright at the Harney Brothers shoemaking factory. Matzeliger worked during the day. At night, he took classes in English. He also studied books about science and machines.

At the factory, Matzeliger examined the shoemaking process. He noticed that there were machines for every step except for lasting. He decided that he would create a machine that could do the lasting.

**Jan, the Inventor**

Immediately, Matzeliger rented a cheap room. He insisted on working alone in this room. He didn't want anyone to steal his ideas.

He worked on the machine for months. He drew pages of plans. After a while, he built a model out of wire, nails, and wood. But Matzeliger was worried that the materials weren't strong enough.

He wanted better materials to build a new model. Yet, he did not have enough money. Matzeliger had to borrow money to buy the new materials.

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B42 in step 4.

**Success at Last**
Soon Matzeliger built another model with the new materials. He also applied for a patent with the United States government.

The patent office insisted that his invention was not real. So, someone from the patent office visited Matzeliger to examine and test the machine.

Sure enough, the machine did what Matzeliger said it would.

Matzeliger loaded an upper and a sole into the machine. Then, the machine pulled the upper over the last. The machine held the sole over the upper. It pressed the upper and sole together. Finally, nails pinned and sewed the two parts of the shoe together. The machine took just one minute to last a shoe. The man from the patent office was amazed. He agreed to grant the patent. Matzeliger gained patent number 274,207 in 1883.

In 1885, Matzeliger tested his machine in a factory. It worked perfectly! The machine sped up the pace of shoemaking to an almost unimaginable rate. Cobblers could make around fifty pairs of shoes in one day. But, the lasting machine could make up to 700 pairs!

**A Lasting Invention**
Matzeliger's lasting machine changed shoemaking. Before long, shoemaking factories around the world were using Matzeliger's invention. Shoes became cheap and easy to make. Many people—not only the rich—could buy more than one pair. And because more people wanted to buy shoes, more shoe factories were built. Many new jobs were created.

Today, shoe factories still make shoes with machines based on Matzeliger's invention. A statue of Jan Matzeliger stands in Lynn, Massachusetts. It honors a man who used his brains to build something that people really needed.

## The Power of Dance

What do you think of when you hear the word "dance"? Maybe you imagine tap dancers clicking out rhythms on a floor. You might think of ballet dancers leaping with grace across a stage. No matter the type, dance is an important part of life. That is why dances are performed all over the globe. Yet most dances have one thing in common: the dancer's movements give meaning to the dance.

Three dances that have special meaning are Japan's Kabuki dance, Spain's flamenco dance, and New Zealand's haka dance.

**Kabuki: History**
Kabuki dance comes from Japan. Kabuki is a type of Japanese play. Kabuki was created during the 1500s. At this time in Japan, the rich treated the poor badly. The poor were not even allowed to watch the plays of the rich, so the poor created their own plays. They called these plays Kabuki.

Kabuki plays told how the poor fought against the rules made by the rich. The actors mostly used movement to communicate these stories.

**Kabuki: Movement and Meaning**
Kata are the dance-like gestures of Kabuki actors. Kata gestures show emotion. Each has special meaning. Specific head or hand movements show what the characters are feeling. The dance tells the play's story.

The most powerful Kata is the *mie.* An actor performs *mie* when he feels great emotion. He freezes mid-dance and holds the position for a long time. Then he makes an expression on his face. Sometimes he frowns. Sometimes he bares his teeth. Other times he sticks out his tongue or crosses his eyes! The actor's expression shows his feelings.

Today, Kabuki is very popular in Japan. Both the rich and the poor enjoy Kabuki dance. Kabuki celebrates the grace and creativity of the

Japanese culture.

**Flamenco: History**
Another interesting dance is flamenco dance. Flamenco dance comes from Spain. Like Kabuki, it grew out of the experiences of the poor.

In the 1700s and 1800s, the Spanish treated non-wealthy Moors, Jews, and people known as Roma badly. Mostly these people lived in an area of Spain called Andalusia (an-dl-OO-zhuh). There, the three groups created flamenco music and dance.

**Flamenco: Movement and Meaning**
Flamenco dancers must be very creative. Their dances are not planned. The music stirs the emotions of the dancers. They begin to dance. They make up the steps as they dance. Sometimes the dancers don't know what will happen next! They just move to the music.

Even though they do not plan their dances, flamenco dancers use a few basic movements. They twist their wrists. They swing their arms. They stomp to the music's rhythms. Female dancers sway their skirts from side to side.

Sometimes the dancers click castanets (kas-tuh-NET). They add beats to the music. The dancers help make the music!

Flamenco is a popular dance in Spain and around the globe. People like it because it is creative. Flamenco is always new and exciting.

**Haka: History**
Another exciting dance is the haka dance from New Zealand. The haka dance is a custom of the Maori (MAH-aw-ree) people.

The Maori created haka dances as a part of war. Before entering

*Continued*

Teacher Note
To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B43 in step 4.

battle, the Maori fighters danced the haka. They wanted to stir fear in their enemies. Dancing the haka showed the tribe's strength.

**Haka: Movement and Meaning**

Haka dances start with men gathering into groups. The men begin to chant or speak loudly with rhythm. Then they stomp their feet. They slap their legs, arms, and chests. They use these movements to create a beat. Their arms move quickly and powerfully.

In haka war dances, the men carry real weapons! These dances often end with the dancers making faces to impress and scare their enemies. In fact, one of New Zealand's rugby teams performs a haka dance before each game. They perform the dance to impress the other team. The haka warns the other team that they are ready to fight.

Today, haka remains a strong part of New Zealand's culture. The dance is a custom passed down from father to son. Haka dances celebrate New Zealand's history. They show the pride that New Zealanders have for their country.

**Using Dance to Communicate**

Kabuki, flamenco, and haka are special dances with exciting histories. Through dances like these, people celebrate their cultures. Dancers use movement to tell stories, bare emotions, and show strength. Dance is a wonderful way to communicate. That is the power of dance.

## Tattercoat

Once upon a time, a husband and wife lived by the sea. They were very happy.

Over time, the couple had a baby girl. They named her "Joy" because she made them even happier.

The couple employed a servant named Sally to help them take care of Joy. Sally was very kind. She loved Joy very much, and the family loved Sally in return. One of the reasons the family treasured Sally was that she was a wonderful flute player. The couple could not help but dance whenever they heard Sally play.

Sadly, when Joy was five years old, her parents died. Joy was left alone. Joy had no other family, so Sally took the little girl home to live with her.

Even though Joy missed her mother and father, she was happy living with Sally in Sally's tiny cottage. Every day, Sally played her flute for Joy, and Joy danced. Dancing helped Joy remember her parents and made her feel good.

But life was not easy for Sally and Joy because they were very poor. Sally tried to find another job as a servant, but no one in the village needed help. Sally and Joy lived off the little that they had. They couldn't afford to buy good food or new clothes.

Over time, their clothes became old, torn, and tattered. When Joy was ten years old, the children in the village began to call her "Tattercoat." Sally was ashamed that she could not buy Joy better clothes.

Joy didn't want Sally to feel bad, so she told Sally that she didn't mind being teased. She said she liked her clothes the way they were. She began to call herself Tattercoat, too. Joy wanted Sally to think

that she was not hurt by what the children were saying.

As the years passed, Tattercoat and Sally made do with what they had. Even though they did not have much money, they were still happy, especially when Sally played her flute and Tattercoat danced. Every day, Tattercoat spun and whirled around the cottage. And, every day, Tattercoat grew more and more lovely. Before long, she became a beautiful young woman.

One day, when Tattercoat was eighteen years old, she went to town and heard exciting news from the baker. "The king's son has been traveling for a very long time, but he is finally coming home," he said. "The king is throwing a grand ball where the prince will choose a wife.

All the wealthy women of the village want to be the prince's bride. It is too bad you are not wealthy, Tattercoat. The prince would surely find you to be a lovely woman."

Tattercoat hurried home to tell Sally about the king's ball. Sally said, "How I wish you could go to the ball! If the prince could only see you dance, he would certainly fall in love with you."

"I also wish I could go!" Tattercoat agreed. "I am sure the ball will be wonderful, but I cannot go." She looked down at her tattered clothes.

"Let's stand under the castle window tonight," Sally said. "We will imagine that we are at the ball. We will watch the guests arrive and will listen to the music! I will play along on my flute, and you can dance in the moonlight."

That evening, Sally and Tattercoat walked toward the castle. Sally played her flute as Tattercoat danced to the music, pretending to waltz with the prince.

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B51 in step 4.

Before long, a young man rode up next to them on a gray horse and smiled.

"Hello, I have been traveling a long way by myself. May I travel with you?" he said.

"Sure," Tattercoat said shyly. The charming man leapt off his horse and walked with Sally and Tattercoat.

Sally began to play her flute again. "Why aren't you dancing?" the charming man asked.

"Oh, I couldn't," Tattercoat answered.

"Please do. I so enjoyed watching you dance. May I join you?"

Tattercoat began dancing, and the young man danced beside her.

When Tattercoat, the young man, and Sally neared the castle, the charming man turned to Tattercoat. "Do you know who I am?" he asked.

"No, should I know you?" answered Tattercoat.

"I am Prince John," he said.

"Excuse me, sire. I did not know!" Tattercoat said as she bowed her head.

"Please, do not feel ashamed. I enjoyed spending this time with you. In fact, I would like to invite you to a grand ball my father is throwing tonight. Won't you please come as my guest? I must dance with you again."

Tattercoat's eyes sparkled with joy. "I would love to go to the ball, sire."

The prince gently kissed Tattercoat's hand. Then he leapt back onto his horse. "Until tonight," he called as he rode away.

After the prince had left, Tattercoat got cold feet about going to the party. She looked at her clothes. "Sally, how can I go to a royal ball?" she asked.

Sally answered, "The prince invited you because he enjoys being with you. You do not dress like a princess, but you dance like one."

"But, Sally …" Tattercoat said, holding up her torn dress.

"It will be fine. I will play my flute and think of something," Sally replied.

Tattercoat stretched out under a tree. She fell asleep to the sound of Sally's flute.

Soon, Sally had an idea. She hurried to the castle.

When she reached the castle gate, she began to play her flute. One of the guards heard her lovely music. "You must play for the king," he said.

He opened the castle gate and brought Sally to the king's head servant. Sally played for him. The servant knew that the king needed another musician for the ball. He brought Sally to the king.

"My head servant says you are a very good musician. Please begin playing," said the king.

As soon as he heard Sally play the flute, the king smiled. He asked her to play at the ball that night. "I will pay you well," he said.

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Sally said, "I would be honored to play for you, sire, but instead of money, would you pay me with a beautiful dress and silver shoes?" The king gave Sally her payment. Sally quickly left the castle and returned to Tattercoat.

Tattercoat was still sleeping. Sally laid the dress over Tattercoat and put the shoes on her feet.

Tattercoat woke up and looked at the dress and shoes. "Am I dreaming?" Tattercoat asked.

"I told you I would think of something," said Sally. "Hurry, put it on! You are going to be late."

"Thank you," Tattercoat cried as she hugged Sally. She quickly put on her dress. When Sally saw the beautiful young woman, she smiled. "No one will ever call you Tattercoat again. You are Joy."

That night, when Sally and Joy arrived at the castle, the prince immediately took Joy by the hand and asked Sally to play her flute.

Joy and the prince began to dance the waltz, and everyone gathered to watch the beautiful couple.

When the song was over, the prince led Joy to the king and queen. "This beautiful dancer has captured my heart. If she will have me, I would like her to be my bride."

The king said, "She is a lovely girl. She will make a wonderful princess. The flute player must also come to live with us, so we might hear her play every day."

Joy and Sally looked at each other and smiled.

The next day, Joy and the prince were married. And they lived happily ever after.

## Alvin Ailey: 1931–1989

Alvin Ailey was an African American child born in Texas on January 5, 1931. Texas, like many Southern states, was segregated. African American people were not treated the same as white people. They were rarely given the same opportunities.

Life was very hard for Alvin Ailey. His father left the family when Ailey was very young. His mother had to raise Ailey alone. She picked cotton to support herself and her son. The work was tiring and difficult. Her job was not very stable.

**Coping with Life in Texas**

But one stable thing Ailey had in his life was the Baptist church. He and his mother went to church every week. His mother felt that church helped give them the strength to cope with difficult times. The church was a comfort to them.

Alvin loved going to church. He liked to watch how the singers in church expressed their feelings. They clapped and danced when they sang hopeful songs. They hung their heads when they sang sad songs. These experiences in church inspired Ailey. They helped him to cope with his troubles. Ailey would remember how he felt in these Baptist churches forever.

**Moving to California**

Eventually, Ailey's mother found a new job at an airplane factory. The factory job paid more money than picking cotton. But the job was all the way in California! In 1942, Ailey moved to California with his mother.

California was not a segregated state. The school Ailey went to in California gave him many more opportunities than he had in the Texas schools. Ailey felt happy. He began writing poems and singing. But it was a school field trip that changed his life forever.

**Ailey's Introduction to Dance**
Ailey's class went to see a ballet. And what Ailey saw at the ballet impressed him. The motions of the dancers were very controlled. But the dancers seemed so free! Their strength allowed them to move their bodies in amazing ways. The dancers twirled and leaped. They seemed lighter than air!

Ailey wanted to dance like that, too. He wanted to feel free, yet in control. He was inspired. Soon, Ailey began to study dance.

**Becoming a Dancer and Choreographer**
One of Ailey's first dance teachers was Lester Horton. Horton was a talented dancer and choreographer. A choreographer is a person who plans the movements and sets up the dances for dance shows. Horton created shows combining music and movements from all over the world. He taught Ailey to explore all dance, not just ballet. He helped to shape Ailey into a well-rounded dancer.

On November 2, 1953, Lester Horton died. Ailey was just 22 years old. Yet, because he was one of the most talented dancers in Horton's dance company, Ailey became the company's head choreographer.

Ailey was choreographer for Horton's company for less than a year. He left the company in 1954 to dance in a Broadway show! He moved to New York City. There he learned new dances from some of the most famous dance teachers in the world.

But there was something missing. Ailey really wanted to be a choreographer again. He wanted to create his own shows. He had a story to tell.

Ailey hoped to create a show that told of African American people's experiences in the South.

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To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B52 in step 4.

Ailey felt that he could use dance to express both pain and hope. He thought that dance could communicate the feelings he had when he was a young boy going to the Baptist churches with his mother.

**Ailey's "Revelations"**

In 1958, Ailey formed his own dance company. He named the company the Alvin Ailey American Dance Theater. And, he began working on his show. In 1960, Ailey's show opened in New York City. It was called "Revelations."

"Revelations" combined Ailey's love of dance with his love of church songs. The dancers swayed and clapped like the singers in church.

They used tired and heavy steps like slaves working in cotton fields. And, they sang songs meant to lift people's spirits.

People who saw "Revelations" were shocked. They had never seen anything like it. Through the songs and motions of the dancers, they were able to experience the sadness and anger that many African Americans felt as slaves or segregated Southerners. But they also were able to feel the spirit of a strong group of people who were unwilling to give up, even when they were helpless. "Revelations" was a success.

**Alvin Ailey's Message**

Ailey created many shows after "Revelations." He led his dance company for many years. He shared his love of music and motion with his dancers, as Lester Horton did with him.

Alvin Ailey once said that "Dance belongs to everyone." What he meant was that dance is one way that people can communicate. Dance helps people share experiences with one another.

On December 1, 1989, Alvin Ailey died, but his lessons live on through his shows, which are still danced today.

## Underneath a City

Seattle, Washington, is the largest city in the Pacific Northwest. Today, almost 600,000 people live in Seattle. But, some people don't know that there is another Seattle underneath today's city. Below downtown Seattle is an old pioneer town.

**Seattle's Earliest Days**

In 1852, a group of pioneers came to the area that is now Seattle. They chose to settle here because of Elliott Bay. They could load and unload ships on the bay. The pioneers also thought the area would be an excellent place for a lumber mill. Trees covered the many hills in the area.

Almost immediately, the pioneers built a lumber mill at the bottom of one of the hills. Workers would cut down the trees at the top of the hill. Then, they'd slide the logs down the hill. They'd saw the logs at the mill. The pioneers used this lumber to build houses and shops. They also sold the lumber to other towns. The lumber mill was very successful. The town grew quickly.

Unfortunately, much of the town was built on mudflats. A mudflat is an area of land that seawater floods at high tide. Twice a day, waters flooded the mudflats.

Town builders filled in the mudflats with sawdust. This helped soak up some of the water, but not all of it.

So, the workers built many buildings on stilts. These buildings stayed dry during floods.

But, keeping the buildings dry wasn't the only problem with having a town built on mudflats. The high tide also caused sewage problems. Toilets often backed up and overflowed.

Many of the town leaders did not think that continuing to build on mudflats was a good idea. They wanted to elevate the town. This would solve the flooding and sewage problems. But, elevating the town would cost lots of money. It also would take a long time. Town leaders and merchants argued about what to do for years.

In the meantime, the number of people living in Seattle continued to soar. By 1889, 25,000 people lived in Seattle. More and more people built houses and shops.

The mill provided plenty of lumber for all of the new construction. This little town of wood quickly became a city.

**A Growing City Catches Fire**

But, building a city out of wood turned out to be a mistake. On June 6, 1889, a fire started in a furniture maker's shop. The shop was on one of the city's main streets. The fire spread from wood building to wood building. Downtown Seattle was in flames within one hour.

By the time the fire was out, over twenty-nine blocks of buildings were destroyed. Downtown Seattle was ruined.

**Rebuilding the City**

After the fire, city leaders talked about how to rebuild the destroyed city. They decided it would be a good time to elevate the streets.

This idea angered city merchants. Raising the streets would take years. Merchants couldn't close their shops for such a long time. The shops needed to be rebuilt right away. So, while city workers began raising the streets, merchants put up brick and stone buildings where their old shops had been.

For a while, downtown Seattle looked like a waffle. The sides of the waffle squares were the raised streets. The bottoms of the waffle

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B53 in step 4.

squares were the old sidewalks and the first floors of the new buildings. This is where the shops were located.

**Shopping Underground**

At first, people reached the shops by climbing down ladders. There were ladders at each street corner. To cross the street, people had to climb up one ladder, cross the raised street, and then climb down another ladder. But, the ladders were unsafe. Eventually, city workers built stairs from the raised streets to the underground sidewalks.

After many years, workers finally finished elevating the streets. Immediately, they raised the building entrances. Merchants now could move aboveground. But, some merchants whose shops were underground wanted to stay where they were.

In time, new sidewalks were built above the old ones. Glass blocks were put into these sidewalks. The glass blocks let sunlight into the underground shops.

Some underground shops were open for almost twenty years. But as time passed, fewer people wanted to shop underground. They didn't like how dark and musty it was underground.

Plus, getting to the stores was a pain. So, the underground shops started to close.

By 1907, underground Seattle was dirty. It was also unsafe. That year, city leaders closed the remaining shops. Soon, people forgot about underground Seattle.

**Touring Underground Seattle**

Underground Seattle stayed closed until the 1960s. Then, a man named Bill Speidel learned of it. He asked the city government to let him give tours of the forgotten city underneath Seattle.

The government said yes. After cleaning up the underground town a bit, Speidel started giving tours. Thanks to Speidel, people will never forget Seattle's original city again.

## Deven in New York

Deven stepped off the plane with Mama. They had left their home in Mumbai to come live with Papa, who worked in New York City. Right away, Deven felt homesick.

Mama placed her hand on Deven's shoulder to comfort him, but he didn't feel any better. This wasn't India.

Deven and Mama squeezed through the crowded airport, heading toward the front entrance, where Papa said to meet him. When Deven saw his father, he ran to him. They hugged each other tightly.

"Namaste, Papa!" said Deven.

"Namaste, Deven," said Papa. "Do you know how to greet someone in English?"

"Yes, Papa, you say 'Hello.'"

"Good," said Papa. He let go of Deven and hugged Mama. "I have brought something you will need." In a bag beside him were two big boxes. Mama and Deven opened the boxes and pulled out heavy coats.

Deven had never worn a thick coat like this before. No one wears a heavy coat in Mumbai, where it is rarely cold.

But, Deven was glad he had the coat when he stepped out the airport doors. The crisp wind chilled him immediately!

Deven, Papa, and Mama squeezed into a taxi with their luggage and rode to Papa's apartment.

Papa had been living in New York for four months. While Papa lived here, Deven and Mama had prepared the house in India for sale.

They had packed most of their belongings and sent them ahead to New York. Now, these belongings sat in cardboard boxes in Papa's New York apartment.

When Deven and his parents arrived at the apartment building, Deven peered up at all the windows. This skyscraper would tower over any building in Mumbai, and Deven felt very small next to it.

But Deven had the opposite feeling inside the apartment, which was so small that it reminded him of a dollhouse.

"Welcome to your new home," said Papa. But this place wasn't like home. There were only five rooms, and all of them were small, including Deven's bedroom. In Mumbai, the family had had a large house with a backyard.

Deven went into his room and sat on the bed. He was in a sad mood. Mama entered the room and sat next to Deven.

"Do you like your room?" she asked.

Deven said "Naa," which meant "no" in Hindi. He walked over to the window and peered out onto the street. All he saw were miles of skyscrapers and cars everywhere. He didn't like his tiny room, the apartment, the cold, or New York. He wanted to be back in Mumbai.

"This is a good place," Mama said. "Papa has a job he likes." But to Deven, this place wasn't home.

"Papa wants you to see the city," said Mama.

"But I don't want to," said Deven.

"Please give Papa a chance to show you New York," said Mama.

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**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B61 in step 4.

"Didn't you miss Papa when he was gone?"
"Haan," he said, meaning "yes." "Will you come explore the city too, Mama?"

"There is a lot to unpack," she said. "I will stay here, while you and Papa go out."

Deven and Papa put on their coats and left the apartment. They rode the elevator down to the ground floor.

"We should visit Central Park," said Papa. Deven stared at the ground and put his hands into his pockets. "It is a good place to walk because there are lots of trees in Central Park," Papa added.

Deven wondered what Papa was talking about. They walked up Fifth Avenue, past stores that sold everything from fancy dresses to huge television sets. There were no trees anywhere. There were buildings, cars, and stores. That was it.

But as they continued to walk, the buildings eventually gave way to what looked like a forest growing in the middle of the city!

"This is Central Park," said Papa. Deven and Papa entered the park, and the city outside seemed to disappear. Tall, leafless trees towered above their heads. Deven shivered in the cold air, so Papa put his arm around his son. They continued down the snow-covered path.

Eventually, Deven and Papa came upon a skating rink.

"I have never skated," Papa said. "Have you?"

Deven shook his head.

"Would you like to try?" asked Papa.

Deven watched the people glide across the ice. It looked like fun.

"Sure," Deven said quietly.

Both he and Papa rented skates and stepped onto the ice.

Skating wasn't as easy as it looked! Neither Papa nor Deven could keep his balance very long. Still, it was great fun! It was good to laugh and be with Papa again. Deven had missed spending time with him.

"I'm hungry," said Papa after a while. "Would you like to eat?"

Deven was hungry, but he wasn't in the mood for American food. All he wanted were some samosas. "I want food like we have back home," said Deven.

Papa smiled and said, "I know just the place."

Papa and Deven returned their skates. Then, Papa led Deven out of the park and onto the street.

After walking a block or so, they caught a taxi. "Please take us to Sixth Street and Second Avenue," said Papa. As they rode in the taxi, Papa pointed out some of the interesting places they could visit.

When Papa and Deven climbed out of the taxi at Sixth Street and Second Avenue, a familiar scent of curry greeted Deven. The scent of the Indian spice instantly reminded him of Mumbai.

Deven looked around. He saw that there were many Indian restaurants on this block. Deven followed Papa to Papa's favorite restaurant.

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After they sat down, the waiter greeted them. "Namaste," he said, "welcome to Mumbai!"

Deven smiled a little bit. He thought about how strange it was that the waiter was welcoming him to Mumbai in the middle of New York.

Papa and Deven placed their orders. When the waiter left, Papa asked Deven, "Did you like Central Park?"

"Yes, I actually would like to go back sometime to see the rest of it," Deven said.

"That's good," said Papa. "I know it is hard to move to a new city, so far from everything and everyone you know. I miss Mumbai, too."

Deven chuckled. "Aren't we in Mumbai?" he said.

"I guess so," his father said with a sad smile.

Deven didn't know that Papa felt just like he did. Deven hadn't realized until now that Papa missed India, too.

"But, it isn't so bad here in New York," said Papa. "In fact, it can be fun to live here. There are many exciting things to do and see in this city. We'll explore New York together," Papa said. "And, next time, Mama can come, too!"

Deven smiled again, but this time it was because he was beginning to feel better. For the first time since leaving India, he knew that he could adapt to life in New York. This new home wasn't Mumbai, but it was a city that had great places to explore.

The waiter brought Deven and Papa their food. Deven looked at the samosa on his plate. It was crisp, golden brown, and smelled of all

his favorite spices. And even before tasting it, Deven knew that it would be wonderful.

## Venice: The Sinking City

Venice, Italy, is a charming and unusual city. One of its most unusual features is that Venice has no roads. Instead, canals run through Venice. People ride boats to get around.

Venice is a center for art and culture. Venice has more than a dozen museums. Many Venetian buildings are very old and beautiful. Over 3 million people a year visit this splendid city.

But, Venice has a problem. It is sinking.

**Early Venice**
118 islands make up much of Venice. The islands are located in the Laguna Veneta, or Venetian Lagoon, near the Adriatic Sea. The Laguna Veneta is part of a marsh. So, the ground on the Venetian islands is very wet and soft.

Around 400 CE, Italian fishermen and farmers settled on the islands. They hoped the marshy waters would protect them from attack. Yet, it wasn't easy to settle there. The islands often flooded. And, the marshes were too soft to build on.

Settlers built most of the new city on wooden posts. They drove the posts deep into the marsh. They hoped doing this would save Venice from floods.

But, the flooding didn't stop. During storms and very high tides, waters still flooded the city.

For hundreds of years, dealing with floods was just part of the Venetian way of life. Most Venetians didn't worry much about the floods. But, they should have. The seawater actually was rising.

**The Flooding City**
Between the time when Venice was founded and today, the Adriatic

Sea has risen almost six feet! Many scientists blame global warming for this rise. Global warming happens when the temperature of Earth's atmosphere increases. This makes polar ice caps melt. When ice caps melt, water pours into the oceans. Then, sea levels rise.

The Adriatic Sea is still rising. Soon, seawater might flood Venice completely.

**The Sinking City**

But, the rising sea isn't the only thing Venetians should worry about. Venice actually is sinking! Every day, the posts that Venice is built on sink deeper into the ground. The marsh is so soft that the weight of the city pushes the posts lower and lower.

During the twentieth century, Venice sank faster than ever before. Increased water use was to blame. The city was using more freshwater for industry. To get the water, city workers dug deep wells. The wells drained water out of Venice's aquifer. An aquifer is a layer of freshwater deep inside the earth.

Unfortunately, Venice's aquifer helps to keep the city elevated. The marsh rests on top of the aquifer. The aquifer acts like a cushion. It holds the land up.

As Venetians drained water from the aquifer, its water level went down. The aquifer cushion began to shrink. So, the land and the posts in the land lowered too.

In the 1960s, Venetian scientists realized that Venice was sinking faster. This was happening because Venetians were draining water from the aquifer. Immediately, city leaders shut down the wells. But, the harm was already done. Between 1900 and 2000, Venice sank almost ten inches!

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B62 in step 4.

Scientists think that Venice may sink completely in the next one hundred years. That is…if Venice doesn't flood first!

**Saving Venice**
In the 1960s, scientists started working on a plan to stop Venice from flooding. After many years, they came up with a plan called MoSE.

The MoSE plan is to build seventy-nine hollow underwater gates. Usually, the gates lie flat. But, when high seawater starts to pour into the lagoon, the hollow gates will fill with air. The gates will float up. They will block the rising waters from entering the Venetian lagoon.

Venetian workers started building MoSE in March 2003. The project should be finished in 2011.

**A Matter of Time?**
MoSE has a good chance of ending the flooding in Venice. But, if Venice doesn't stop sinking, MoSE won't work. The MoSE gates will sink, too.

Scientists think that the only way to keep Venice safe forever is to stop it from sinking. To do this, they want to pump water back into the city's aquifer. Pumping water into the aquifer will fill it back up. When the aquifer cushion rises, the marsh and the city on it will rise, too.

**Long Live Venice**
One of the world's most amazing cities is in danger. Floodwaters put the city at risk. And, the city is sinking. Something must be done soon. If not, this splendid city might disappear underwater forever!

## Crossing to the New World

**June 9, 1907: Leaving Egypt**
I have a dream to go to America. I have heard that America is the land of opportunity, that I can find a good job there. In America, my children will go to school so they can have a better future. Maybe they will become teachers or doctors.

Today, I will leave my home in Egypt behind. Soon I will find a new home in a new country. I have packed the few possessions that I will carry with me. It will be hard, but I must say good-bye to my wife and children. I cannot afford to take them with me. I must make the long journey to America alone. I need to find a job before my family can join me. Until then, I will live with my Uncle Amun in New York City.

I have to walk from my village to the seaport. During this two-hour walk, I will see my homeland for the last time. Then, I will board a ship that will take me to England.

**June 13, 1907: Arriving in England**
My ship arrived in England this morning. We were lucky to have clear skies and calm seas.

When I got off the ship, a long line of people waited to buy tickets for the journey from England to America. These people were from many different countries. They spoke in languages I had never heard before and wore unfamiliar clothing from their native lands. Yet, these people were just like me. They probably shared my dream of starting a new life in America.

It took forever to get to the front of the line. A man from the shipping company who spoke both my language and English wrote my name in a book called the ship's manifest. The man wrote a number next to my name. Then he asked me questions in my language. He wanted to know what I planned to do when I got to America. He recorded my

answer to each of his questions.

I hope I can board the ship soon. I am restless and impatient. I want this journey to begin.

**June 14, 1907: Leaving England**
The ship has left England! I am so excited to finally be on my way to America, but this ship is horrible.

More than 1,000 people are crowded into the steerage section near the bottom of the ship. I will be staying in a room with more than 300 other passengers. There are no windows, so there is little fresh air. Our beds are stacked one above the other. There are two beds below my bed and one above it. Everywhere I look I see stacks of these hard, flat beds.

Since I will have no privacy, I will not be able to find relief from the noise of the other passengers. It will be hard to adapt to such a cramped space.

Plus, there are not enough toilets for this many people, and there is nowhere to take a bath. With all these people jammed together, the ship will smell very bad by the end of our trip. I know I have to endure these conditions to get to America, but this trip is going to be miserable.

**June 18, 1907: At Sea**
The weather has turned bad, making the seas very rough. It has been like this for two days.

The ship rocks violently over the waves. Many passengers are seasick. The smell of vomit and sweat is strong. Sometimes I feel I cannot breathe. Thinking about my family and my dream of living in America is the only thing that keeps me from getting discouraged.

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Teacher Note
To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit B63 in step 4.

**June 21, 1907: Long Days**
We have endured bad weather for five days now. I am dirty and tired. I hate all the noise, the terrible smells, the crowded space, and the lack of privacy. I am starting to feel discouraged. Thank goodness this horrible journey will soon be over.

**June 24, 1907: Arriving in America**
I woke up early this morning and went out on the deck. In the distance, I could see the Statue of Liberty. The buildings of New York City stood behind it. My heart pounded with anticipation.

Other passengers began to gather on the deck. As the ship got closer to the harbor, we all felt excitement and relief. Finally, we are in America! We can begin our new lives!

But, just as quickly as our excitement came, it left. The ship pulled into the harbor, but we were not allowed to go directly to New York City. The crew loaded us onto boats bound for Ellis Island instead. That is where I am now. I am nervous about what will happen next.

**June 24, 1907: Ellis Island**
As soon as I got off the boat at Ellis Island, a man pinned a number on my clothing. It was the same number the man from the shipping company had written next to my name in the ship's manifest.

Then I and the other passengers were herded into a big building where it was very noisy and confusing. The Americans in uniforms told us where to go. They sent us into a room where doctors were waiting. The doctors checked each passenger, one by one. They were looking for unhealthy passengers. I saw them pull aside a woman who was coughing and a man who was limping. I was anxious for this inspection to be over.

Imagine how lucky I felt when the doctor said I had passed the

*Continued*

inspection! But others, like the man and woman who were pulled aside, were not so lucky. I heard that these people will be sent back to their native countries. They have traveled so far. Now they will not be able to make their dreams come true. I feel so sorry for them, but I am happy that I passed the doctors' tests.

Everyone who passed the inspection was led into another room. I sat on a bench with other passengers and waited for another inspector to call my number.

When I heard my number called, I went to talk to the inspector. Thankfully, he spoke my language. He had the ship's manifest in front of him. He asked me the same questions that the man from the shipping company had asked me in England. He checked to make sure I gave the same answers. If I had not, I probably would have been sent home.

Next, everyone who passed the second inspection went downstairs into a great hall. I was not sure what to do, so I watched other passengers to see what they did. People were exchanging their money for American dollars. I too gave my money to a woman behind a counter. She gave me American money in return. I did not know how to count the American money. So, I had to trust that she gave me the right amount. I am hopeful that people in America are honest.

Finally, I am free to go! I must hurry to buy a ticket for the boat that will take me to New York City.

**June 25, 1907: A New Life**

After I had my ticket, I rushed outside with many other passengers. We boarded a boat to New York City. I wasn't happy about getting on another boat. I was so impatient to begin my new life that this short boat trip seemed to take forever.

## La Amistad: A Child's Journey

**Kidnapped**

My name is Sarah Margru Kinson. I was born in what is now Sierra Leone, Africa. There, I was called only Margru. I was one of seven children. My brothers, sisters, and I spent the warm African days playing, singing, and working to gather food and water. The world around me was green and beautiful.

When I was six, my entire world changed in a matter of moments. Strangers with weapons came to my village. They pulled me from my mother's arms and tied me up. I struggled to get free as they dragged me away, but I could not.

The strange men worked in the slave trade. It was a terrible business. The men made a lot of money buying and selling human beings. But I didn't understand any of it. I only understood that I was being stolen away from my family.

The men took many people from my village as captives that day. They forced us to walk a hundred miles to the sea. When we finally stumbled onto the West African coast, we saw many other captives there. Angry men cracked their whips and forced us toward the others. I hid among the adults to escape the stinging pain of the whip. My wrists and ankles were already raw and bloody from the tight ropes.

The men herded the terrified captives together like sheep. They pushed us into pens that smelled horrible. It was very crowded, but I felt only loneliness.

Several days later we were all forced onto a Spanish freight ship called *Tecora.* Scary men packed hundreds of us tightly into the hold, the lowest part of the ship. These men chained the adults together and forced them to lie down, almost on top of each other. When the men closed the door, it was completely dark.

In the hold, I met three other children. We weren't chained up, but we were locked in. We stayed close together. Our friendship helped us endure our frightening journey.

As more time passed, the hold began to smell. Human waste was everywhere. The men fed us only rice and water. Before long, people became weak and sick. Many adults died, but no one came to take away their bodies. No one cared.

**Sold at Auction**

The rough waters tossed our ship for endless weeks. Finally, we came to the island of Cuba, but our journey was far from over. There would be an auction. The person who offered the most money to the men who captured us could own us!

A sugar planter bought my three friends and me. His companion bought forty-nine adults.

Once again, we were forced onto a boat. This boat was a much smaller boat than *Tecora. La Amistad* was painted on its side.

We set sail. Because *La Amistad* was small, the men kept half of us in the gloomy hold and the other half on the deck of the ship. During the day, we took turns staying on the deck, but no matter where we were, we suffered. Our iron collars weighed us down and made fresh sores around our necks. The faces of the crew were twisted with hate as they shoved us, beat us, and demanded that we do what they wanted. Our faces were bruised and swollen. Our clothes were ragged and torn. I could not imagine what terrible pain we would experience on shore.

One captive decided he would not wait to find out. His name was Sengbe Pieh. He would become our hero. On the third day at sea, I watched Sengbe Pieh carefully slip a nail from the floorboard of the

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C11 in step 4.

ship into his ragged clothes. He had a dangerous plan. He would soon lead a revolt.

**Sengbe Pieh's Plan**
That night, an angry storm hit our little ship. As the crew on deck fought the storm, Sengbe Pieh quietly explained his plan. Nervously, I watched as Sengbe Pieh used the nail he had found on deck to open the lock on his iron collar. Our eyes were glued to the door as he freed the rest of us. The crew could come down at any moment! My heart pounded in my chest.

Everyone was silent as Sengbe Pieh found sugar cane knives in the freight stored nearby. He gave a knife to each of us. I held my knife tightly and did not sleep. No one slept that stormy night.

**The Revolt**
When the sea had calmed, we broke through the hold door and attacked the crew. Two crew members escaped by boat, but the adults quickly killed the rest of the crew. We let the two sugar planters live. We told them that they must sail in the direction that the sun was rising, back to Africa.

Weeks passed and food was running out. But, when we finally reached land, the land we saw was America, not Africa. We had been tricked. The planters had sailed east during the day. Then they sailed back to the west at night. The planters had hoped to keep the ship in Cuban waters and be rescued. So we had zigzagged along the American coast for sixty-three days.

In that time, news of our revolt had spread. Near Long Island, New York, American ships surrounded us. The ships towed *La Amistad* ashore. We were captives once again.

**In America**
As we sat in American jails, stories about our revolt spread quickly through the newspapers.

The reports created a sensation throughout America. Slavery was common, but stories of slaves defeating their owners were not. People paid money to catch a glimpse of us. Artists drew our pictures for the entire world to see. People constantly surrounded us. Everyone had a lot of questions about us, but I had only one question: What would happen next?

Spain demanded that we return to Cuba and go on trial for murder. To Spain, we were pirates. The two Cuban planters argued that they had bought us. To them, we were property.

Then another person entered our lives. His name was Lewis Tappan. To Lewis Tappan, we were human. To him, we were free people.

Lewis Tappan and other Americans, called abolitionists, wanted slavery to end.

The abolitionists collected money for a trial that might set us free. They also found a man who helped us translate our story to the judge. Tappan arranged for my friends and me to live with Colonel Pendleton until the first trial. We were free from the jail, but we had to serve the colonel.

**Freedom**
People argued bitterly over us. Sengbe Pieh told our story to two different judges. Finally our case came before the Supreme Court of the United States. John Quincy Adams, a former president of the United States, spoke for us.

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He argued that it was illegal for us to be kidnapped from Africa. John Adams said that we were not slaves yet, so we were only protecting ourselves aboard *La Amistad.* He said that we were free people who should be allowed to go back to Africa. The Court finally agreed!

I am ten years old now. For four years, I endured loneliness and fear. But I also experienced the kindness of strangers. I was called "Sarah" by the colonel's family. Soon, I will be Margru once again, Sarah Margru Kinson.

Shortly, we will head back to Africa on a boat called *Gentleman.* I remember the hunger and the terrible smells of Tecora. I remember the whips and fear of *La Amistad.* I believe that on *Gentleman* I will make better memories. But I will not forget that slavery continues for thousands of other Africans. Soon I will be home, but I will forever understand how precious freedom is.

## Angel Island

In San Francisco Bay there is a wooded island. This island is named Angel Island. Between 1910 and 1940, many Chinese immigrants came to America. They were forced to stay on Angel Island. The Chinese immigrants didn't want to live on the island. The American government kept them there.

**Chinese Immigrants**

Chinese immigrants began coming to America in 1848. Most left China because of poverty. They came to America looking for opportunities. Some Chinese newcomers worked in gold mines. Some became servants. Many Chinese immigrants helped build a railroad across America.

Many of the newcomers were hard workers. They worked for lower pay than American citizens. Some employers hired Chinese immigrants instead of American citizens. Because of this, some citizens were angry at the Chinese immigrants. They blamed the Chinese for taking their jobs.

The angry citizens complained to the American government. They demanded that the government protect their jobs. They persuaded the government to control the number of Chinese coming into America. The government responded by making laws against the Chinese.

**Laws Against the Chinese**

The new laws took away many of the rights of Chinese immigrants. Chinese immigrants couldn't work in some buildings. They couldn't go into some stores. They couldn't get American citizenship.

One new law was the Chinese Exclusion Act. It said that only Chinese with certain jobs could come to America. The law was very strict. Chinese government workers could come to America. So could Chinese merchants and teachers. Their families could come too. All other Chinese could not come.

Some Chinese were desperate to come to America. Sometimes they bought false identities. They were hopeful that these identities would get them into America. These people would pay money to a Chinese person already in America. The person in America would allow the person in China to pretend to be a family member. The person in China would learn all about the new "family." This plan often worked. Many people who had false identities made it into America.

**Immigration Stations**

In the late 1800s, the government figured out how to enforce the new law and control the number of immigrants coming into America. The government began sending immigrants to immigration stations. All immigrants arriving in America had to go to these stations.

At the immigration stations, doctors confirmed that the immigrants were healthy. They examined the immigrants' teeth. They examined the immigrants' skin. The doctors sent sick immigrants back home.

Then inspectors questioned the immigrants. They asked where the immigrants were from. They asked where the immigrants were going. They asked what the immigrants would do in America.

One of the first immigration stations was on Ellis Island. Then in 1910, a new immigration station opened. This immigration station was on Angel Island.

The government sent most Chinese immigrants to Angel Island. Some immigrants from other countries were also sent to Angel Island, but, because of the Chinese Exclusion Act, Chinese immigrants and non-Chinese immigrants were not treated equally.

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C12 in step 4.

### A Long Wait

Most non-Chinese immigrants were kept on Angel Island for a few hours, but Chinese immigrants were often kept there for weeks or months. Some were kept there for a year or more.

These Chinese newcomers were kept on Angel Island for so long because the inspectors took a long time to confirm their identities. This was the only way to enforce the Chinese Exclusion Act. The inspectors knew some Chinese bought false identities. They wanted to make sure the Chinese immigrants really belonged to the families they said they did. So the inspectors asked the immigrants hundreds of detailed questions. They thought only a true member of the family would be able to answer these questions.

The inspectors also went to the families the immigrants said they belonged to. Sometimes it took the inspectors months to find these families. While they looked, the Chinese immigrants had to wait on Angel Island. The newcomers were trapped on the island like prisoners.

When the inspectors found the families, they questioned them. They asked the families the same questions they asked the immigrants.

Then the inspectors compared the answers. The families' answers had to match the immigrants' answers. If the answers didn't match, the inspectors suspected that the immigrants were lying. The inspectors sent those immigrants back to China.

### Life on Angel Island

The Chinese immigrants on Angel Island were treated like prisoners. They lived in dark, smelly buildings. Hundreds of miserable immigrants were crowded into each building. Guards with guns surrounded the buildings. The guards made sure no immigrants tried to leave the island. But the immigrants could not complain. If they did, they might lose their chance of staying in America.

Instead, some of the immigrants expressed their feelings in poetry. They carved their poems into the walls of the buildings where they lived. The poems told about feeling miserable and hopeless. They told how the Chinese suffered on Angel Island so that one day they might be granted American citizenship.

**What Happened to Angel Island**

In 1940, a building on Angel Island burned down. This fire made people think that the other buildings might not be safe. Concerned Americans persuaded the government to close Angel Island. After that, Chinese immigrants were sent to an immigration station in San Francisco.

In 1943, the government ended the Chinese Exclusion Act. This made it easier for Chinese to come to America. Chinese immigrants no longer needed false identities.

Angel Island is now a national park. The buildings where the Chinese immigrants lived still exist. The poetry the immigrants carved into the walls is there, too. Many people visit the park. They come to learn about what happened to the immigrants who were forced to stay on Angel Island.

## What a Gem!

Diamonds! People all over the world treasure these sparkling stones. Even the word *diamond* seems to sparkle. But diamonds aren't just beautiful. Diamonds are also one of the most useful jewels on Earth.

**Where Diamonds Come From**

Diamonds are rare. Yet, they're made from something very common: carbon.

Carbon is one of the most common elements on Earth. We see things that contain carbon everywhere. Plastic has carbon in it. The center part of a pencil is carbon. Carbon is even in batteries.

Deep inside Earth, something amazing happens to carbon. Over millions of years, heat and pressure turn carbon into diamonds!

Most diamonds are millions of years old. Diamonds form about one hundred miles down inside Earth. Volcano eruptions force the diamonds from inside Earth to settle closer to Earth's surface. Eruptions have made it possible for people to find many of the diamonds we have today.

Some people don't know that diamonds come in many colors. Diamonds can be pink, yellow, and even black. Impurities in the gems cause the different colors. Only pure diamonds have no color at all.

**Mining for Diamonds**

There are two places to find diamonds. Most diamonds are found through pipe mining. Volcanoes have created natural pipes deep inside Earth. Miners dig holes to reach these pipes. They lower into the holes equipment that collects rock. They use the equipment to collect rock from the pipes. Then the miners send the rock to factories. At the factories, workers break the rock into smaller pieces. They examine each piece for diamonds. The workers must examine over two hundred tons of rock to find just one perfect diamond. They polish this diamond to make it a treasured jewel.

Another place to find diamonds is in sand. Miners can find diamonds in the sand under certain rivers. They go to a river and build a wall to hold back the water. Then they dig about eighty feet deep into the sand. The miners collect the sand from the hole. They send the sand to factories. At the factories, workers search through the sand for diamonds.

When people find diamonds, the diamonds are just rough stones. Rough diamonds look like dirty rocks. Workers must polish the diamonds to make them sparkle.

**Where Diamonds Are Found**

Diamonds are mined in over twenty countries. Until almost three hundred years ago, most diamonds came from India. Then, in the 1720s, people found diamonds in Brazil. After this discovery, many diamond mines opened in Brazil. From the 1720s until the 1870s, most diamonds came from Brazil.

In the 1860s, a fifteen-year-old boy discovered the first diamond in South Africa. The boy found the jewel buried in gravel. Fortune hunters from all over the world were interested in this discovery. Many went to South Africa to search for diamonds. Finding just one could make a fortune hunter rich.

From the 1860s until 1979, most diamonds came from South Africa. In 1979, diamonds were discovered in Australia. Today, most diamonds come from Australia.

**Famous Diamonds**

Did you know gems could be famous? Some of the most famous gems are diamonds. The most famous diamond is the Hope Diamond. This diamond is famous for its unusual blue color. A legend says that over three hundred years ago, the diamond was stolen from the forehead of a statue in India. The legend also says that after

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C13 in step 4.

the diamond was stolen, it became bad luck.

Many people have owned the Hope Diamond. Today, the diamond is in a museum in Washington, D.C. The Hope Diamond isn't bad luck for the museum. More people visit the Hope Diamond each year than almost any other museum object!

Another famous diamond is the Cullinan Diamond. It is the biggest diamond ever found. A miner found the Cullinan Diamond in South Africa in 1905. It was the size of a baseball! But the diamond didn't stay that size. In 1908, it was cut into over one hundred smaller stones. The royal family in London, England, received the largest stone as a gift.

**How Diamonds Are Used**

When people think of diamonds, they often think of diamond jewelry. In fact, few diamonds are perfect enough to become jewelry. Some are too small. Some are oddly shaped.

Diamonds that aren't perfect enough to become jewelry are still useful. Manufacturers use these diamonds in many products, from eyeglasses to computers.

People use diamonds in so many products because all diamonds share one quality. Diamonds are the hardest things on Earth. Only a diamond can scratch another diamond. Because of their incredible hardness, people often use diamonds in tools. Workers use diamond-edged tools to shape roads. Dentists use diamond-tipped tools to drill teeth. The hardest diamonds are used in tools that cut other diamonds.

Diamonds are useful, but they are also expensive. For this reason, most manufacturers no longer buy diamonds that come from Earth. Instead, they buy diamonds made in laboratories. Scientists manufacture diamonds by creating enough heat and pressure to

change carbon into diamonds. Scientists have been making carbon into diamonds since 1955.

**The Future of Diamonds**

People will always appreciate diamonds that come from Earth. But now, since scientists can make diamonds in laboratories, diamonds are more common. That is why people have been inventing new ways to use these special jewels.

Manufacturers will likely use diamonds in more and more products. People who make watches might use diamonds to create a watch that can't be scratched. Scientists might use diamonds to invent super-strong windows for spacecraft. Wait and see where diamonds appear next!

## Wally's Tale

My name is Wally Kelly, and I'm a coal miner. I've been working in the coal mine since I was ten years old. My father is a coal miner, and his father was a coal miner too. Most of the men who live in our town work in the coal mine.

A coal miner's life isn't easy. We work hard. Our days are long and filled with danger. Almost every miner gets hurt on the job at one time or another. Some miners get small injuries, like losing a finger or two. Other miners get black-lung disease, serious injuries, or killed.

It's difficult in the mine, but I've gotten used to working there. I've learned to be careful, calm, and always on the ball.

There was one day in the mine that I'll never forget. It was May 16th, 1902. I remember the date because it was the day I turned twelve years old. May 16th, 1902, started the same as any other day. I woke up before sunrise, put on my work clothes, and left the house with my father. We joined the other men and boys who were walking to the coal mine in the dark.

When we got to the mine, we rode the elevator into a deep hole in the earth. The elevator carried us one thousand feet down the mine shaft to where the coal is. We got off the elevator. My father walked away with the other men. "Work hard, son!" he said, and I went to get Dusty, my mule.

My job is to haul coal from deep in the mine to the mine shaft. I haul the coal in a wagon that my mule, Dusty, pulls. Each day, I lead Dusty on many trips back and forth from deep in the mine to the mine shaft.

On my birthday in 1902, Dusty and I had made a few trips, when a loud rumbling echoed through the mine. Miners expect to hear the sound of rocks moving and shifting, but this rumbling was different. I saw clouds of coal dust, and I knew there had been a big collapse

somewhere in the mine.

The collapse of a mine wall is the most dangerous thing that can happen in a mine. Usually, miners who are caught in a collapse die. What if my father was caught in this collapse? Just the thought of it triggered my deepest fears.

Within seconds, the dust made it difficult to see and breathe. Dusty pulled and snorted, and I tried not to panic. I pulled my bandanna over my nose and mouth so I wouldn't breathe in the coal dust. While I waited for the dust to clear, I stayed close to Dusty and encouraged her to remain calm. After a few minutes, the dust cleared.

I led Dusty through the darkness with my lantern. I needed to find my father to make sure he was okay. I also wanted to see if there were men with injuries who needed help getting out of the mine.

Dusty and I walked more than ten minutes. Finally, I saw some men limping toward the mine shaft. I studied each dirty face, but I didn't see my father.

It was a huge relief when I arrived at the collapse. My father was there, and he was fine. He and some other miners were hard at work, quickly digging out the huge mound of rubble from the collapse. "Twenty miners are trapped on the other side of the rubble!" someone shouted. They were using pickaxes, shovels, and even their bare hands to try to reach the trapped men.

I began digging desperately with my hands. And, I didn't stop, even when the rocks made my hands raw and sore. The coal dust made me cough, but I kept working. More men came to help. We dug for more than an hour, stopping only to call to the trapped men and to listen for a reply. But, we heard nothing.

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**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C21 in step 4.

I climbed up the big mound of rubble. It went all the way to the ceiling. If I could make an opening between the top of the mound and the ceiling, then I'd be able to see to the other side.

I crouched near the top of the mound and began to pass down rocks to the other miners. Coal dust burned my throat and eyes, but I forgot my pain when I heard a noise coming from the other side of the rubble. Someone was tapping with metal on the other side of the rock!

"Quiet!" I shouted and put my ear on the rocks to listen. Everyone stopped. Their pickaxes and shovels paused in the air. But the tapping also had stopped.

Everyone was quiet. Nobody moved. Then suddenly, we all heard one clear tap. The mine echoed with the rescue crew's happy shouting. "Hurrah!" they yelled. I looked down and saw my father smile at me.

I began digging even faster. "We hear you! We're coming!" I yelled to encourage the men to keep tapping. I desperately hoped we could save the men trapped on the other side of the rubble. "Careful, boy," my father said. I passed a big rock down to the other miners. There wasn't another rock behind it. I had broken through!

I shined my lantern down into the darkness, and I could see the shapes of the trapped men. I shouted to my father and the other men, "I see them."

"Is everyone alive?" one of the men hollered back.

There was a lot of dust. I couldn't see anything clearly, so I couldn't tell how many of the men were alive.

"I don't know," I responded.

My father climbed up the rubble toward me. Together, we moved a few more rocks to make a bigger opening. When the opening was big enough, I crawled through it and climbed down the other side of the mound. I moved very carefully so I wouldn't trigger a rock slide. Finally, my feet were on the ground.

The dust and darkness still hid who most of the men were. I held my lantern out in front of me so that I could see the men lying on the ground more clearly. I crouched down next to one of the men. It was John Montgomery, the man who had hired me. His eyes were closed. His right leg was twisted and looked broken. He was motionless.

My father climbed down the mound of rubble after me, and two other men from the rescue crew climbed to the top of the rubble with a stretcher. They passed down the stretcher to my father and me.

My father and I lifted John onto the stretcher. We picked up the heavy stretcher carefully and climbed with it—up one side of the rubble and down the other side—to where I had left Dusty and the wagon. We put the stretcher on the wagon.

I got into the wagon, sat next to John, and talked to him quietly. The rest of the rescue crew laid the other men with injuries on stretchers too. They put the stretchers on the wagon with John and me.

Some of the men with injuries were motionless, and others showed signs of life. We needed to get all of them out of the mine and to doctors.

I wanted to stay near John, so another boy led Dusty. Dusty hauled the wagon up the steep and bumpy trail. My father walked next to the wagon. He patted me on the shoulder to encourage me to

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continue talking to John.

## Point of View: Offshore Drilling

### Oil: A Valuable Source of Energy

Buried deep inside Earth is a black liquid. This liquid is oil. Oil is a valuable natural resource.

Much of the energy people use every day comes from oil. People use oil to fuel their cars, to create plastic, and even to make some medicines.

### A Limited Supply

Oil develops inside Earth. Oil forms from the fossils of plants and animals. Layers of mud cover the fossils. As the mud piles up, it creates heat and pressure. The heat and pressure turn the fossils into oil. It takes millions of years for oil to form.

Oil is a nonrenewable resource. Once people use the oil forming inside the earth, the oil cannot be used again. It is gone forever. Humans are using oil much faster than it can form. For this reason, some people believe that oil should be conserved.

### Oil under the Land

Most of the time, oil is found under land. A very deep hole must be drilled through many layers of rock to reach the oil. This hole is called an oil well. Most oil wells are between 5,000 and 20,000 feet deep. Huge machines pump the oil through oil wells to the surface of the earth.

### Oil under the Ocean Floor

But oil isn't only under the land. Oil also exists under the ocean floor. Drilling an oil well into the ocean floor is called offshore drilling.

### The Offshore Drilling Debate

Many Americans debate the need for offshore drilling in the United States. Some Americans approve of offshore drilling. They point out that America needs the oil obtained from the ocean floor. Their view-

point is that offshore drilling is necessary. Other Americans disagree. These people dislike offshore drilling. Their viewpoint is that offshore drilling is dangerous. They also think that it hurts the environment. They think that oil should be conserved.

Here are the arguments for and against offshore drilling.

**Offshore Drilling: A Good Idea**
The following viewpoint is in support of offshore drilling.

Offshore drilling is very important. Most countries use oil for energy. The United States consumes more oil than any other country. But, the United States only produces sixty percent of the oil it needs. The government buys the rest of the oil from other countries.

Oil supplies are limited. The government should get oil from wherever it exists. Because oil exists under the ocean floor, offshore drilling is necessary.

Oil wells already exist on most oil-rich American land. But there are many oil-rich places under the ocean floor. If the United States did more offshore drilling, it would not need to buy as much oil from other countries.

One place that has a lot of oil under the ocean floor is Prudhoe Bay, Alaska. Prudhoe Bay has more oil than anywhere else in the United States; limited drilling has been done there. There are laws protecting this environment. These laws control how much oil can be drilled from Prudhoe Bay.

But, if these laws did not exist, more offshore drilling could be done in Prudhoe Bay. This would give the United States more oil. The United States could depend less on other countries for its oil. Americans would consume the oil found in the United States. They could fuel their cars with domestic oil.

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Teacher Note
To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C22 in step 4.

Plus, there would be more jobs for the people who live in Alaska. Offshore drilling is good for the American economy.

Some people dislike offshore drilling. They say it causes oil spills. However, offshore drilling isn't the only cause of oil spills. Oil pumped from the land also spills in the ocean. After oil is pumped from an oil well, ships take the oil all over the world. Some of the worst oil spills happen because of ship accidents, not ocean oil well leaks.

In 1989, there was a giant oil spill in Alaska. The ship *Exxon Valdez* hit a reef in Prince William Sound. This was one of the worst oil spills in history. Thousands of birds and animals died. This spill had nothing to do with offshore drilling.

The United States should do more offshore drilling. Offshore drilling will help the United States get the oil Americans need.

**Offshore Drilling: A Bad Idea**
The following viewpoint is against offshore drilling.

America should not depend on offshore drilling for its domestic oil. Offshore drilling is very expensive. It is also dangerous for oil workers and destructive to the environment.

Drilling into the ocean floor is much more expensive than drilling into land. When oil workers drill into land, they stand on the ground. But workers who drill into the ocean floor must build a platform on the surface of the water. This platform gives them a place to stand. It costs millions of dollars to build this platform.

Offshore drilling is also dangerous. Sometimes there are fires on the platforms. During a fire, there is no place for the workers to escape. Ocean waves can be dangerous for the workers on the platforms too.

In 1980, a platform in the North Sea sank when a giant wave hit it. Over 200 workers were on the platform. Many of the workers were not rescued. Over 100 workers died in this accident.

Offshore drilling isn't just dangerous to workers. It is also destructive to the environment. Workers pump the oil from the ocean floor through pipes. Sometimes the oil leaks from the pipes into the ocean. These oil spills can be harmful to birds and ocean animals.

Sometimes animals get covered in the thick, black oil. They struggle to breathe. When birds' feathers get coated in oil, they cannot fly. When fish consume the oil, they often die.

In 2006, there was an oil spill in Prudhoe Bay, Alaska. Over 200,000 gallons of oil spilled into the ocean. A leaky pipe caused the oil spill. No one noticed the leak for five days. Gallons and gallons of oil poured into the ocean. The workers finally noticed the spill. They tried to clean it up. The cold Alaskan weather slowed them down. The workers could not clean up all of the oil. The oil spill polluted the ocean water and put thousands of ocean creatures and birds in danger.

Offshore drilling creates many problems. It is expensive and dangerous. It is also bad for the environment. America should stop drilling oil wells in the ocean floor. Instead, Americans should conserve the oil that is drilled from land.

**Offshore Drilling: What Do You Think?**
There are two major viewpoints about the need for offshore drilling. The people that support offshore drilling believe it is good for the economy. The people that are against offshore drilling believe it is expensive and destructive to the environment. Which point of view do you agree with?

## Buried in Ash

Two thousand years ago, there was a beautiful seaside city in Italy. The city's name was Pompeii. The city was very prosperous. Rich shop owners, merchants, land owners, farmers, artists, craftsmen, and manufacturers lived there happily. Pompeii was a busy yet peaceful place. But everything changed on the morning of August 24, 79 CE.

**The Eruption**

A mountain named Mount Vesuvius towered above Pompeii. Mount Vesuvius was a volcano. But it hadn't erupted in a very long time. People thought of it only as a beautiful, calm mountain. Pompeii's inhabitants felt safe.

In early August 79 CE, small earthquakes began to shake the ground beneath Pompeii. No one paid much attention to the small earthquakes. They did not think there was anything to worry about.

Over the next few weeks, the earthquakes grew stronger. Then, on the morning of August 24, the inhabitants of Pompeii heard something crack and explode. Mount Vesuvius was erupting!

The mountain blasted its top high into the air. A cloud of debris rose into the air. Ash, gas, dust, and burning rocks exploded from the volcano in all directions.

A light, hardened lava called pumice formed. The winds carried the pumice and ash. In less than eight minutes, a thick layer of pumice and ash covered Pompeii's streets and buildings.

The people of Pompeii did not know what was happening. They had never seen a volcano erupt before. Mount Vesuvius had been silent for over 600 years. No one had expected this eruption.

After they saw the volcano erupt, many inhabitants of Pompeii ran

from the city. They sought safety and shelter farther from the mountain. They tried to haul whatever possessions they could with them.

But other people did not leave the city. Some hid inside buildings. Many went to boathouses to wait for the next boat out of Pompeii. Others tried to ignore the volcano. They went about their daily chores, hoping that soon the eruption would end. They tied pillows and napkins to their faces to keep from breathing in the foul ash. They did not know what else to do.

**Buried Deep**

Mount Vesuvius continued to roar and erupt. Very hot debris and gas poured from the volcano for hours. Earthquakes still shook the ground.

By afternoon, a huge, dark cloud of dust, ash, pumice, and rock rose nearly twenty miles above Mount Vesuvius. It blocked the sun. Day turned to night in Pompeii.

The cloud continued to grow and rise into the sky. For hours, the pumice and ash rained down on Pompeii. The debris got so thick and heavy that buildings began to collapse.

By very early the next morning, it was obvious that Pompeii was in trouble. People ran from their hiding places trying to escape. Pompeii's streets became crowded. But it was too late to escape the volcano. The cloud of debris above the mountain was so huge that it seemed to take over the sky.

Finally, the huge cloud collapsed under its own weight. This caused a volcanic flow that sent ash and pumice sweeping down the side of Mount Vesuvius. Pumice and ash blanketed the city. It was impossible for people to see or breathe.

The volcanic flow lasted for hours. People were buried alive under

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C23 in step 4.

the debris and burning ash. They died within minutes.

Finally, on the morning of August 26, Mount Vesuvius finished erupting. For two days, the hot ash and rock had fallen on Pompeii. Sixty-five feet of debris blanketed the city. Pompeii was gone.

**Pompeii Revealed**

Pompeii lay buried underground for hundreds of years. People forgot about the once busy and prosperous city.

Then, in 1599, some workers in Italy, led by a builder named Fontana, made an exciting discovery. While digging, they accidentally uncovered the ruins of Pompeii. But they did not draw much attention to their discovery. The effort to excavate the lost city did not begin until the 1700s.

Later, in the 1860s, Giuseppe Fiorelli directed a group of scientists who excavated large sections of the city. The scientists found that the volcanic ash and burning mud had preserved much of the city. The remains of Pompeii stayed intact under the sixty-five feet of volcanic debris. Fiorelli's group found many well-preserved buildings, homes, stores, and artifacts.

Fiorelli also found molds of bodies that had been coated in ash. The ash hardened around the bodies. Over the years, the bodies inside the ash coating had rotted away, leaving empty ash shells. The shells stayed intact for hundreds of years.

Fiorelli created a way of making replicas out of the empty shells. He poured a special type of clay into the shells. Once the clay hardened, the ash coating could be removed. This created shapes of the people at the moment of their deaths. Some of the people were trying to run from the city. Others were hiding or waiting. Many simply showed a look of terror on their faces.

Today, scientists continue to excavate Pompeii. Many areas of the city remain buried. Still, millions of people visit the uncovered ruins every year. They come to see the ancient city preserved by ash.

## The Scariest Day of My Life

January 9th of last year began like any other day, so I never could have guessed that it would turn out to be the scariest day of my life.

I awoke to sunlight streaming through my bedroom window. I rolled over and went back to sleep. At 7:00, my mom came into my room and shook me gently, just like she does every morning. "Kaila, it's time to get up!" she whispered. I was reluctant, but I opened my eyes.

I dragged myself out of bed and got dressed for school. Dad made fried eggs for breakfast, which I ate while looking at my open spelling book next to me. I needed to finish studying for a big test.

After finishing my breakfast, I said good-bye to my parents and walked next door to my best friend Alana's house. Alana and I walk to school together, but we usually stop at the beach on the way because we like to watch the surfers ride the waves.

That morning we walked to the beach as usual, but we were too busy to pay attention to the surfers. We plopped down on the sand with our books. We had a spelling test to study for!

I dreaded this test. I felt nervous because I wanted to get the best grade on the test. Alana and I were the best spellers in our class, and I would be really jealous if Alana got the highest score. I hated that I would feel jealous of my good buddy, but I would.

I wanted to see if Alana knew more than me, so I decided to quiz her. "Spell *daughter,*" I said to Alana.

Alana opened her mouth to spell the word and then closed it. Her eyes widened.

For a moment, I thought she didn't know how to spell the word, but then I saw that she was staring at the ocean. She looked really puzzled.

"What's wrong?" I asked.

She stood up. "Look," she said, pointing at the ocean.

I got up and looked, and, at first, nothing seemed strange, but then I saw what she did. The ocean looked empty, as if all of the water had been sucked out to sea.

"Where's all of the water?" I asked Alana.

"I don't know," she said quietly, "but this is really weird."

The other people on the beach looked puzzled too and were pointing at the ocean. Then suddenly, one of the surfers yelled, "Tsunami!" and, immediately, everyone began running away from the beach.

For a moment, I just stood there because I couldn't believe my eyes. A huge wall of water was rushing toward the shore. It was the biggest swell I'd ever seen, taller than three houses stacked on top of one another.

I dropped my book, and Alana and I ran away from the beach as fast as we could. I ran so hard that I couldn't breathe. In the distance, I heard people screaming. Then I heard a roaring noise so loud it made my ears hurt.

The enormous wave was crashing onto the beach, and the water was rushing toward us!

Just then I saw a wooden fence. "Grab onto the fence!" I shouted to Alana as loudly as I could. We both grabbed hold of the fence post.

I couldn't believe I was experiencing a tsunami. Because we lived on Hawaii's Big Island, my parents often cautioned me about the danger

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**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C31 in step 4.

of these enormous swells, but I never thought I would actually be caught in one!

I knew I could die if I let go of the fence. A powerful wave could sweep me into the ocean.

Within moments, the enormous wave crashed into me and Alana. The force of the water swept our legs out from under us. The water hit me in the face, stinging my eyes, and it got into my mouth, making me choke and spit.

At last, the wave passed, and the water calmed. Even though we were still waist-deep in water, Alana and I looked at each other, relieved.

Then all at once, the water changed direction and rushed powerfully back toward the ocean. It tried to pull Alana and me with it, so I tightened my arms around the fence post again.

The water carried a lot of things with it toward the ocean. Chairs, tables, pots, pans, telephone poles, street signs, clothes, toys, books, and even a bathtub rushed by. I hoped nothing would crash into the fence or us!

I cautioned Alana to hold on tightly. "Whatever you do, don't let go. Okay?" I screamed as loudly as I could. She nodded. We struggled to keep our grip on the fence. The force of the wind and rushing waters was very strong.

After what seemed like hours, the waters and wind calmed. Most of the water had returned to the ocean, leaving a mess of debris on the beach.

We were reluctant, but Alana and I finally let go of the fence. I

hugged my buddy tightly for a moment. Then we looked around at the destruction. Stuff from the town was scattered all over the beach. We could not believe our eyes. Immediately, Alana and I turned and raced toward our houses. Were our families all right? I dreaded what I'd find.

When we reached our street, Alana ran toward her house, but I stopped and stared with my mouth open. My eyes widened because I couldn't believe what I saw. My family's little house was gone. It had been swept away by the tsunami. Tears filled my eyes. Where were my parents?

Then I heard a voice yelling, "Kaila! Kaila!"

I looked around. There…at Alana's house! My parents were waving from a window on the top floor of Alana's house! Alana's parents were there, too, shouting down to Alana. I was so relieved that I started crying.

My parents ran out of the house, and we hugged for a long time. I never realized before how much I needed and valued them. I was reluctant to ever let them go again.

When we finally did let go, we knew we would all be okay. At least we were all safe and unharmed. But other families in our town were not so lucky. Many people had been badly hurt.

Immediately, we started looking for people who needed help. Mom, Dad, and I found a few neighbors who were injured. Alana and her parents helped us get as many people as we could to an emergency clinic. Alana's father had a truck, so we loaded the injured people into it. Alana's father rushed to the clinic.

When we got there, Alana's family dropped us off and went back to

*Continued*

our neighborhood to see if anyone else needed help. My parents and I led our neighbors into the clinic.

At that moment, I realized how horrible this tsunami really was. There were injured people everywhere. My parents and I decided to stay at the clinic to help.

We helped until it got dark. Then my uncle picked us up and took us to stay at his house on the other side of the island, where it was safe.

That night, my parents and I talked about our scary day. I told them how Alana and I hung onto the fence. My parents were very upset to hear how close we came to being dragged out to sea. We knew we were very lucky. Our house was gone, but we were safe.

It's now a year later, and our town has been rebuilt. My family lives in a new house, not far from where our old one was. Our lives have pretty much returned to normal.

But the tsunami that hit our town taught me so much. When I remember how worried I was about the spelling test and about how jealous I felt of Alana, it just seems silly. Feeling jealous is a waste of time. Because of the tsunami, I learned how to value my life and the people in it.

## The Hindenburg Tragedy

In the late 1800s, before airplanes were invented, a German inventor named Count Zeppelin created a giant flying machine. It was made of a large, yet thin, metal shell supported by a sturdy metal frame. Inside the shell were large balloons filled with hydrogen gas. Hydrogen is a gas that is lighter than air. Count Zeppelin used it to lift his flying machine into the sky.

Instead of wings, Zeppelin's machine had small pieces of metal on either side. The pieces of metal were shaped like the fins of a fish. These fins helped the pilot steer. But steering the machine was still very difficult.

On its first flight, on July 2, 1900, Zeppelin's machine was so difficult to steer that the pilot crashed it into a lake.

So, over the next ten years, Zeppelin worked hard to improve his machine. The machine became known as a zeppelin. His additions to the zeppelin made it much easier to fly.

By 1910, zeppelins began carrying passengers. Zeppelins were such a fast and comfortable way to travel that people wanted to ride in them. They waited in lines to buy the expensive tickets. Soon, the demand was so great, that Zeppelin had to build even larger and better machines.

**The Greatest of Them All**

The largest zeppelin ever built was finished in 1936. It was called the *Hindenburg.* It was like a glorious flying palace. More than seventy passengers could enjoy meals in the fancy dining room. They could read books in the library. They even could listen to piano music in the special music room on the ship. Everyone wanted to fly in the *Hindenburg.*

Passengers felt secure in the *Hindenburg.* In almost two years, the

*Hindenburg* made twenty safe flights across the Atlantic Ocean. There had not been a single accident. But that abruptly changed on May 6, 1937, when tragedy shocked the world.

In the morning of May 6, the *Hindenburg* arrived in the United States from Germany. It was carrying thirty-six passengers and sixty-one crew members. The ship was on track to land in New Jersey later that afternoon.

When the *Hindenburg* sailed over New York City, it fascinated the observers watching from the ground. They stopped what they were doing to admire the amazing flying machine.

From the air, the ship's passengers enjoyed the glorious view. They were completely ignorant of the danger they were in.

Some passengers were reading. Others were listening to music. Many were eating fancy meals in the dining room. It was just another comfortable trip across the Atlantic.

As the ship neared New Jersey, it faced stormy weather. The landing had to be delayed. But, eventually, the *Hindenburg* was given permission to land. Excited observers gathered to witness the event.

The zeppelin floated in the air near the landing field. A crew on the zeppelin lowered ropes to workers on the ground. More than 200 workers helped to tie the ropes to a tower. The tower would hold the zeppelin steady. Then the passengers could exit the aircraft safely.

Everything seemed fine. As the *Hindenburg* got closer to the landing field, observers on the ground began to cheer.

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C32 in step 4.

Then, suddenly, the back of the zeppelin burst into flames! The fire quickly spread throughout the zeppelin. Almost instantly, it looked like a ball of fire in the sky.

The crowd's cheers turned to screams. The observers who had come to admire the zeppelin instead were witnessing a tragedy.

The fire completely destroyed the zeppelin. It only took thirty-four seconds. The Hindenburg fell to the ground in a giant mass of flames.

**What Few People Knew**

The *Hindenburg* disaster was the first major zeppelin tragedy, but it was not totally unexpected. Hidden inside the zeppelin's shell was an extremely dangerous gas. Hydrogen is highly flammable. If a flame reached the balloons inside the zeppelin, the gas could ignite abruptly.

That's what happened to the *Hindenburg.* People on the ground described the yellow and red flames engulfing the aircraft.

But the company that owned the zeppelin was not ignorant of the risks. It tried to build the Hindenburg to be safe from fires.

The *Hindenburg* was not only made out of metal. It also contained a large amount of a material called asbestos. Asbestos is a material that can resist flame and heat. Together, the metal and the asbestos should have protected the *Hindenburg.* But they weren't enough. The company should have taken more precautions.

Instead of using hydrogen to fill the balloons inside the machine, Zeppelin's company could have used helium. Helium is another gas that is lighter than air. And helium is not flammable.

However, in the *Hindenburg's* time, helium cost more than hydrogen.

The company did not want to pay the extra cost to purchase it. So the company chose to use the cheaper hydrogen gas.

The company that owned the *Hindenburg* knew about the risk of fire. It didn't allow passengers to carry matches onto the zeppelin. The company believed this rule together with the aircraft's solid construction would keep the *Hindenburg* and its passengers safe. The company was wrong.

**Remembering the *Hindenburg***

Thirty-six people lost their lives as a result of the *Hindenburg* explosion. Thirteen passengers, twenty-two crew members, and one ground worker were killed. Fortunately, nearly two-thirds of the people on board survived.

However, from then on, people did not feel secure riding in a zeppelin. They did not want to risk their lives.

Although radio, photographs, and news footage recorded the event, no one really knows what started the fire on the Hindenburg. But many people have ideas.

Some people think hydrogen was leaking from the zeppelin. Electricity in the air from the stormy weather may have caused the hydrogen to catch fire. Other people think someone set the fire on purpose.

Despite these ideas, the cause of the fire remains a mystery. Even today, the *Hindenburg* tragedy fascinates people. They wonder what could have gone so horribly wrong.

## A Musical Wonder

Stevie Wonder is a musical genius. He sings. He plays the piano, harmonica, drums, and guitar. He's won more than twenty Grammy Awards. He's had more than thirty Top Ten songs. He's sold more than 100 million albums!

With all of his success, one might never guess that Stevie Wonder is blind. But being blind has never kept him from living his dreams.

**Discovering His Musical Talent**

Stevie Wonder hasn't always had this name. When he was born on May 13, 1950, his parents named him Steveland Judkins.

Stevie was born prematurely. This means that he was born earlier than expected. He was very little. His doctors put him in a special bed to keep him warm. They also gave him oxygen to help him breathe. Unfortunately, they gave him too much oxygen. This hurt his eyes, blinding the baby. Stevie would never regain his sight.

As Stevie grew up, he adapted to being blind. But because Stevie couldn't see, he depended on his other senses. He especially used his sense of hearing, which became very strong. Stevie was fascinated with sound. He enjoyed banging on pots and pans. He loved listening to the radio.

When Stevie was four, he joined his church choir. Singing with this group showed Stevie that he had a talent for music. By age nine, he had taught himself to play the piano, harmonica, and drums. At age ten, he wrote his first song.

**Becoming a Star**

People at Stevie's church were fascinated by this little boy's talent for music. They began talking about him outside of church. When Stevie was eleven, a music producer named Ronnie White heard about how wonderful Stevie was. White called Stevie and asked Stevie to sing

for him. Stevie agreed. He went to the producer's house and performed a few songs.

White was impressed and invited Stevie to a meeting at Motown Records. There, Stevie performed songs for a group of important music producers. All of the producers thought Stevie was spectacular! Motown Records immediately hired Stevie to make albums. They also gave him a new name. "Little Stevie Wonder" would never be called Steveland Judkins again.

Motown released Stevie's first two records in 1962. Neither album sold very well. But, when Stevie was twelve, Motown put out a record of Stevie performing a rhythm and blues concert. The record was called *The Twelve Year Old Genius.* It was a huge success!

Stevie's song "Fingertips" became a Top Ten hit. It was Motown's first No. 1 hit on the R & B and pop charts. Over time, Motown was able to sell more than a million copies. Immediately, Stevie's popularity grew. Two years later, Stevie had another Top Ten song. He began entertaining crowds all over the world with his spectacular music. By the time he was fifteen, Stevie was a star!

**Little Stevie Grows Up**

When Little Stevie Wonder grew up, he dropped the "Little" from his name. But, he kept making records. A few of his records didn't do very well. Stevie tried hard to adapt his music to the changing times. He wanted to regain his popularity.

Then, in 1972, Motown Records put out Stevie's record *Talking Book.* It was a huge success. Some even called it the best rhythm and blues record ever made. Stevie's popularity grew once again.

In 1973, Stevie put out another successful album called *Innervisions.* Stevie was lucky to be alive to enjoy the success. After a serious car

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C33 in step 4.

accident, Stevie went into a coma. He did not die. When he recovered, it didn't take him long to find his way back to music. Less than a year after the accident, Stevie was entertaining crowds and making new records.

Through his adult years, Stevie Wonder wrote some very memorable songs and won many awards for them. In the 1970s alone, he released eleven albums. He won eighteen awards, including three Grammy Awards for Album of the Year in 1974, 1975, and 1977.

In the 1980s, Stevie continued to have success. He put out five more albums. He won two more Grammy Awards. And, in 1989, Stevie was inducted into the Rock and Roll Hall of Fame, which is a museum that honors influential musicians.

The 1990s brought more Top Ten hit songs, three more Grammy Awards, and a movie soundtrack. In 1996, the Recording Academy, a group of people involved in the music business, honored Stevie with a Lifetime Achievement Award.

**Helping Others**

Stevie uses his music and influence to help people. He has raised millions of dollars to fight disease and world hunger. In 1985, Stevie recorded "We Are the World" with a number of other famous musicians. This song raised over 50 million dollars to feed the hungry in Ethiopia.

Stevie also uses his influence to fight racism. In fact, Stevie was part of a group that asked the American government to create a holiday honoring Martin Luther King Jr. The United States celebrated its first Martin Luther King Jr. Day in 1986. Stevie performed in a special concert to celebrate the holiday.

One of Stevie's other goals is to help blind people like himself. He

puts time and money into trying to make life easier for blind people. In 1998, Stevie started an award program called the SAP or Stevie Wonder Vision Awards. The awards celebrate new computer programs that help people who are blind.

The first award was given to the Kurzweil reader system. This system helps blind people by reading written text out loud.

Stevie Wonder is a very influential artist. But even if he never releases another best-selling album or writes another Grammy-winning song, nothing can change the fact that he was and continues to be an admirable person and a musical genius.

## The Great Jazz Quartet

"I had the greatest idea last night!" Mike said as he joined his friends in the lunchroom. "We should form a jazz quartet!"

"A jazz quartet?" Grace asked.

"Yep," Mike responded. "A jazz quartet needs four musicians, and there are four of us!" Tia played the piano, Luis played bass guitar, Grace played drums, and Mike played the saxophone.

Mike's friends looked at one another and shook their heads.

"A rock band would be better," said Grace.

"No one listens to jazz anymore," added Tia.

Mike had grown up listening to jazz. His dad owned a huge collection of jazz CDs, and, in the evenings, Mike and his dad would listen to songs performed by jazz greats. Mike felt disappointed. His friends didn't know how awesome jazz could be.

"Hey, if we're good enough, we could win a trip to New York," said Mike in an attempt to get his friends to change their minds.

"I've always wanted to go to New York," remarked Luis.

"Me too!" said Tia and Grace simultaneously.

Mike told his friends about a teen jazz competition being held the next month. "The winners get to perform in New York City," he said.

"We'll do it!" said Grace, and Tia and Luis nodded in agreement.

"Great!" Mike exclaimed. "Meet me after school by the music room so we can ask Mr. Smith if he can help us get ready. We're going to

need help with our rhythm and timing for sure."

After school, the four friends went to their music teacher's room and knocked on the door.

"Come in," said Mr. Smith.

"Hey, Mr. Smith, are you busy?" asked Grace as the teenagers entered the room.

"Yes, but I have a little time. What can I do for you kids?" asked Mr. Smith.

Mike told Mr. Smith about the jazz quartet they wanted to form and about the competition.

Luis added, "First prize is a trip to New York! Can you help us?"

Mr. Smith smiled, but he shook his head.

"Starting a jazz quartet is a great idea, but unfortunately I can't help you. I am really sorry.

It's football season, and I have marching band practice after school. Can I take a rain check and help you after football season is over?"

"But the contest is next month," Tia said sadly.

Mr. Smith saw the disappointed looks on his students' faces. "Hey, I may have a friend who can help you," he said hopefully. "Come back tomorrow with your instruments, okay? Now you'd better hit the road since band practice is about to start."

The next day after school, Mike waited alone outside the music room,

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**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C41 in step 4.

listening to the school marching band practice. He held his saxophone case against his chest. He was worried that his friends had decided not to be a part of the quartet after all.

A few minutes later, Luis, Tia, and Grace arrived.

"I'm glad you guys came," said Mike. "I thought you might have bailed on me."

"We're your friends. We stick together. Of course we didn't bail on you," said Grace.

When band practice was over and the marching band left, the four friends walked into the music room. Sitting on the piano bench was someone that Mike recognized immediately—Janice J of Janice J and the Jammers, one of his dad's favorite jazz bands! Mike's dad had taken him to see the Jammers perform on his twelfth birthday. Mike loved the show. Janice J played the saxophone. Seeing her perform had made him want to play the saxophone, too.

"Hi," she said to them. "I'm Janice Jessup. You must be the jazz quartet that Mr. Smith told me about." Janice spoke with a soft voice and was casual and friendly with the teenagers.

"Yes, we are!" Luis, Grace, and Tia said simultaneously. Mike couldn't speak because he was too excited.

"We would like to perform at a jazz competition next month," said Luis. "Mr. Smith says you might be able to help us get ready for it."

"The winner gets a trip to New York," exclaimed Grace.

"Well, then we don't have a lot of time," she said. "You're going to have to sacrifice your after school time to prepare for this

competition if it is only a month away. Are you ready for that kind of commitment?"

Mike looked at his friends. He didn't know if they were willing to sacrifice their time after school. But surprisingly, they all nodded in agreement.

Janice passed out some sheet music. Mike and Luis took their instruments out of their cases, Grace sat down behind the drums, and Tia sat down at Mr. Smith's piano.

"Let me hear you play," said Janice. "Begin on the count of three—one, two, three."

Mike, Tia, Luis, and Grace started to play, and, even though they played the correct notes, the music sounded awful!

"Well, you certainly have talent, but talent isn't all you need to play jazz," Janice remarked as she smiled at the teenagers. "Let me show you." She picked up her saxophone and began to play the same piece of music. It was the same song, but the music sounded completely different! Her notes were smooth, confident, full, and rich, yet there was something casual about the way she played them.

Mike read the notes on the sheet music. He saw that Janice wasn't exactly following what was written. She was adding notes and taking notes away, and she held notes longer than the sheet music instructed. When she finished playing, the four friends applauded.

"Jazz isn't about notes on a page," she said. "You have to feel the notes in your bones. You have to play for yourself and your band. The first step to playing jazz is to relax. In jazz, it's okay to make mistakes."

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She was right. Mike was trying too hard to play every note exactly how it was written. The notes sounded flat when he played them, and his friends' music sounded the same way.

"Try again," Janice said.

Mike stretched his arms and fingers and took a deep breath. On the count of three, the teenagers began to play again.

They sounded worse than the previous time.

"That sounded terrible!" said Mike.

"It'll take a miracle for us to win!" said Tia.

"But how did it feel?" asked Janice.

"It felt…good," said Luis with surprise. "At one point, my finger slipped, but I just kept playing! Usually, I panic when I mess up a note."

"Good, that's what you all have to do. Try again," said Janice.

The hour-long practice session went by quickly. At the end, Janice instructed the quartet to take the sheet music home. "Don't count on a miracle. The more you practice, the more you'll improve," she told them. "I'll meet you here tomorrow."

For the next three weeks, Mike, Tia, Luis, and Grace played for Janice every day after school. She helped them improve their timing and rhythm by making them listen to her collection of CDs by the jazz greats. Soon, the four friends felt comfortable playing with each other. They were able to relax, and they got a lot better. At the end of the month, they sounded like a real jazz quartet.

Finally, it was the night of the competition. Janice waited with Mike, Tia, Luis, and Grace while other quartets performed.

"Janice, we're really nervous," said Grace. Luis kept tuning his bass guitar, and Tia read the sheet music over and over.

"What did I tell you before?" she asked. "Don't panic. Just relax and play. You know the notes. So, feel the music. Believe in yourselves, and you can't lose."

Mike, Luis, Tia, and Grace looked at each other. They knew that Janice was right. "This isn't about winning a trip to New York anymore,"
Luis remarked.

When the host announced their names, the four friends rushed onto the stage. They positioned their instruments, and, after a second, started playing.

The quartet's music sounded smooth and casual, and the audience members were swaying to the music and clapping their hands.

When the quartet finished their song, Mike looked back to where Janice was standing. She was clapping as hard as she could. Then Mike looked at his friends. They were smiling as they took their bows. He raised his saxophone in the air and took a bow of his own. Mike had a good feeling that their next performance would be in New York!

## A Song of Hope and Power

### Protest Songs

For hundreds of years, people have used song to confront problems in society. These songs are called protest songs. Protest songs criticize what is wrong or unfair in society. Through protest songs, people voice their frustrations. They also express their hopes. Protest songs call for change. They inspire people to believe that the world can be a better place.

The most famous protest song of all might be "We Shall Overcome." It began as a call for strength to bear life's difficulties and hope for a better future.

### Born from Slavery

"We Shall Overcome" began as a work song in the American South. In the 1800s, many slaves were forced to work in the fields. Picking crops was hard. Slaves worked from sunrise to sunset, and their bodies ached at the day's end.

In order to cope with their frustrations, some slaves sang "We Shall Overcome." Singing its words renewed their spirits. The song encouraged them to be strong. It helped them to dream of a day when they would be free.

But even after slavery was outlawed in the United States, the song continued to be sung. The song's words rang from African American churches, where people gathered to share their hopes and dreams. They sang the song to overcome the pain of racism. Its words helped them to endure the injustices of segregation.

### A Protest Song

"We Shall Overcome" was used as a protest song in 1945. Workers in South Carolina assembled for a strike. This demonstration was against the American Tobacco Company. The workers joined hands and sang "We Shall Overcome" to protest low pay and unsafe work conditions.

For the tobacco workers, the song was used to protest poor working conditions. The song united the workers in their effort to improve their working conditions. The workers protested the company's unfair work practices. As the workers grew tired and hungry, they sang "We Shall Overcome." Its words helped them renew their strength. It encouraged them to keep fighting.

The news of the strike and the workers' use of the song spread. In the 1950s, Zilphia Horton heard the song. Horton was a teacher at the Highlander School in Tennessee.

The Highlander School was an education center for adults. The school was dedicated to fighting injustice. Its teachers criticized the unfair treatment of workers, the poor, and people of color.

Horton believed the song's message agreed with the school's mission. Horton taught "We Shall Overcome" to her students. She wanted them to pass its message on.

**A Famous Song**

Pete Seeger was a student at the Highlander School. He was also a famous folk singer. Horton taught him the song.

The song impressed Seeger. He decided to perform it at concerts. He wanted to spread its message of hope. Seeger toured the country singing the song.

In 1963, Seeger made a recording of "We Shall Overcome." As a result, the song's popularity grew very quickly.

Soon, "We Shall Overcome" was used all across America. People dedicated to fighting for justice agreed with the song's message. They sang the song to spark change. They raised their voices to encourage others to fight against injustice, too.

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C42 in step 4.

**A Song of Hope and Power**

By the late 1960s, these people were using the song to create change. Thousands of workers sang "We Shall Overcome" during labor strikes. People jailed for fighting segregation laws sang it in their cells. Protesters against the Vietnam War assembled and sang it at demonstrations.

As he marched to Washington to press for the rights of African Americans, Martin Luther King Jr. proudly sang "We Shall Overcome." Even President Lyndon B. Johnson ended a speech announcing the Civil Rights Act of 1965 with the words, "We Shall Overcome."

Since then, the song's message of hope and strength has been used around the world. South Africans sang "We Shall Overcome" to speak out against apartheid. Students in China sang it at demonstrations to criticize the Chinese government. People in Northern Ireland sang it to protest civil war. And in India, people sang this song to insist on rights for the poor.

No matter the language or country, the song "We Shall Overcome" has renewed people's hope. The song helped them build their strength. And using that strength, people were able to confront and defeat unfair laws, gain equal rights, and argue against wars they didn't believe in. They accomplished their missions.

Today, "We Shall Overcome" is over 100 years old. But its popularity has only grown. It is still a song of tremendous hope and power. It can spark real change. That is why this protest song will continue to be sung. As long as there is a need for hope or a struggle against injustice, its words will have meaning.

## The 1988 Jamaican Bobsled Team

Jamaica is a nation in the tropics surrounded by the crystal clear waters of the Caribbean Sea. It never snows on this warm island. So, when a Jamaican bobsled team entered the 1988 Winter Olympics, people all over the world were shocked. Who would come up with such a crazy idea? Some people thought it was ridiculous.

**A Ridiculous Idea**

In 1987, Americans George Fitch and William Maloney were living in Jamaica. They desired to have a role in the Olympics, so they decided to form an Olympic team.

They consulted the head of the Jamaican Olympic Association to find out the best way to do this. He suggested that they find a sport in which Jamaica didn't already have a team. This would be the best way to secure a spot for their new team in the Olympic Games.

What sport could they possibly choose? Jamaica already had many athletes in the Summer Olympic Games.

Then, one day Fitch and Maloney saw the Jamaican pushcart derby. In a pushcart derby, groups of racers compete to see who can get downhill the fastest in their carts.

At the beginning of the race, the racers push the carts. When the carts build up enough speed, the racers leap into the carts. They zoom down the hill.

The pushcart derby reminded the two men of bobsled races. The only major difference seemed to be that bobsled races were on ice.

Fitch and Maloney had an idea. They would create a Jamaican bobsled team! That team would go to the 1988 Winter Olympics. Jamaica had never sent a team to the Winter Olympics before.

Fitch and Maloney began planning their team. They needed great runners. So, they asked members of the Jamaican Summer Olympic team if they wanted to try bobsledding. No one did. Many commented that the idea was ridiculous.

**Gathering the Bobsled Team**

Maloney and Fitch refused to give up. They consulted an officer from the Jamaica Defence Force. With his help, Fitch and Maloney found three Jamaican soldiers and one other man for the team. Devon Harris, Dudley Stokes, Michael White, and Samuel Clayton became Jamaica's first bobsled team.

The team started training right away. It was September of 1987. The Winter Olympics were in February 1988. The team had less than five months to prepare for the games.

But, the team had a problem. There was no snow or ice in Jamaica. And, of course, there was no bobsled track. So, the team had to practice with a special pushcart on a dry cement surface. They used this pushcart to learn to steer. They also practiced getting a running start before leaping into the cart.

Before long, the team was ready to practice with a real bobsled on an icy track. The team decided to train in Calgary, Canada, where the Olympics would be held.

In Calgary, the men quickly learned that real bobsled racing was very different from what they had practiced doing in Jamaica. The men needed to relearn how to time their runs and leap into the bobsled. They also had to learn how to steer the bobsled on the slippery tracks. The team spent countless hours racing their bobsled downhill.

After a few weeks in Calgary, the team was finally ready for a qualifying race. They had to compete in a qualifying race before they could race in

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C43 in step 4.

the Olympics. They traveled to Austria for their first bobsled competition.

The Jamaican team did not win the race in Austria. But, it did meet the qualifying time for the 1988 Winter Olympics!

The team members spent December back in Jamaica. There, Samuel Clayton decided to leave the team. Caswell Allen replaced Clayton. The team only had one month to train with Allen.

In January, the team traveled to Lake Placid, New York. They trained for a month on bobsled tracks. The team was improving, but time was running out. Would the team be prepared for the Olympics with less than five months of training?

**The Olympic Games**

In February 1988, the team flew back to Calgary for the Olympics. Much to their surprise, they received a lot of attention in Calgary. Reporters from around the world were excited by the Jamaican team's story. They commented on the team's spirit and determination. They called this team from the tropics the underdog of the Winter Olympics. And, with this attention, the Jamaican bobsled team gained the admiration of fans around the globe.

Unfortunately, just days before the team's first race in Calgary, Allen fell during practice. He was hurt. He couldn't compete. So, Dudley Stokes asked his brother Chris to replace Allen.

Although he thought Dudley's idea was ridiculous, Chris agreed to join the team.

Chris had only three days to get ready! The team practiced hard on Tuesday, Wednesday, and Thursday. On Friday, they rested. Then, on Saturday, it was time for them to race.

In its first bobsled race in the Olympics, the Jamaican team had a respectable finish. The team placed thirty-fifth out of fifty teams. Crowds cheered their success.

But, the Jamaican team desired to do better. They would get their chance the next day.

**The Fastest Start**

When it was their turn to race on Sunday, the Jamaican team members positioned their bobsled at the top of the track. As soon as the signal sounded, the men pushed their bobsled as hard as they could. Then, they leapt into the bobsled. They did all of this really fast. In fact, they had the seventh fastest start time in the race!

The team sped around turns faster than it ever had. But, unfortunately, the bobsled was going too fast. The team lost control. The bobsled crashed.

**A Not-So-Ridiculous Success**

The Jamaicans didn't win any medals at the 1988 Winter Olympics. But, crowds loved them. Through their hard work, spirit, and determination, the bobsled team won the respect and admiration of the world. Many people can't remember who won the bobsled races in the 1988 Winter Olympics. But, many people do remember the daring and respectable feat of the Jamaican bobsled team. Maybe Fitch and Maloney's idea wasn't so ridiculous after all!

## Racing to Victory

**Cast:**
Martin Perez, reporter
Samantha Lee, marathon winner

**Martin:**
This is Martin Perez, reporting to you live from the finish line of the Brook City Marathon. I'm here with Samantha Lee, the women's champion in this race. Congratulations on your win today, Samantha!

**Samantha:**
Thank you, Martin! It feels great to have won this race after training so hard.

**Martin:**
Samantha, I know you must be tired, but I'd like to ask you a few questions, if that's okay.

**Samantha:**
Sure, let me just grab my water bottle.

**Martin:**
It's important to drink lots of water, isn't it?

**Samantha:**
It's absolutely important. You lose a lot of water when you sweat, so you have to keep hydrated when you run a marathon.

**Martin:**
What about food? How important is a healthy diet for a marathon runner?

**Samantha:**
Food is very important, too! You can't eat like a bird if you are going to be a runner. Food is the fuel that powers a marathon runner, so I

try to eat a healthy and balanced diet with a lot of fruits, vegetables, fish, and whole grains. I also drink plenty of water and milk.

**Martin:**
Do you eat any special foods before you run a race?

**Samantha:**
I like to eat a light meal of cereal, yogurt, and fresh fruit. Runners need protein and carbohydrates to keep their energy levels high.

**Martin:**
Are there any other rituals that you perform before a race?

**Samantha:**
My ritual is a little embarrassing.

**Martin:**
You just won the Brook City Marathon, and you're embarrassed? There are a lot of people listening to the radio that want to know your secrets to success!

**Samantha:**
First of all, it is important to stretch all the muscles in your body before a race. You want to warm yourself up so that you don't strain a muscle during the race. And while I stretch…I like to listen to opera music.

**Martin:**
Is there a particular opera that gives you a burst of energy right before a race?

**Samantha:**
I am not particularly nuts about any one opera. I like a lot of them. The powerful music energizes me.

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C51 in step 4.

**Martin:**
How did listening to opera become your pre-race ritual?

**Samantha:**
My sister, Sue, is a marathon runner, too. When we were in high school, she was a cross-country champion and the best athlete in the school. She got all the awards and trophies. I was a bookworm and a member of the school choir.

When my sister entered her first marathon, she asked me to train with her. I agreed to train with her only if she agreed to listen to my music as we stretched. We could never see eye to eye about music, and she insisted on listening to music as she stretched for her runs.

So, I suggested that we listen to opera. She hated the idea, but she agreed because she wanted a training partner. That's when I became a runner and when I started warming up with opera music.

**Martin:**
Did you enter that marathon with your sister?

**Samantha:**
I didn't enter that one because I wasn't quite ready for it, even though I went through all the training. I couldn't believe how hard it was to prepare for a marathon.

My sister and I ran about sixty miles every week. On Sundays alone, we ran twenty miles.

**Martin:**
Did you rest at all?

**Samantha:**
We rested one day a week. You can't train that much without a rest because your body needs time to recover.

It's hard to figure out how much to train. You need to run long distances, so you can practice running when your legs are tired. But if you run too many miles, you can wear yourself out and get hurt.

I've gotten used to training hard, though.

**Martin:**
Finding time to train must be hard.

**Samantha:**
I have to wake up before five o'clock most days to train. I'm a librarian, and I have to be at work before nine o'clock. I've found that I have more energy for running in the mornings than I do in the evenings.

**Martin:**
You're really a librarian?

**Samantha:**
Yes, I'm still a bookworm.

**Martin:**
So, tell everyone who is listening the best things about running a marathon.

**Samantha:**
Mostly, I love the challenge of running such a long distance. Leading up to each race, I set a goal of how fast I want to run. Then, I train hard so I can reach my goal. When I finally can run as fast as I said I wanted to, it's the best feeling.

Another great thing about running a marathon is the friendships you form with other athletes. My friends and I train together, and we encourage each other to go faster and run harder.

*Continued*

When you're so tired, it's easy to give up. But if other people are there to support you, it's much easier to get through the tough times. And we never have any hard feelings when one of us competes better than another.

**Martin:**
Do you think you would ever want to retire from running marathons?

**Samantha:**
I don't ever want to retire because I don't think I could ever stop running permanently. I want to run marathons until I grow old and gray.

Last year, I strained my knee so badly that I had to stop running for two months. It was awful! Not only did I feel like I was out of shape, I felt like my body had decided to give up! I love the rush of energy that I feel while running, and when I couldn't do it, I felt terrible. So, no, I won't ever stop running…even when I stop winning.

**Martin:**
Did your doctor force you to take the two months off? I bet you had trouble seeing eye to eye with your doctor when he told you how long you would be unable to run.

**Samantha:**
I was disappointed, but there was nothing I could do but rest. I didn't argue with my doctor. I knew that if I didn't rest, I could have hurt myself permanently.

One runner I know continued to run even though his ankle was injured. Running on his hurt ankle damaged it even more. In the end, he had to have an operation. It took him longer to recover from the operation than it would have if he had rested his sore ankle in the first place. Running when you're hurt just doesn't make any sense.

**Martin:**
You didn't hurt anything today, did you?

**Samantha:**
Right now, I feel good, but, in an hour or so, I'll start to feel sore and will want to have a good nap.

**Martin:**
Do you have any last-minute tips for young runners out there who want to enter marathons?

**Samantha:**
Wear good running shoes. The worst thing you can do is run long distances in a bad pair of shoes. You can injure your feet or knees permanently.

Also, one of the best ways to prepare for a marathon is to scout out the course. Before I run a marathon, I make sure that I scout out every inch of the course. Then, I run the last five miles of the course over and over again. This helps me know all the twists and turns of the course and where the finish line actually is. I figure out during training exactly when to start my final burst of speed.

But the best tip I have for young runners is to run because you love it. It's difficult and painful, but if you love it, all the pain will be worth it.

**Martin:**
Well, everyone, that was Samantha Lee, women's champion in the Brook City Marathon. Thank you, Samantha, for talking with us.

**Samantha:**
It was my pleasure, Martin!

## Remembering Dale Earnhardt

Dale Earnhardt was born in 1951 in Kannapolis, North Carolina. He always knew he would race cars. His father was a race car driver named Ralph Earnhardt. When Dale was a young boy, he started working on his father's racing crew. Dale changed tires. He cleaned windows. He also filled the gas tanks of the cars that his father raced. His ambition grew as he watched his father zoom around the tracks.

In 1973, Ralph Earnhardt died of a heart attack. He was only forty-five years old. Though he was a talented racer who had won more than 350 NASCAR races, Ralph never achieved his dream. He never won the Winston Cup.

**The Winston Cup**

From 1972 to 2003, the Winston Cup was NASCAR's most important racing series. It was held every year. A driver earned points in each race. The driver who collected the most points throughout the series won the Winston Cup. Winning the Winston Cup was considered one of racing's greatest achievements.

Ralph Earnhardt's death greatly disturbed his son. Dale felt that it was his duty to pursue his father's dream. He decided that he wouldn't rest until he won the Winston Cup.

**Dale's Rough Start**

In 1973, Dale started to pursue his goal. He entered many small, local races. He needed to build a name for himself in the racing world. Dale raced up to four days a week. He had a very demanding racing schedule.

Dale performed well in the local races. His racing style was aggressive and confident. Spectators were amazed by how fast he drove around dangerous turns. They were shocked by how daring Dale was as he moved past his opponents. Spectators even nicknamed Dale "The Intimidator." They gave him this nickname because, in every

race, Dale was one of the most aggressive racers on the track.

Dale's hope was that someday a rich race car owner would notice him and ask him to drive a super fast car in a Winston Cup race. He would never be able to enter a Winston Cup race with his current car. He couldn't afford a better one.

In 1975, Dale's wish was granted. After two years of racing locally, Dale finally gained the attention of a race car owner named Ed Negre. Negre asked Dale to drive a race car in the World 600 race. The World 600 was one of the thirty races in the Winston Cup series that year.

**Dale's Big Break**

Dale accepted the job. But, he did not race as well as he had hoped. He finished in twenty-second place.

Despite this loss, Dale remained confident that he could win the Winston Cup. Between 1975 and 1978, Dale drove in eight more Winston Cup races. Unfortunately, Dale didn't win a single race or post a top-five finish. Still, Dale refused to give up on his dream.

In 1978, Dale gained the attention of another race car owner named Rod Osterlund. Osterlund was impressed with Dale's aggressive and confident driving style. He liked that Dale had a lot of ambition. Osterlund asked Dale to race in the Dixie 500 in Atlanta. Dale accepted the job. He came in fourth place in this Winston Cup race.

In 1979, Osterlund asked Dale to race the full Winston Cup series. Dale considered Osterlund's offer his "big break." He finally had the chance to earn enough points to win the Winston Cup.

During the 1979 Winston Cup races, Dale began to shine. Dale won two of the thirty races. He finished in the top five for eleven others.

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C52 in step 4.

He did so well that he won the Rookie of the Year Award. But Dale did not earn enough points to win the Winston Cup championship.

The next year, Osterlund asked Dale to drive in the full Winston Cup series again. This time, Dale refused to lose.

In the 1980 Winston Cup series, Dale won five of the thirty-one races. He earned more points than any other driver. Dale Earnhardt finally won the Winston Cup! He had achieved his father's dream.

**Dale's Jinx**

Between 1981 and 1994, Dale won the Winston Cup series six more times. He also won almost every other important race he entered.

But, for some reason, Dale could not win the Daytona 500. Not being able to win the Daytona 500 disturbed Dale, so he entered the race every year.

And, every year, something went wrong. One year, Dale's tire blew out during the final lap. Another year, his car flipped over. People called Dale's luck at the Daytona 500 his "Daytona jinx."

Dale remained confident that he could break the jinx. In 1998, on his twentieth try, he finally succeeded. Dale won the Daytona 500.

**The End of the Road for Dale**

With his win at the Daytona 500, Dale had achieved all of his racing goals. He was already a racing legend. But, Dale did not retire from racing. He continued to pursue his career.

When he entered the Daytona 500 in 2001, he had no idea that this race would be his last. On the final lap of the race, Dale bumped his car into one of his opponents' cars. Then, his car turned sharply. It crashed into the wall.

Medical attendants rushed to the scene of the wreck. But when the attendants reached the wreck, they found that Dale Earnhardt had died.

**Remembering Dale Earnhardt**

Dale Earnhardt broke many NASCAR records. To this day, Dale is only the second driver to have won the Winston Cup seven times. In 2006, Dale Earnhardt was named to the International Motorsports Hall of Fame.

It took many years for Dale to fulfill his father's dream, but he did it. Because of his ambition and his strong will, Dale Earnhardt became one of the most successful race car drivers in history.

## Writing with Symbols

Imagine you're taking a trip. Your destination is Asia. You plan to visit the largest country in the world, Russia. You also plan to visit the country with the most people, China.

Before you go, you should acquaint yourself with the written languages you will see. Signs and newspapers might display unfamiliar writing. For example, in both Russia and China, you may see signs on street corners that tell you to stop. Even though these signs mean the same thing, the writing on each looks different.

These two types of writing look different from one another because they come from different writing systems. Russian and Chinese are examples of two writing systems—alphabetic and logogram-based. Before you leave for Asia, you should learn the characteristics of each.

**Russian: Alphabetic Writing**
Russian is an example of an alphabetic writing system. An alphabetic writing system uses an alphabet.

One characteristic of an alphabetic writing system is that it has a fixed number of letters.

Letters are symbols that represent sounds.

These letters are then combined to form the words of the language. The Russian alphabet has thirty-three letters. English also is an alphabetic writing system. Its alphabet has twenty-six letters.

In Russia, many youngsters learn their letters the same way that some American children do. They use alphabet blocks. Alphabet blocks display the letters of the alphabet on them. The children learn what the letters look like while playing with their blocks.

Next, children learn how to connect the letters to make words. For example, English-speaking youngsters learn that they can put the "A," "C," and "T" blocks together to make the word "cat."

But, they cannot put the same blocks together as T-C-A. In this combination, these letters do not form a word that makes sense.

To spell the word "cat" with Russian alphabet blocks, children have to arrange the "O," "K," and "T" blocks to make the word "KOT".

Children also have to learn what sounds the letters make. In fact, another characteristic of an alphabetic writing system is that each letter represents a sound. In a perfect alphabet, there is only one letter for each sound. But, very few perfect alphabets exist.

In most alphabets, one letter can make more than one sound. And sometimes, more than one letter can make the same sound. For example, in English, sometimes the letter "c" sounds the same as the letter "s," as in the word "celebrate."

Sometimes it is hard to understand what sounds certain letters make when they are combined with other letters. That is why every alphabetic writing system has spelling rules. The rules explain how to arrange letters to make words.

The Russian spelling rules are simple. There are only about five of them. Most Russian words are spelled the way they sound. If someone learns what the letters sound like, she can read and say most words. In fact, in Russian, there are even single letters for the ch and sh sounds. In English, people have to connect two letters to make these sounds.

In all alphabetic writing systems, words are made by combining consonants and vowels. All alphabets include both consonants and

*Continued*

**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C53 in step 4.

vowels. The Russian alphabet has eleven vowels. It has twenty consonants. There are two more letters that have no sounds. These letters are used to alter how a person says certain words.

There are a couple of other traits that many alphabetic writing systems share. Most alphabetic systems have uppercase and lowercase letters. Also, many alphabetic writing systems include cursive and print versions of the letters. The Russian alphabet has both of these traits.

**Chinese: Logogram-Based Writing**

Chinese is an example of another type of writing system. This writing system is based on logograms. The word "logogram" has two parts. "Logo" means "word." "Gram" means "drawing." A logogram-based writing system uses "word drawings." Think of a "word drawing"
as a symbol.

The first writing systems ever invented were logograms. Primitive people drew simple pictures to stand for animals, people, and other things. Their drawings were the precursors to many logogram-based writing systems such as Chinese, Japanese, and Korean.

The most important characteristic of a logogram-based writing system is that it uses symbols to represent words. In a logogram-based writing system, there are no letters. There is no alphabet. Instead, symbols stand for ideas and things. In Chinese, these symbols are called characters. The Chinese have a special character for the word "cat."

Like all logograms, Chinese characters are made with strokes. People learning to write in Chinese need to learn eight to twelve different strokes. A few examples of Chinese strokes are dots, dashes, left-slant, right-slant, and wavelike lines.

This type of writing might seem very simple. But, it is really quite complex. Adding or removing a single stroke could alter a character's meaning.

Some characters are made up of just one stroke. Other characters are made up of a few strokes. Some more complex characters are made up of as many as sixty-four strokes!

In Chinese, characters can also be combined to make other characters! For example, the Chinese character for the word "river" is a combination of two characters. It combines the characters for the words "water" and "able."

Another characteristic of a logogram-based writing system is that an unlimited number of characters can be created. As new words get added to the language, new characters get drawn.

The Chinese writing system today contains more than 50,000 characters. And, more characters get created every day. With so many characters, Chinese writing can be very difficult to comprehend.

**Travel Writing**

You may never be able to comprehend every language in the world. But, you can learn how to recognize different types of writing systems. Before you go on your trip to Asia, try to acquaint yourself with alphabetic and logogram-based writing systems. Doing so will help you identify the Russian and Chinese writing that you see in these two very different destinations!

## Fitting In

**Cast:**
Ms. Warner, teacher
Josh, student
Rocio, student
Beth, student
Ann, student
Mark, student
Mr. Morales, Rocio's father
Mrs. Morales, Rocio's mother

**Scene 1**
*(It's the morning, and the students in MS. WARNER's classroom are sitting at their desks. ROCIO is sitting in the front row, JOSH is sitting next to her, and BETH is sitting behind her. MARK and ANN are seated in the back of the room.)*

**Ms. Warner:**
Students, I would like to introduce you to a new member of our class. *(She motions toward ROCIO.)* This is Rocio Morales. She recently moved here from Mexico! Rocio is trying to adjust to a new school in a new country, so please do your best to help her feel comfortable.

**Josh:** *(JOSH stands up.)*

Buenos dias, Rocio! Welcome to our class.

**Rocio:** *(ROCIO smiles at Josh.)*

Buenos dias!

*(MARK and ANN make fun of JOSH in the back of the room, but JOSH ignores them and sits down.)*

**Ms. Warner:**
That was very polite, Josh. Rocio, this week we've been learning about festivals around the world. Tomorrow is the fifth of May, which is a holiday in Mexico. Perhaps tomorrow you could tell us about how you celebrate Cinco de Mayo in Mexico.

**Rocio:**
I…I guess I could.

Ms. Warner:
Thank you, Rocio! Before we continue with our lesson, I want to make sure that someone shows Rocio around school today. Josh, since you seem so enthusiastic this morning, would you please be Rocio's guide?

**Josh:**
Absolutely, Ms. Warner!

**Scene 2**
*(It's lunchtime, and many students are eating in the lunchroom. BETH, ANN, and MARK are sitting together at a table. JOSH and ROCIO walk into the lunchroom.)*

**Josh:**
This is the cafeteria. Hey, how do you say cafeteria in Spanish?

**Rocio:**
Cafetería…it's the same. It's just pronounced a little differently.

**Josh:**
Maybe I know more Spanish words than I thought I did! *(JOSH smiles.)*

*Continued*

Teacher Note
To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C61 in step 4.

**Josh:**
It's really difficult to learn a new language, isn't it? How did you learn to speak English so well?

**Rocio:**
I took classes at my school in Mexico, but I am still learning the language. *(She points to the table where BETH, ANN, and MARK are sitting.)* Can we sit there?

**Josh:**
I am sure that we can. *(JOSH motions toward the lunch line.)* Let's go get some lunch, and then we'll head to the table.

**Rocio:**
Oh, I don't need to buy lunch because I brought tamales from home.

**Josh:**
Tamales…I've never had those. Can I try one? I'll go get my lunch and will meet you at the table. *(JOSH leaves, and ROCIO heads to the table.)*

**Rocio:**
May I please join you?

*(BETH motions for her to sit down. MARK and ANN look at each other, making faces to show that they really don't want ROCIO to sit with them. ROCIO sits down, pulls her lunch out of her backpack, and unwraps it. MARK and ANN pretend to gag.)*

**Rocio:**
Would you like to try a tamale?

**Mark:**
No way, just looking at that stuff makes me lose my appetite! It's so nasty and smelly!

*(ANN and MARK start laughing. After a moment, ROCIO starts to cry quietly. She gathers her lunch and backpack and walks out of the cafeteria, leaving a small photo album behind.)*

**Beth:**
Why did you guys behave like that?

**Mark:**
Her lunch looked gross!

**Beth:**
What you said to her was so offensive!

**Ann:**
I didn't see you doing anything about it.

*(BETH frowns, feeling bad for not defending ROCIO. MARK and ANN get up from the table and walk away. Just as JOSH returns to the table, BETH leaves the cafeteria, holding ROCIO's photo album.)*

**Josh:**
Hey, where's Rocio? *(JOSH calls to BETH and runs after her.)*

**Scene 3**
*(It's dinnertime. MR. MORALES, MRS. MORALES, and ROCIO are sitting at the kitchen table. ROCIO is poking her food with a fork.)*

**Mrs. Morales:**
Don't you have an appetite tonight, mi hija? You seem so anxious. Did you not enjoy your first day at your new school?

*Continued*

**Rocio:** *(ROCIO drops her fork onto her plate.)*
It was terrible. I feel like I don't belong, like I don't fit in. Already some kids made fun of me for eating tamales.

**Mr. Morales:**
Those children behaved very badly. Don't pay attention to their offensive words. Next time, tell them that you are proud of your heritage.

**Rocio:**
It's not easy to defend myself when I don't have any friends and everyone treats me like I'm different.

*(Suddenly, the doorbell rings, and MRS. MORALES gets up to answer the door. MR. MORALES places his hand on ROCIO's shoulder.)*

**Mr. Morales:**
I know it is hard to adjust, Rocio, but try to be strong.

*(MRS. MORALES walks back into the kitchen with JOSH and BETH. ROCIO stands up and walks toward them.)*

**Rocio:**
What are you doing here? How did you know where I live?

*(MRS. MORALES motions toward MR. MORALES, telling him to get up from the table. MR. MORALES gets up, and ROCIO's parents quickly retreat out of the room.)*

**Beth:** *(BETH hands ROCIO the photo album that ROCIO left in the lunchroom.)*

You left this in the cafeteria, Rocio. Your address was written inside. Josh and I tried looking for you to give this back, but we couldn't find you.

**Rocio:** *(ROCIO takes the album from BETH.)*

Thank you! This album has pictures of Puebla, my home in Mexico. *(ROCIO flips through the album.)* Do you want to sit down?

*(JOSH, BETH, and ROCIO sit at the table.)*

**Josh:**
Where did you go after lunch?

**Rocio:**
I hid in the library for the rest of the day because those kids in the cafeteria really upset me.

**Josh:**
You should have just ignored them. They're mean to everyone.

**Beth:**
Rocio, I am sorry. Mark and Ann weren't very polite. I shouldn't have let them say those offensive things to you.

**Josh:**
I remember when I moved here from Texas. It was rough fitting in at first. Eventually things will get better. Just try to be yourself and don't worry about what other people say.

**Rocio:**
I'll try.

**Beth:**
What can we do to help you feel more comfortable?

*Continued*

**Rocio:**
I am not sure, but I appreciate your asking. *(ROCIO takes a deep breath.)* I am feeling very anxious about the speech I have to give in Ms. Warner's class tomorrow. I know a lot about Cinco de Mayo, but I have never given a whole speech in English before! What if I embarrass myself in front of the entire class?

**Josh:**
Maybe we could help you.

**Beth:**
Yeah, let us help you. I'd love to learn about Cinco de Mayo.

**Scene 4**
*(It is the next day in MS. WARNER's classroom.)*

**Ms. Warner:**
Today is Cinco de Mayo or May fifth. Rocio, what can you tell us about why this day is so special in Mexico?

*(ROCIO, JOSH, and BETH stand up and walk to the front of the room.)*

**Rocio:**
My friends are going to help me, okay?

*(MS. WARNER nods.)*

**Rocio:**
On Cinco de Mayo, Mexicans celebrate the day when 4,000 brave soldiers successfully defended the city of Puebla from French invaders.

**Josh:**
In 1862, France wanted to control all of Central and South America. To do this, France needed to control Mexico. So, France sent 8,000 soldiers to the city of Puebla. There, the French army hoped to defeat the Mexican army and take over Mexico.

**Beth:**
The French troops had better weapons and training than the Mexican forces. But, when the French soldiers attacked Puebla on the fifth of May, the Mexican army did not retreat. Instead, the troops fought hard and won the battle.

**Rocio:**
In Puebla, where I am from, we celebrate Cinco de Mayo with a parade down La Avenida Cinco de Mayo. At our festivals, some people dress like soldiers to reenact the famous battle. We have great feasts, and we dance and sing with our families and friends. Cinco de Mayo is a day on which Mexican people show that we are proud of our heritage.

**Ms. Warner:**
Rocio, Josh, Beth—that was marvelous!

*(All the students begin clapping, including MARK and ANN. ROCIO smiles proudly at JOSH and BETH, her two new friends.)*

## The Rosetta Stone

Ancient Egyptian ruins have fascinated people for centuries. Scholars have learned a great deal about Egyptian culture by studying the writing that covers the walls of ancient pyramids, temples, and tombs. This writing is made with pictures and symbols. It is known as *hieroglyphics* (hahy-er-uh-GLIF-iks).

For a long time, no one could understand what the hieroglyphic writing meant. And, because the language had been forgotten, ancient Egyptian myths, stories, and rituals had also been lost.

Then, in 1799, French soldiers uncovered a strange, black stone in the Egyptian city of Rosetta. The Rosetta stone was the key to solving the mystery of hieroglyphics.

**A Strange Discovery**
In 1799, Britain and France were at war. France had taken over Egypt. Egypt is a country in North Africa. When French soldiers tore down an ancient wall by their fort in Rosetta, they found an odd stone in the rubble. It was covered with strange writing.

One of the French soldiers had a suspicion that the stone was important. He sent the stone to Cairo (KAHY-roh), the capital city of Egypt.

When French scholars in Cairo saw it, they were excited. The stone was very important!

There were three messages written on the stone. Each message was in a different language. The first message was in hieroglyphics. The second message was written in *Demotic.* Like hieroglyphics, Demotic was an ancient Egyptian language. The scholars could not read either message.

But the third message on the stone was written in Greek, the language of Greece. Some of the French scholars could read Greek.

The scholars had a suspicion that all three messages actually said the same thing. If they translated the Greek, they could figure out how to decode the forgotten Egyptian languages. They were very excited by the prospect of solving the mystery of hieroglyphics.

Immediately, the scholars translated the Greek message. It was an announcement that Egyptian priests composed sometime around 196 BCE. It said that statues of Ptolemy V would be built in every temple in Egypt. Ptolemy V was the ruler of Egypt in 196 BCE. Then, the scholars started comparing the Greek message to the other two messages.

Unfortunately, the war interrupted their efforts.

In 1801, French soldiers in Egypt surrendered to British troops. The French had to give their Egyptian artifacts to the British. Before the scholars in Cairo surrendered the Rosetta stone, they made rubbings of the stone. They took the rubbings back to France, where they could continue studying the stone.

**Thomas Young's Breakthrough**

The actual Rosetta stone was brought to a museum in London, England. Immediately, Thomas Young tried to decode the hieroglyphics on the stone. Young was a British scholar of languages.

At first, he could not understand how hieroglyphics worked. The symbols did not always match up with the Greek letters. So, he decided to check the Demotic letters for clues.

That's when he made an important discovery. He realized that Demotic letters were simpler forms of hieroglyphic symbols. Demotic and hieroglyphics were the *same* language!

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C62 in step 4.

Because of this discovery, Young no longer thought that hieroglyphic symbols represented words. Even though the symbols looked like pictures, he thought they were actually more like letters.

Young decided that to decode the language, he would need to know the letter that each hieroglyphic symbol represented. But the hieroglyphics were too difficult for Young to translate. Young's theory about hieroglyphics was not completely correct. Only some of the symbols represented letters. In 1819, Young stopped trying to figure out the languages. He composed his notes. Then, he published his findings.

**The Coptic Key**

At the same time that Young was trying to decode the Rosetta stone, a French scholar named Jean-François Champollion (zhahn frahn-SWA shahn-paw-LYAWN) was also trying to decode it.

Champollion was only eleven years old when he first saw a rubbing of the Rosetta stone. One of the scholars from Cairo showed it to him. The young boy was fascinated. The prospect of solving the mystery of hieroglyphics thrilled him.

Over the next few years, Champollion learned many languages. He thought that knowing lots of languages would help him figure out hieroglyphics. The most important language that he learned was *Coptic.* Coptic is a language that was spoken in Egypt between the second and seventh centuries CE. Coptic uses both Greek letters and Demotic letters.

Champollion decided to compare Coptic symbols with some of the hieroglyphics from the Rosetta stone. He saw many similar symbols among hieroglyphics, Demotic, and Coptic. He had a suspicion that all three languages were related.

**"I've Done It! I've Done It!"**
Champollion decided to test his theory by translating an ancient Egyptian *cartouche* (kahr-TOOSH). A cartouche is a group of hieroglyphics that represents the name of an important Egyptian person.

Champollion saw that the first symbol in the cartouche looked like the sun. In Coptic, the word for *sun* is pronounced "rah."

The next symbol in the cartouche seemed to be connected to the Greek word for "birthday." He saw both the symbol and the Greek word on the Rosetta stone. In Coptic, the word meaning "to give birth" is pronounced "mes."

The last two symbols of the cartouche were the same. Champollion looked at the hieroglyphics on the Rosetta stone to see if he could find a similar symbol. He did. Then, he compared the hieroglyphic and the Greek messages on the stone to figure out what that symbol meant. He saw that the letter s appeared in the Greek message in the same places that the symbols appeared in the hieroglyphics. Champollion had a suspicion that the symbols might stand for s in hieroglyphics, too.

When he put all the sounds together, he pronounced the name, "Ramses" (RAM-seez). Champollion recognized the name. Ramses was a powerful Egyptian ruler.

Champollion realized what he had done. He ran to his brother, yelling, "I've done it! I've done it!" Then, he fainted.

**A Mystery Solved**
Jean-François Champollion had done it. He had used the sounds of the Coptic language and the clues on the Rosetta stone to

*Continued*

translate the hieroglyphics of the cartouche. Champollion found that hieroglyphics used picture symbols *and* letters to represent sounds.

Many people think that Champollion used Young's findings about hieroglyphic letters to create his theory. Champollion claimed that he knew nothing of Young's work. He studied hard for twenty years to solve the mystery himself.

Champollion published his findings in 1824. After that, many scholars visited Egyptian pyramids, temples, and tombs to translate the hieroglyphics on the walls. They read the myths and stories that ancient Egyptians composed. Thanks to the Rosetta stone, the customs and rituals of ancient Egypt will never be forgotten again.

## The Massachusetts 54th

### The Start of the Civil War

From 1861 to 1865, civil war raged in the United States. The country was divided. The Northern states and the Southern states fought against each other.

The Civil War started because the Northern states and the Southern states didn't agree about slavery. The South's economy depended on slavery. The South wanted to extend slavery into other states. The North opposed the expansion of slavery.

Because of this disagreement, the South broke away from the North. The South formed its own nation. The North declared war on the Southern states. The North was determined to keep the United States whole.

The North and the South each formed an army. The North's army was called the Union army. The South's army was called the Confederate army.

The North and the South fought many bloody battles. Over half a million soldiers died. The Union army desperately needed more soldiers. President Abraham Lincoln urged more men to enroll in the Union army.

In those days, African American men couldn't join the army. Although the Union army hired some African American men to work in the camps, the army did not allow black men to fight in battles. People in the North were against slavery, but they still didn't treat African Americans as equals. Many people doubted the ability of African American soldiers to fight bravely.

### New Soldiers

In January 1863, President Lincoln published the Emancipation Proclamation. The Emancipation Proclamation declared that Southern slaves would be free when the North won the war. It also

declared that African American men could enroll in the Union army.

African American men could now join the Union army. But the army did not treat them the same as white soldiers. The few African American men who joined the Union army were part of white regiments. Yet they lived, ate, and trained separately from the white soldiers. The African American soldiers earned seven dollars a month. The white soldiers earned ten dollars a month.

**The 54th Regiment**

In February, the Union army asked Captain Robert Gould Shaw to help form a new regiment. These soldiers would make up the first African American regiment, known as the 54th.

Shaw was a white man who believed all African Americans should be free. He knew that the 54th Regiment could prove that African American soldiers were just as courageous in battle as white soldiers were. Shaw proudly accepted the responsibility of leading the 54th.

Now Shaw needed to find 1,000 African American men to enroll in the new regiment. At first, men were slow to join. Then Shaw got some help from Frederick Douglass. Douglass was a slave who escaped to freedom. Douglass was a great speaker. He encouraged African American men to join the 54th Regiment. Douglass's own sons even joined the regiment. Within three months, the number of soldiers in the 54th reached 1,000.

Shaw was a very demanding leader. He trained his soldiers hard. His soldiers were dedicated. They grew to respect their leader. Shaw insisted that his soldiers receive the same uniforms, weapons, and supplies as the white soldiers. He wanted the 54th Regiment to think of themselves as part of the Union army. He wanted the white soldiers to accept the 54th Regiment as part of the Union army too.

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit C63 in step 4.

## The Massachusetts 54th *Continued*

### Off to Battle

After a few months of intense training, the 54th Regiment was ready for battle. The regiment was stationed on James Island, South Carolina. The North controlled this small Southern island.

The Confederate army was determined to regain control of it. The 54th Regiment joined the white Union troops that were preparing to defend the island against Confederate attack.

On July 16, Confederate soldiers attacked James Island. With the other Union troops, the 54th Regiment defended the island fiercely. Together, the African American and white soldiers protected the island. The Union soldiers forced the Confederate soldiers to withdraw from the island.

### Attack on Fort Wagner

After the Battle of James Island, people praised the bravery of the 54th Regiment. But the soldiers had no time to enjoy their success.

They were immediately sent to Morris Island, South Carolina. A Confederate fort on the island, named Fort Wagner, protected an important harbor. The Confederate army depended on the supplies that came through this harbor.

The 54th Regiment was to lead an assault on Fort Wagner. If the Union army could win Fort Wagner, they could win control of the harbor. This win would cut off supplies to the Confederate army.

The assault on Fort Wagner would be difficult. About 1,800 Confederate soldiers guarded Fort Wagner. They used large artillery, such as cannons. The fort was a large structure. It was made of earth and sandbags. The fort would be hard for the Union soldiers to attack. Despite the danger, the 54th Regiment agreed to lead the assault.

On July 18, 1863, Shaw led the 54th Regiment into battle. The men silently moved to within a thousand yards of the fort. Then they let out a fierce battle cry. They began to climb the fort's sandy walls.

During a battle, army captains and generals usually stay behind the front line. It is important for army leaders to stay safe. They need to tell the soldiers where to go and what to do.

But in this battle, Shaw proudly joined the front line of advancing soldiers. Almost immediately, a Confederate soldier shot Shaw. The bullet killed the brave captain.

Despite the loss of their leader, the 54th Regiment continued to attack the fort. They bravely fought the Confederate soldiers hand to hand.

In the end, the 54th Regiment's assault on Fort Wagner was unsuccessful. The regiment was overwhelmed by the Confederate troops. The Confederate troops killed or wounded 200 of the 600 soldiers. The Confederate troops forced the 54th Regiment to withdraw from the fort.

**The Loss That Was a Victory**

The 54th Regiment's assault on Fort Wagner was unsuccessful. But, it was still a triumph for the regiment. Stories of the soldiers' courage spread quickly. People who doubted the ability of African American soldiers to fight bravely realized that they were wrong.

Encouraged by the bravery of the 54th Regiment, many more African American men enrolled in the Union army. By the end of the Civil War, about 10 percent of all Union soldiers were African American.

The Civil War ended in 1865. The 54th Regiment had accomplished something important. They had shown people that African American soldiers were just as good as white soldiers. People recognized the soldiers of the 54th Regiment as brave and experienced. The soldiers

## The Boston Tea Party

**SCENE 1**
**NARRATOR:** Welcome to London, England! It's May 1773, and George the Third is king of England. America is still an English colony.

Not everything is going well in England. England's East India Company is losing money. Since the company is partly owned by the English government, the king is concerned about its financial stability.

The English government is worried also because the American colonists are growing restless. The colonists are unhappy with the English government because the colonists pay many taxes to the English government, but they aren't allowed to participate in Parliament. Parliament is the part of the English government that discusses and approves new laws and taxes. The colonists think it's unfair that they have to pay taxes but are not allowed to participate in discussions about them.

Now that you know some history, let's continue with our story….

We're here in King George's palace. There's the king, sitting at his desk. That's Lord Frederick North, the prime minister of England, standing in front of the king's desk. Lord North is addressing the king. Let's listen to what he's saying….

**LORD NORTH:** As you know, the East India Company is losing money at an alarming rate. If we don't do something soon, our company will go bankrupt.

**KING GEORGE:** How do you propose we solve this problem, Lord North?

**LORD NORTH:** Well, the East India Company has more tea than it can sell. Since the company is not currently selling tea in America, I propose that we ship the extra tea to the colonies. The East India

Company can sell the tea to the colonists and make a lot of money.

**KING GEORGE:** Good idea, Lord North! Let's proceed with your plan.

In addition, let's persuade Parliament to pass an act that allows the East India Company to sell tea in the colonies without paying taxes. If the East India Company does not pay taxes like the American tea merchants, then the East India Company can sell tea at a much lower price than the American tea merchants. The American tea merchants will go bankrupt, and colonists will have no other choice but to buy tea from the East India Company. The East India Company will make a lot of money and will no longer be in financial trouble!

**LORD NORTH:** Are you sure your plan is sensible, sir? Your plan may make many American tea merchants go bankrupt. Many of the colonists are already unhappy about the current laws and taxes. This could cause the colonists to get even angrier and rebel.

**KING GEORGE:** Of course my plan makes sense! The colonies were created to serve England, and the colonists must show obedience to English laws. This Tea Act is exactly what the East India Company needs to get out of financial trouble. Prepare the ships!

**SCENE 2**

**NARRATOR:** It took several months for Lord North to prepare the ships that would carry the English tea to America. During that time, news about King George's Tea Act traveled across the ocean to America.

Let's travel across the ocean to Boston, Massachusetts.

It's summer now. There's Samuel Adams, a well-known patriot. He heard about King George's plan, and as you can see, he is very unhappy. He's pacing back and forth and waving his arms around. His friends, Doctor Joseph Warren and the doctor's wife Elizabeth,

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D11 in step 4.

are on the porch with him. The three of them are having a conversation. Let's listen….

**SAMUEL:** Unbelievable! King George and Parliament want to force us to buy English tea!

**ELIZABETH:** It's terrible! The American merchants won't be able to compete with the East India Company's low prices. American merchants will go bankrupt!

**SAMUEL:** Who do the king and prime minister think they are? They expect us to follow their laws, but they don't let any colonists participate in Parliament. I should be allowed to participate in Parliament!

**JOSEPH:** Boston would certainly be quieter if you were across the sea in Parliament, my friend.

**ELIZABETH:** Maybe we should just stop buying tea for a while. The East India Company can't sell their tea if no one will buy it.

**SAMUEL:** Be sensible! Boycotting the tea is not enough. We need to take a stronger position. This isn't just about tea.

Have you heard of the Sons of Liberty? We're a group of patriots who think the American colonies should be free from England. I'm one of the leaders here in Boston. I think it's time to take some drastic action!

**JOSEPH:** What do you have up your sleeve, Samuel?

**SAMUEL:** When the tea arrives at our harbor, the Sons of Liberty will prevent the East India Company from unloading their ships. That tea will never arrive on our shores!

**SCENE 3**

**NARRATOR:** Now it's December. Three English ships just arrived at Boston Harbor. The ships are carrying the tea from England. Workers will unload the tea after they finish preparing the warehouse for such a large amount of tea.

News of the ships' arrival spread quickly through Boston. The Sons of Liberty put up posters around the city protesting the arrival of the tea. Samuel Adams and the Sons of Liberty have a lot of support from the townspeople.

Thomas Hutchinson is the governor of Massachusetts. His job is to enforce the laws of England. The governor is loyal to the king, and many townspeople in Boston don't like him.

There's the governor now. He's in his office with the English commander. I wonder what they're talking about….

**GOVERNOR:** Will nothing satisfy this nuisance Samuel Adams and his Sons of Liberty? The king is being generous! The price of tea will be lower than ever before, so why is Adams so upset about the Tea Act?

**COMMANDER:** Adams is more than a nuisance, sir. He has a lot of support. The townspeople are upset about the tea, too. I hear them saying that they don't want to follow any of Parliament's laws. They will not show obedience to laws that they did not approve. Even the captains of the English ships are upset. They've heard the townspeople talking about forcing the ships back to sea. The captains are concerned about the safety of their ships. They have asked if they may return the tea to England to avoid this conflict.

**GOVERNOR:** The ships may not return to England until all of the tea is unloaded into the warehouse! We will proceed with the plan! We

*Continued*

must show our king that we are loyal to him.

We will make his plan a success!

**COMMANDER:** Okay, Governor, I will tell the captains not to worry. They will unload the tea.

**SCENE 4**
**NARRATOR:** It's December 16, 1773, the day before the tea is to be unloaded in Boston. Samuel Adams is addressing a large crowd. Listen to the townspeople cheering. Let's hear what Samuel Adams has to say….

**SAMUEL:** Even with our protests, our governor insists that the East India Company's tea will be unloaded tomorrow, but the Sons of Liberty have something different to propose. If the governor wants English tea, he'll get it!

Either he returns that tea to England, or we'll make some special tea just for him. The harbor will become one giant pot of tea!

**TOWNSPERSON:** Yeah! Let's give the governor a giant pot of English tea since he loves it so much!

**SCENE 5**
**NARRATOR:** It's dark, cold, and quiet at Boston Harbor. A small group of patriots have secretly climbed onto one of the English ships. The patriots are using small axes to chop open the trunks filled with tea. They're emptying the trunks into the harbor! Tea overboard! They're talking quietly, but if you listen closely, you can hear what they're saying….

**PATRIOT #1:** Quickly now, men, throw the tea overboard! We've got many trunks to empty!

**PATRIOT #2:** Shhhh! Someone is coming! It looks like the captain. He sees us!

**CAPTAIN:** Hey! What do you think you're doing?

**PATRIOT #1:** We're not here to harm your ship, Captain. Our problem is with King George and his tea. Leave us alone, and we won't harm you or your ship.

**NARRATOR:** So the captain watched helplessly as the patriots dumped the ship's entire load of tea overboard. After they opened and emptied the last trunk, the patriots left as quickly and quietly as they had arrived.

There they go, straight to the next ship. Before this night ends, all of the English tea will be in the Boston harbor.

Soon this Boston Tea Party will become an important event in American history. It will be one of several events that lead up to the American Revolutionary War, which the colonists will fight to win their freedom from English rule. After the war, the American colonists will no longer have to show obedience to English laws.

## A Brave Soldier

### A Soldier Named Robert Shurtliff

In 1783, many people knew the name of a soldier called Robert Shurtliff. Shurtliff fought in the American Revolution. He was known as a patriotic and heroic soldier. Men who served with him during the war remembered his strength and courage. These men would have been amazed to learn that Shurtliff was actually a woman named Deborah Samson.

### Who Was Deborah Samson?

Deborah Samson was born in Plympton, Massachusetts, in 1760. She was about five years old when her father abandoned the family. Her mother was unable to take care of the family on her own. She had to send some of her children to live with other families. For a time, Deborah lived and worked in the home of an elderly woman.

When she was ten, Deborah became an indentured servant to a farmer. An indentured servant does not receive payment for his or her work. Instead, the indentured servant learns a trade and is given a place to live.

Deborah worked for the farmer and his family for eight years. She took care of the farmer's eight sons. The family grew fond of her.

Deborah learned how to do the tasks that every young woman in the 1700s learned, such as cooking, weaving, and sewing. But Deborah learned something that other young women did not learn. She learned how to do the tasks that the men did on the farm.

Deborah spent long hours doing difficult farm work. She learned how to ride a horse and shoot a gun.

The hours Deborah spent doing farm work broadened her shoulders and hardened her muscles. Deborah grew to be almost five feet eight inches tall. This was almost a foot taller than the average woman in the 1700s. Deborah was also taller than the average man of that time.

During this time in America's history, farm girls did not usually go to school. But Deborah wanted an education. Every evening, she asked the boys of the family what they had learned in school during the day. The boys tutored her. She learned how to read, write, and do math.

**A Soldier at Last**

Deborah finished her contract as an indentured servant when she was eighteen years old. She left the farm and became a teacher. Deborah also earned extra money by spinning and weaving at a local tavern. The tavern was a place where men gathered to talk about the battles of the American Revolution. The conversations Deborah overheard in the tavern inspired her. She wanted to fight in the war too.

But because she was a woman, Deborah could not join the army and fight in the battles. Deborah decided she would pretend to be a man so she could join the army. She wore a heavy coat, pants, and a hat to disguise herself. She practiced talking and walking like a man. Her height also helped her hide her true identity.

In May of 1782, Deborah joined the army using the name Robert Shurtliff. No one knew she was a woman because she was disguised as a man. At the time when Deborah joined the army, the last of the major battles of the American Revolution was already over. But the British still held New York City. There was still a lot of fighting going on.

Most of the fighting at this time in the war involved hand-to-hand combat. Shurtliff fought hard in these battles and showed strength and courage again and again.

In the summer of 1782, Shurtliff was injured in a battle. An enemy soldier slashed her across the forehead with his sword, and a musket ball pierced her thigh.

*Continued*

Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D12 in step 4.

Shurtliff was taken to a hospital on the battlefield. A doctor treated Shurtliff's head wound. Shurtliff feared the doctor would discover that she was really a woman disguised as a man. She did not want him to treat her leg, so she limped out of the hospital before the doctor could help her.

Later, using her own knife, Shurtliff cut out the musket ball from her thigh. After a few weeks of rest, Shurtliff returned to the fighting. Her leg never really healed properly. The injury she received in the summer of 1782 bothered Shurtliff for the rest of her life.

The following summer, Shurtliff and the other soldiers in her unit went to fight in Philadelphia. At that time, a serious fever was spreading throughout the city. Many people became infected with this fever, including Shurtliff. She became so ill that she had to go to a hospital. The doctor who treated her discovered that Shurtliff was actually a woman.

The doctor kept Deborah's secret from the doctors and patients at the hospital. He took her to his family home to get well. However, the doctor did tell Deborah's secret to a general in the American army.

Deborah was dismissed from the army because the army only allowed men to be soldiers. But the army did acknowledge Deborah's bravery. The army awarded an honorable discharge to Robert Shurtliff on October 23, 1783, for "his" patriotic services.

**A True Heroine**

In 1785, Deborah Samson married a farmer named Benjamin Gannett. Deborah and Benjamin had three children. Although the family worked hard, they were poor and often had to borrow money. Paul Revere, who was a respected hero of the American Revolution, was a friend of Deborah's. He knew how much she had done for America during the war, and he tried to help her with her money

problems. He thought Deborah deserved a monthly pension as payment for her contribution to the American Revolution, just as the rest of the soldiers in the army received. He asked the government of Massachusetts to award Deborah the pension. The government agreed and awarded Deborah a pension of four dollars a month. The governor of Massachusetts acknowledged her contribution to the war by saying she had shown extraordinary bravery.

The pay helped Deborah and her husband, but it was not enough to solve their money problems. To earn extra money, Deborah returned to teaching. She also began touring cities to give lectures about her war experience.

**An Official Heroine**

Deborah Samson died on April 29, 1827, at the age of 67. On May 23, 1983, the state of Massachusetts paid tribute to Deborah Samson. She became the official heroine of the state. No other state has an official hero or heroine. Deborah had shown extraordinary courage and bravery during the American Revolution. For this reason, people will remember her forever.

## Mount Everest

One mountain towers above everything on Earth. This mountain is beautiful, but extremely dangerous. People travel from all over Earth to experience the mountain's majesty. But its knife-edged peaks punish the people who climb it. To people in Nepal, this mountain is Sagarmatha, or "Forehead of the Sky." To people in Tibet, it is Chomolangma (choh moh LOONG muh), or "Mother of the Universe." But most people know this mountain as Mount Everest, the world's tallest mountain.

Mount Everest is fierce. A giant crash forced Everest from the depths of the ocean to the highest reaches of the sky. Its rugged, harsh environment is a threat to humans that climb there. Its mighty size and many dangers make Mount Everest a majestic place.

**The Formation of Mount Everest**
Mount Everest was not always the tallest mountain on Earth. One violent event formed Mount Everest. But it took a long time for Mount Everest to reach its height.

Today the seven continents that make up Earth look like pieces of a giant puzzle. But about 240 million years ago, those puzzle pieces fit together. Earth was made up of one large landmass and ocean. Over time, the plates that lie under the landmass started moving. The landmass broke in half.

Then, India broke away from its landmass and moved north. About 40 to 55 million years ago, India crashed into Asia. Asia could not withstand the force. The ocean floor under Asia rose to the surface in ripples. These ripples formed the mountain range called the Himalayas.

**Where Is the Top of the World?**
The Himalayas stretch between northern India and China. Nepal and Tibet are nestled in these mountains. The Himalayas is so tall that it has been nicknamed the "Roof of the World." Eight of the ten tallest

mountains in the world are here. Mount Everest is the tallest. Mount Everest sits grandly in the northeast corner of Nepal.

Rising proudly into the clouds, Mount Everest has three faces, or sides. Thick, moving sheets of ice called glaciers shaped these faces. Each face of Everest narrows at the top to form a peak. Mount Everest towers 29,035 feet above sea level. That's almost five and a half miles.

**If You Dare—Dangers of Everest**

Before the 1900s, few Europeans visited Nepal or Tibet. But after Europeans saw the majestic Himalayas, they were inspired. They wanted to stand at the top of the world's tallest peak.

Climbing the world's tallest peak is not easy. Climbing conditions on Mount Everest are brutal and change rapidly. The temperature is always below freezing. Storms whip the slippery mountain's peak. Climbers can get frostbite, or even freeze to death. Climbers must be prepared for these harsh conditions. But being prepared may not be enough. Many of nature's unexpected obstacles are threats to climbers' safety.

Glaciers are one of nature's obstacles. To get to the top of Mount Everest, climbers must cross huge fields of ice. Glaciers have deep cracks called crevasses (krih VAHS uhz). Crevasses can be covered with snow. These hidden traps can be fatal for climbers.

Climbers can also be buried alive in an avalanche. An avalanche is a giant wall of snow that breaks away from a mountain and slides down in a roaring, white wave. Avalanches occur suddenly. An avalanche can bury everything in its path, including people. Climbers rescued quickly have a chance of surviving. But climbers buried more than six feet under the snow have almost no chance of surviving. Most climbers who die on Mount Everest are killed in avalanches.

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D13 in step 4.

Climbers who survive the obstacles of glaciers and avalanches face an invisible threat, the air.

The air is very thin in the high mountains, so it is hard for people to get enough oxygen. When people are deprived of oxygen, the simplest tasks take great effort. Even walking and thinking clearly are challenging. It is imperative that climbers be alert as they climb, so they often bring oxygen with them.

**Famous First Climbs to the Top**

The first known people who tried to climb Mount Everest were British. George Mallory was one early climber. He died in 1924 on his third trip on Mount Everest. He and his climbing partner Andrew Irvine were on their way to the summit. Another climber saw them near the top of the mountain. But Mallory and Irvine could not withstand the conditions on the mountain.

The mountain conditions proved fatal, and the men never returned. Mallory and Irvine did not survive their climb, but many other climbers persisted. Almost thirty years passed before anyone reached the top. Warmer clothing and better climbing gear were invented. These things helped to lessen risks, giving climbers better chances of surviving obstacles.

On May 29, 1953, New Zealand climber Edmund Hillary and Sherpa guide Tenzing Norgay were able to do the unimaginable. They made it to the summit of the world's tallest mountain. From the top of Mount Everest, Hillary took pictures of Norgay, the mountain peaks, and the clouds below them.

The accomplishment of Hillary and Norgay inspired other people to defeat Everest's obstacles. Junko Tabei and Erik Weihenmayer are two mountaineers that made heroic climbs of Everest.

Junko Tabei grew up in Japan. She loved to climb. Tabei spent her free time climbing different mountains to train for the most challenging mountain of all, Everest.

Tabei and fourteen other women planned to be the first all-female climbing team to reach Everest's summit. In 1975, the team flew to Nepal to set forth on their dangerous adventure.

The climb went well at first, but then an avalanche struck their camp! Without warning, a wall of snow thundered down the mountainside. Tabei was buried under the snow with several others. Tabei's ankle was sticking out of the snow. A guide quickly dug her out. Tabei and her team lived to continue their climb. After twelve more days, Junko Tabei became the first woman to reach the top of Mount Everest.

Erik Weihenmayer achieved another first on Everest's peak. He was the first blind person to reach the top of Everest. Weihenmayer lost his sight when he was thirteen, but he refused to let blindness deprive him of adventure.

After much training, Weihenmayer climbed Mount Everest. To do so, he used two walking poles. He leaned on one pole and tapped the rock and ice with the other pole. This told him what the land was like.

His teammates wore bells on their jackets. Weihenmayer listened to the sounds of the bells. He carefully followed his teammates up the mountain. Weihenmayer had to cross a dangerous ridge. The ridge was about as wide as a tabletop, but the drop-off was 12,000 feet. Weihenmayer persisted. On May 25, 2001, Weihenmayer reached the summit of Mount Everest, a great accomplishment.

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Since 1922, at least 186 people have died climbing Mount Everest. About 120 frozen bodies remain near the summit. They are a terrible reminder of the dangers of Everest.

Still, more than 2,250 climbers from all over the world have reached the top of Everest. People who share this accomplishment would probably agree that Mount Everest is a place of great power and beauty. It inspires wonder, fear, and respect in all who stand in its shadow.

## The Giant Rock: A Sierra Miwok Tale

The Native American Miwok people lived in the area that is now known as California. The Miwok people told stories and sang songs to express the values of their tribe. This story is a legend that shows some of these Miwok values.

Long ago, two Miwok brothers left their village one morning and went down to the river to swim. The brothers paddled and splashed in the river in the hot summer sun.

The brothers grew tired of swimming and, being both curious and adventurous, they ventured onto the shore to explore. The brothers soon came upon a large slab of rock in a nearby clearing, and they quickly scrambled to the top of it.

The sun warmed their backs as they sat upon the huge rock and, before long, the brothers became sleepy. They lay down on the rock to rest, and soon they were asleep.

The rock started to grow, but the brothers remained asleep. The rock grew taller and taller until the faces of the two Miwok brothers touched the sky. But the brothers did not wake up. Even as the clouds tickled their noses, the boys remained fast asleep.

The sun set, and twilight colored the sky.

When the brothers did not return to their village, their father became more and more worried. He asked a group of villagers to help him look for his sons. The villagers ventured into the forest. After searching for many hours, the group of villagers finally came upon the giant rock. The top of the rock was hidden by the clouds. The sight of such a gigantic, mysterious rock made the villagers fearful. They looked at the rock in awe.

"What is this strange rock and where did it come from?" asked one villager.

The father pointed to small footprints in the sand at the base of the rock. "I believe these are the footprints of my sons," he said.

"Perhaps my sons are on top of this giant rock.

We must get everyone from the village to come to the rock. We will ask the best climbers to climb to the top to rescue my sons."

The father sent a member of the group back to the village to request the help of the other villagers. With great haste, the rest of the villagers followed the messenger back to the giant rock in the clearing.

"Our sons must be at the top of that rock," the father said to the boys' mother when she arrived with the messenger and the rest of the
villagers. "The clouds are hiding them from our view."

"Our sons must be cold and hungry," she said. "Our best climbers must rescue them as soon as possible."

The best climbers stepped forward. With the cheers of the villagers urging them on, the climbers began to scramble up the rock. The climbers struggled and strained, but none of them could get a grip on the huge slab of rock. The sides of the rock were too smooth, and there was no way they could climb to the top of the rock to rescue the brothers.

After watching many climbers try and fail, the villagers realized that no one could climb the great rock. The mother and father gave up hope of ever seeing their sons again. With great sadness, they returned to their village, along with the rest of the villagers.

Now it happened that Raccoon was hiding in the bushes near the rock. She saw the rock that had grown up to the sky, and she heard

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**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D21 in step 4.

the villagers talking about the missing boys. She watched as the climbers were defeated again and again by the giant rock.

"I must tell all the animals," she said. "We will have a council gathering to decide what we can do to save the brothers."

At the council gathering, the animals talked about what they could do to help. They discussed the problem long into the night.

Finally, they decided to have a contest to see who could get to the top of the huge rock.

Mouse was the first to try to climb the large rock. "I will use my sharp claws to climb to the top," he said.

Mouse struggled as he tried to climb the gigantic rock. He slowly climbed to the height of a child. But the surface of the rock was too slippery, and he lost his grip on the rock and slid back down.

Raccoon was the second to try. She tried with all her might to scratch and claw her way up the rock. She climbed and climbed until she reached the height of a tall man. But before Raccoon could go any farther, she ran out of energy, and she fell to the ground, too.

The animals wondered what to do next. Then Mountain Lion spoke. "I am the greatest jumper in the forest," she boasted. "I will leap to the top of this rock."

The animals thought this was the perfect plan. They urged Mountain Lion to give her plan a try. They stood aside as Mountain Lion backed up to get a running start. Mountain Lion ran as fast as she could. She took a great leap. It was the biggest leap she had ever taken, but she only reached the height of a tall tree. She clawed the side of the rock as she slid down to the ground.

The animals shook their heads in disappointment. “There is nothing we can do,” said Raccoon sadly. “The rock is too tall even for the greatest jumper of all.”

Just then Measuring Worm appeared. He had been away and had missed the council meeting. The animals explained the problem to him.

Measuring Worm looked up to where the top of the rock disappeared into the clouds. Then he looked at the animals. “Do not fear,” he said. “I will climb to the top and rescue the boys.”

The animals were doubtful that such an insignificant creature could rescue the brothers. They looked at Measuring Worm and laughed.

“If the greatest animal of the forest could not make it to the top, how do you expect to?” asked Mountain Lion with disdain.

“That sounds like sour grapes to me,” replied Measuring Worm. “Just because you have failed does not mean that I will fail, too. Do not be fooled by my small size. You may be surprised by what I can do.”

Measuring Worm began to climb slowly up the side of the giant rock, inch by inch. He reached as high as Mouse had climbed, and he kept on climbing. He reached as high as Raccoon had climbed, and he kept on climbing. He reached as high as Mountain Lion had leaped, and he still kept climbing until he was finally out of sight.

Measuring Worm crawled up and up the giant rock. As he climbed, he sang his name to give himself the strength to continue the long journey.

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After many days had passed, the animals on the ground gave up hope of ever seeing Measuring Worm again and returned to their homes. Soon the fate of Measuring Worm became water under the bridge.

Measuring Worm continued to climb until he reached the top of the giant rock where he found the brothers, still sleeping peacefully. "Wake up," said Measuring Worm. "It is time for you to return to your village where your mother and father are waiting."

The brothers sat up and looked around themselves in awe of the astonishing view. "My goodness," exclaimed the older brother. "Look how high we are."

"I do not like being up this high," said the younger brother timidly. "Please take us back to our village."

So Measuring Worm and the two brothers began the long trek back down the giant rock. Measuring Worm showed the brothers how to crawl along behind him. Once again, he sang his name to give himself strength. Inch by inch, the brothers followed Measuring Worm. They followed him for many days. Finally, they were able to see the ground.

At that moment, it happened that Mountain Lion was prowling by the base of the giant rock. She heard the song of Measuring Worm and glanced up. She was amazed to see Measuring Worm leading the two brothers down the side of the rock. She called the other animals to come and witness this strange sight.

Now, news spreads quickly, especially news as astonishing as this. The villagers heard through the grapevine that Measuring Worm was climbing down the rock with the two brothers. All the villagers came running, looking toward the sky in awe.

They could hear Measuring Worm singing his name as he led the brothers down the rock.

At last Measuring Worm and the two brothers touched the earth.

The mother and father welcomed their sons back home with great joy. The father looked at Measuring Worm and said, "You may be little, but you are the greatest climber of all. You saved our sons. For that we will be forever grateful."

To show their appreciation, the villagers named the great rock Tu-tok-a-nu'-la (Too-tahk-ah-NOO-lah), which means "Measuring Worm Stone."

Today, people from all over the world come to see this giant rock. They call the rock El Capitan (El Cah-pee-THAN), and it is found in Yosemite National Park, in California.

## Sherpas: Living and Leading in the Mountains

High in the Himalaya Mountains is a place called Khumbu Valley. Khumbu Valley is at the base of Mount Everest. Everest is the tallest mountain in the world. The altitude at the base of Mount Everest is higher than the altitude at the peaks of most other mountains! The altitude in Khumbu Valley is 12,000 to 15,000 feet.

Khumbu Valley is very beautiful. Towering mountains with jagged peaks surround it. Glaciers creep to the edges of the valley. Forests, meadows, and fields of snow cover the valley.

Khumbu Valley also can be very harsh. It is often exceptionally cold and windy. The ground is rocky and steep. There is not much soil on the ground, so most crops cannot grow. And, at such a high altitude, there is little oxygen in the air. Many animals cannot survive.

**Sherpas: Living in the Mountains**

Yet people have lived in Khumbu Valley for hundreds of years. These people are the Sherpas. The word Sherpa means "person of the east."

Khumbu Valley is in Nepal, which is west of Tibet. About 500 years ago, the Sherpas left Tibet. They traveled across the Himalaya Mountains to Khumbu Valley, where they settled.

No one knows why the Sherpas left Tibet. Perhaps they were escaping war or famine. It was a long and difficult journey to Khumbu Valley, but, when they settled there, the Sherpas adapted well to their new home. The skills they learned when they arrived still help them today.

Sherpas have a great respect for Earth and its creatures. In Khumbu Valley, many Sherpas fill their days with farming and raising animals. Sherpa farmers plant potatoes because potatoes can grow at high altitudes, up to 14,000 feet.

Sherpas depend on potatoes as a primary source of food.

They also herd yak. Yaks are shaggy oxen. They are one of the few animals that can survive the high altitudes of this valley. The Sherpas use yaks as work animals. They raise yaks for clothing, milk, and meat. Yaks are an important part of the Sherpas' life.

Because of the rough terrain, Sherpas walk everywhere. There are no bicycles or cars in Khumbu Valley. There are no paved roads. Most Sherpas live a quiet and peaceful life in Khumbu Valley.

**Scaling Mountain Peaks**

For hundreds of years, the Sherpas' quiet lifestyle kept them nestled in the Himalaya Mountains. They were sheltered from the rapidly changing world.

Then, in the 1920s, people started to visit Khumbu Valley from places west of Nepal. These "westerners" were mostly from European countries and the United States. The visitors wanted to climb the Himalaya Mountains. Many of them dreamed of being the first people to climb to the peak of Mount Everest, the highest place in the world. They turned to the native Sherpas for help.

The ambitious westerners hired the Sherpas to scale the mountain peaks with them. At first, the Sherpas just carried the visitors' supplies and prepared their camps, but, because the Sherpas were used to the high altitude, they had more endurance than the westerners.

When the visitors noticed what exceptionally good climbers the Sherpas were, they hired the Sherpas to lead their mountain-climbing trips. Today many Sherpas have very successful mountain-climbing businesses in Nepal. They guide mountaineers through the harsh Himalayan terrains.

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D22 in step 4.

**Sherpas: Living Strong**

But why are Sherpas so good at climbing jagged mountains? Sherpas breathe faster than people who live at lower altitudes. Breathing faster allows Sherpas to take in more air. This gives them more energy.

Also Sherpas' blood carries more oxygen than the blood of people who live in lower places. This means Sherpas need less oxygen from the air, which is good because the air at high altitudes has little oxygen in it.

Another thing that makes Sherpas exceptionally good mountaineers is that many Sherpas seem to have a positive outlook on life. People who have a positive outlook believe they can overcome challenges. Nothing is more challenging than climbing the world's tallest mountains. And no one is better at climbing them than the Sherpas.

Perhaps the Sherpas' positive outlook is rooted in their religion. Most Sherpas practice Tibetan Buddhism. Tibetan Buddhism is a religion that stresses the importance of calmness. Sherpas often are taught to face challenges with focus and patience.

Sherpas often are strong both mentally and physically. They draw on their strength as they face threatening mountain obstacles.

**Sherpas: Making History**

People around the world learned about the Sherpas' strength when one Sherpa made history in 1953. By 1953, mountaineers had been climbing Mount Everest for many years. No one had made it to the top. People started to think it might be impossible to get to the world's highest place. The jagged rocks, steep peaks, and avalanches stopped even the most experienced climbers.

Then, on May 29, 1953, Sir Edmund Hillary and Sherpa Tenzing Norgay became the first people to reach the peak of Mount Everest. Climbing to the peak was a great accomplishment. The feat was celebrated around the world. Hillary credited Norgay for their success. Tenzing Norgay was the first Sherpa to become famous.

After Tenzing Norgay's great feat, people took more notice of him and the Sherpas. In addition to being an exceptionally good mountaineer, Norgay spoke seven languages and published several books. But Tenzing Norgay published his books without ever learning to write. Instead, he dictated his books. He spoke the words he wanted to put in the books; someone else wrote down the words.

Through his books, Tenzing Norgay expressed the Sherpa spirit. He described what it meant to be a Sherpa. He explained how his values helped him in his climbs. He said, "You cannot be a good mountaineer, however great your ability, unless you are cheerful and have the spirit of friendship. Friends are as important as achievement. Another lesson is that teamwork is the one key to success and that selfishness only makes a man small. Still another lesson is that no man, on a mountain or elsewhere, gets more out of anything than he puts into it."

Norgay's writings expressed the important values of friendship, community, and effort. Tenzing Norgay died in 1986. However, the Sherpa spirit by which he lived is still present in Khumbu Valley.

Life in Khumbu Valley has not changed much since the first Sherpas settled there 500 years ago. Sherpas still live calmly and peacefully. But, through their mountain-climbing businesses, they have helped turn the dream of climbing the world's tallest mountains into a reality for many mountaineers. And they have shared their strength and wisdom with people from all over the world.

## Kenya James: A Teenage Inspiration

Kenya James may seem like an ordinary teenager. She has chores, such as taking out the garbage and making her bed. She keeps busy with school and friends. She dreams of becoming a clothing designer, a moviemaker, or a doctor.

But when Kenya finishes her homework, she does something most teenagers don't do. She manages a successful magazine business. Kenya started her business when she was only twelve years old!

**A Need for Something New**

Kenya was born in 1989 and grew up in Atlanta, Georgia. She always enjoyed reading magazines. But, she noticed two problems with them.

One problem was that many of the magazines were written for grown-up readers. As a twelve-year-old, she couldn't relate to most magazine articles. The other problem was that the magazines didn't show or talk about African American girls like her.

Kenya wanted to find a solution to these problems. So, she decided to investigate if there were any magazines devoted to African American teenagers.

Kenya found out that there weren't any. That didn't seem right to her. Young African American girls needed a magazine they could relate to, learn from, and enjoy.

It was then that Kenya decided to create that magazine. She believed that her magazine could help African American girls across the country know that there are other girls with similar lives, interests, and problems. Kenya knew that creating and managing the new magazine would take a lot of work. But, she was ready for the challenge!

**Background in Business**
The magazine wouldn't be Kenya's first new business. When Kenya was younger, she opened her own baking business. She sold cakes and cookies at school. Her baking business was a success. Kenya made $1,200!

Kenya had saved her earnings. She used that money to start her second business, the magazine.

Kenya was very excited about her magazine. She had so many ideas! But she didn't want to act without thinking things through. She knew she needed a plan.

**Making a Plan**
Kenya sat down and wrote a plan for the magazine. Writing a plan allowed her to think about what her goals were for the magazine and what to include in each issue.

She decided that her goal was to create a magazine that would give African American girls a place to express themselves. She wanted to publish positive messages, not gossip. She also decided her magazine would include articles about celebrities, beauty, and health, as well as other subjects, such as history, racism, and war. She wanted to create a community for African American girls. She called her magazine *Blackgirl.*

**Getting Inspiration**
After Kenya finished writing her plan, she investigated the magazine business to learn how to run one. She found out about a woman named Mary Ann Shadd Carey.

Carey was the first African American woman publisher and editor in the United States. Carey started to publish her magazines in 1853.

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Teacher Note
To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D23 in step 4.

She published articles about important subjects like slavery and racism. Learning about Carey gave Kenya inspiration.

**Developing Skills**
Kenya planned to do a lot of the writing for *Blackgirl,* so she wanted to improve her writing skills. Kenya practiced writing. She paid more attention in English class. And, when she heard about a camp that was all about writing, she signed up!

**Publishing *Blackgirl* Magazine**
Kenya worked hard to prepare the first issue of *Blackgirl.* She published it in 2002. She sold over 3,000 copies of the magazine. Kenya was only fourteen years old!

To help magazine sales for future issues, Kenya began to advertise the magazine on the Internet.

After that, the magazine sold even better: Kenya's earnings that first year were $12,000! She used her earnings to pay for future issues of *Blackgirl,* which she prints once every two months.

**Inside *Blackgirl* Magazine**
Kenya knows that many girls like to read about celebrities. So from the very beginning, she has included articles about famous African American singers, rap stars, and athletes. But she always avoids publishing gossip about them. Instead, she focuses on their life stories.

Early issues of *Blackgirl* included articles about singers Lauryn Hill, Monica, and Jill Scott. Kenya also has published her interviews with rap performers Outkast, Bow Wow, and Mario, and tennis stars Serena and Venus Williams.

Kenya also does interviews with people who aren't celebrities but are very interesting. For example, she published an interview that she

did with Ilyasah Shabazz, the daughter of Malcolm X. And she published her interview with A'Leila Bundles, the great-granddaughter of Madam C.J. Walker who was the first African American woman to become a millionaire.

In addition, sometimes Kenya publishes articles written by her readers. Kenya encourages her readers to write articles about their life experiences. She publishes those articles that she thinks other readers might relate to.

But, Kenya doesn't only publish articles written by teenagers. She also publishes articles by African American adults. These articles tell what it was like to live through important events in African American history, like slavery.

**Managing the Business**

Blackgirl has been a great success! Today, more than 4,000 girls subscribe to the magazine. *Blackgirl* is available at many bookstores and by mail.

Managing a business like *Blackgirl* takes a lot of hard work. Kenya keeps very busy. She writes many of the articles in Blackgirl. She reviews other people's ideas, writing, and pictures. She manages money and schedules, as well as professional designers who design and print the magazine. Kenya finds companies to advertise in the magazine, which is one way she uses to pay the costs for publishing it. But, one of Kenya's most difficult jobs is getting interviews with celebrities.

When she is able to get interviews, the celebrities are often surprised that Kenya is so young. She always acts very grown-up during the interviews. But sometimes after an interview, her excitement takes over, and she jumps up and down. She may be a great businesswoman, but Kenya is still a teenager at heart!

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**Making a Positive Difference**

People are amazed at what Kenya has accomplished. They think she is an inspiration.

In 2003, she won an award for being the best teenage businessperson of the year! She is often asked to talk to schools and business groups about her magazine. She has even been on television talk shows, including the *Oprah Winfrey Show*!

When people ask Kenya what makes her the most proud, she doesn't talk about winning awards or being on television. She talks about being happy that thousands of girls are devoted to her magazine and read it regularly. She is proud of the letters that she gets from her readers.

Kenya loves to hear her readers say how much they relate to *Blackgirl.* She loves when they give her ideas for new articles. Her readers' letters help her know that she has reached her goal: she has given African American girls a place to express themselves. She has created a new community.

"You are never too young to make a positive difference," Kenya once said. *Blackgirl* is her proof!

## The Little Rock Nine

**Cast:**
Tiffany, the Radio Show Host
Mr. Edwards, Radio Show Guest
Ms. Santana, Radio Show Guest

**Tiffany:**
Hello, listeners, and thank you for tuning in to our show. Today we will hear from two news reporters, Mr. Edwards and Ms. Santana, who covered the story of the Little Rock Nine in 1957. For those who don't know, the Little Rock Nine were some of the first black students to attend a mostly white high school in the United States. Let's welcome Mr. Edwards and Ms. Santana to our show.

**Mr. Edwards:**
Thank you, Tiffany.

**Ms. Santana:**
Thank you for having us.

**Tiffany:**
Ms. Santana, may we begin with you? Please tell our listeners what was happening in American schools back in the 1950s.

**Ms. Santana:**
Certainly! In the 1950s, many schools in the United States were segregated, which means they were divided by race.

This segregation caused white schools to have only white teachers and white students. Black students had separate schools with only black teachers. In those days, black and white were the races that people talked about most. The number of people from other races in the United States was very small compared to today.

Back then, just like today, all students were supposed to receive the

same high-quality education, regardless of race. People called this idea "separate but equal." The truth was that black students and white students did not receive an equal education. White teachers earned more money. They received better training. They also had better materials to work with and more support than black teachers.

Also, the black schools were in buildings that weren't nearly as nice as the white schools.

But the differences went beyond just the teachers and the buildings. Let me tell you the story of a young African American girl named Linda Brown.

In 1950, Linda was a third-grader at a black school in Topeka, Kansas. She had to walk one mile each way to get to her school. That's a long way to walk for such a young student, especially in the winter. There was another grade school just a few blocks from Linda's house, but it was a white school.

Nonetheless, Linda's father requested that Linda attend the school closest to their house. School officials denied his request because African American students were only allowed to go to black schools.

Mr. Brown thought this was unfair. He went to court because he wanted the rules to be changed. He fought in court with the board of education of Topeka, Kansas. A board of education is a group of people who make rules for the school district.

Mr. Brown's case eventually went to the highest court in the United States, the Supreme Court.

On May 17, 1954, the Supreme Court decided that schools could no longer be segregated. The court said it was against the law to separate students because of their race, and that all schools must be

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**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D31 in step 4.

integrated. This meant that students of all races would learn together from teachers of all races.

**Tiffany:**
That was a big change.

**Mr. Edwards:**
Yes, Tiffany, it was a huge change. Back then, it wasn't only schools that were segregated. Many public places were also segregated. Black and white people were not allowed to sit together in restaurants or on buses.

The Supreme Court decision didn't solve the problem of segregation, but it was a step in the right direction.

**Tiffany:**
I can't imagine being denied the right to go to a restaurant just because of the color of my skin. Mr. Edwards, can you please tell us now about what happened in Little Rock?

**Mr. Edwards:**
I'd be happy to. The Supreme Court had made an important decision. Nonetheless, there was a problem. The court had not said exactly when school segregation had to end. Because no date was given, some schools remained segregated in many states, including Arkansas.

The board of education in Little Rock, Arkansas, did not agree with the Supreme Court's decision. So it did nothing to integrate the schools in Little Rock. After three years, an Arkansas court finally required Little Rock to integrate its schools.

The Little Rock Board of Education continued to resist, but finally agreed to cooperate. It did not close the black high school. It did not

send any white students to the black high school. Instead, the board designated nine black students to attend Little Rock's Central High School, which was a white high school. People began to call the nine black students the Little Rock Nine.

The governor of Arkansas still thought integrating the schools was a very bad idea. He did not want to allow the Little Rock Nine to go to Central High School. He condemned the Board's decision and did not want to cooperate with the court's ruling.

Many Arkansas white people agreed with the governor. They felt contempt for black people and were disgusted by having to allow black children into white schools. These segregationists wanted to keep black schools black and white schools white.

The nine students knew they would face a lot of hostility that first day at school. The students decided it would be safer to enter the school together. When they arrived at the school, a mob of angry white people yelled at them. They called the black students hurtful names. To make matters worse, the governor had ordered soldiers to block the Little Rock Nine from entering the school.

Once again, a court stepped in. The court ordered the governor to cooperate. He was to allow the Little Rock Nine to go to the school. On September 23, 1957, the Little Rock Nine finally walked through the doors of Central High School.

Their difficulties were not over yet. A group of disgusted segregationists, full of contempt, hurled bricks through school windows. The mob's hostility put all of the students at Central High School in danger. So the police accompanied the Little Rock Nine out of the school through a back door.

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**Tiffany:**
Wow, I can't imagine what that must have been like. Did the Little Rock Nine ever attend a full school day at Central High School?

**Mr. Edwards:**
Yes, thanks to President Eisenhower, they did. Beginning on September 25, 1957, the president sent soldiers to protect the Little Rock Nine. The soldiers accompanied the students throughout their school day. But having the soldiers there did not stop the white students from insulting and even beating up the black students! The Little Rock Nine felt like they were going to war every day. Still, they continued to attend Central High School.

**Tiffany:**
Did things ever get better for the Little Rock Nine?

**Ms. Santana:**
Well, the Little Rock Nine and their families had a very difficult time that year. One of the girls was pushed down a flight of stairs. Another girl had soup poured on her. People made threats against the black community. Police still needed to accompany the students at school. In the end, only three of the Little Rock Nine stayed at Central High School long enough to graduate. But, I might add, most of the Little Rock Nine went on to college. They all went on to lead very successful lives.

**Tiffany:**
How did these incidents in Little Rock affect the rest of the United States?

**Ms. Santana:**
Americans all over the country were watching the Little Rock incident on television. They were shocked to see soldiers go into a school. They were shocked to see the hostility expressed by the angry white mob toward these nine young people.

As a result, more and more people started speaking out, condemning segregation. They spoke against laws that treated people unfairly based on their race. More and more people were inspired to fight for equal rights for all races. If it hadn't been for the courage of those nine students, who knows how much more time would have passed before American schools became integrated?

**Tiffany:**
Thank you, Ms. Santana and Mr. Edwards, for sharing with us the history of the Little Rock Nine. The courage of those nine students is truly inspiring. Thank you, listeners, for tuning in. Please join me again tomorrow.

## Cesar Chavez: Uniting Farm Workers

When Cesar Chavez was born on March 31, 1927, life was good for the Chavez family. The family owned a farm near Yuma, Arizona. They also owned a successful grocery store. The family was happy and comfortable. They had money to spare.

Then in 1929, the stock market crashed and the Great Depression began. After a few years, the Chavez family store went bankrupt. Cesar's father struggled to keep the farm. But after a very bad business deal, the Chavez family lost everything.

**Sal Si Puedes (Leave If You Can)**
After losing the farm, Cesar's father could not find work in Yuma. He heard that there were jobs available on some California farms. So, reluctantly, in 1939, the family moved to Sal Si Puedes, a barrio in San Jose, California. In Spanish, "Sal Si Puedes" means "Leave if you can." But instead of leaving, thousands of farm workers were coming to California looking for jobs. Farm work became scarce.

The Chavez family joined some 300,000 migrant workers traveling from farm to farm to pick fruits and vegetables during harvest times. They lived in numerous migrant camps.

The camps were grim and overcrowded. They had no bathrooms, electricity, or running water. When the camps were full, the Chavez family had to sleep in their car.

**Cesar's Education**
Cesar began school at age seven. He found it difficult. He spoke only Spanish at home. His teachers spoke only English. Cesar was often punished for speaking Spanish in school.

Also, many teachers did not pay much attention to the children of migrant workers because it was rare for these children to stay in one school for more than a season. Cesar attended more than thirty-

seven schools. In most, he was treated unfairly.

Despite these problems, Cesar graduated from eighth grade in 1942. His father had recently been injured in an accident and couldn't work anymore. So, instead of going to high school, Cesar began working full-time in the fields to support his family.

**Conditions for Farm Workers**

On the farms, the owners forced migrant workers like Cesar to work long hours with little rest. Often, drinking-water was not available in the hot fields. There were few bathrooms for the farm workers to use. And worst of all, some owners sprayed their crops with pesticides that made farm workers sick.

Farm workers received little pay. Many farm owners were indifferent toward the workers because there were plenty of workers to choose from. If a worker had complaints, a farm owner could easily replace that worker with someone else. Like most workers, Cesar was unhappy. But he never complained.

**Starting to Speak Out**

One of the reasons why Cesar did not complain was that he spoke very little English. He had not stayed at one school long enough to learn English well. For Cesar and other farm workers, not speaking English caused problems. They couldn't defend themselves when their English-speaking bosses treated them poorly or cheated them out of fair pay.

Eventually, Cesar got tired of the grim situation. He thought that if he could speak English well, then he could appeal to farm owners about the injustices on the farms. So Cesar studied hard, and his English improved.

When Cesar finally tried to speak to some farm owners, they were

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D32 in step 4.

unwilling to listen. Soon, Cesar came to the realization that one person's complaints were not enough to get the farm owners to change their ways.

**Getting Others to Speak Out**

Cesar spent a short time in the navy. In 1946, he returned to California. He began working on farms again.

Two years later, he married Helen Fabela. Together they began to fight for the rights of farm workers.

Cesar and his wife taught some farm workers to read and write English. They wanted more people to complain to the farm owners about their unfair practices. Unfortunately, the group of people they gathered was not big enough to make a difference.

In 1952, Chavez met Fred Ross. Ross was part of a group called the Community Service Organization (CSO). The CSO encouraged American people to vote. The CSO hired Cesar to travel through California and convince Mexican Americans to vote. Cesar explained that citizens could change what they did not like about America through voting.

Cesar quit the CSO in 1962. He did not think the CSO was doing enough to defend farm workers in California. But, he had learned something very important from the CSO. The demands of a large, strong, and united group can make change happen.

**Uniting Farm Workers**

Cesar was convinced that things would improve for farm workers if they created a union. A union is a large group of workers who join together to fight for fair treatment from their employers. He traveled around California to organize farm workers into a union.

Cesar adopted the words "Si, Su Puede" as his message. "Si, Su Puede" means "Yes, you can!" He meant, "Yes, you can help bring change." He made many speeches spreading this message. Large crowds of workers listened to him speak. He told them that joining the union would give them a way to stand up for themselves.

By 1965, Cesar had convinced 1,200 workers to join the union, which he called the National Farm Workers Union.

With Cesar's help, union workers wrote contracts that they presented to farm owners. These contracts outlined demands for safer working conditions and a minimum wage.

**Peaceful Protests**

Some farm owners were unwilling to change the way they did business. They refused the union's demands. Cesar taught the union workers to respond to these conflicts with nonviolent protests.

For example, when grape growers refused to listen to the union's demands in 1965, the farm workers used nonviolent protests to get the grape growers to change their ways. The workers went on strike. They marched into cities and towns to gain support.

In 1966, Cesar appealed to the American people to boycott, or stop buying, grapes. When citizens learned that the farm owners were indifferent toward their workers, they were disgusted. Many people boycotted grapes. The nonviolent protests against grape growers continued for five years. The growers came to the realization that they could not win this battle.

In 1970, growers finally agreed to the demands of the union's contract. The grape boycott taught them that the union was powerful.

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### Continuing the Fight

Cesar spent the rest of his life expanding the union. He changed its name to the United Farm Workers of America. He led the union to many more victories, as in 1988, when it convinced farm owners to stop spraying crops with harmful pesticides.

Cesar died on April 23, 1993. More than 50,000 people attended his funeral. The following year, President Bill Clinton honored Cesar with the Presidential Medal of Freedom.

Cesar Chavez once said that "in order for any movement to be lasting, it must be built on people." Today, the United Farm Workers of America continues to fight for what he believed in.

## Cool Art

The weather report says that a blizzard is coming. Snow and ice are on the way.

For many people, this is bad news. Ice can make roads slippery and dangerous. Heavy snow can block streets or cause whiteouts.

But some people think that snow and ice are wonderful. They don't see snow and ice as obstacles. They see snow and ice as possibilities. With snow and ice they can make some of the most imaginative sculptures in the world. Snow and ice sculptors celebrate winter. They create dazzling art out of nothing but frozen water.

**Cool Comparisons**

Snow and ice sculptures are very similar. Both forms of art are usually done in the winter. Winter is the only time that it is cold enough to create the sculptures. Since it is cold, artists must have the appropriate clothes to make their art. They usually wear gloves, hats, and scarves. They must protect themselves from the cold material they use to create their art.

And, both snow and ice art are usually intricate. The artists pay close attention to detail. As they scrape away the ice or pack on the snow, they mold their sculptures into amazing shapes.

While these cool art forms are very similar, they also have many differences. The main difference is both the most obvious and the most important. Snow sculptures are made completely out of packed snow. But, ice sculptures are always carved out of blocks of ice. Because of this difference, sculptors must use special tools to create each type of art.

Snow sculptures usually start out as large mounds of snow. Snow sculptors use their hands to pack on and then smooth the snow into shapes. They also use simple tools like axes and shovels to create

their sculptures. They use simple tools because heavier, powered tools can make snow sculptures crumble or collapse.

Even when using light, simple tools, snow sculptors must be very careful. A clump of snow is fragile. It can crumble with a touch. So, snow sculptors often build wooden or metal frames around their sculptures. These frames hold the snow in place. Then, the snow sculptors take their time as they scrape snow away from the mound. They slowly reveal imitations of animals, people, and famous places.

Ice is not as fragile as snow. That is why ice sculptors can use heavier, powered tools like chainsaws to create their art. But even with powered tools, ice sculptures are not any easier to create than snow sculptures.

Ice sculptures actually require more precision than snow sculptures do. Ice is more difficult to shape than snow, especially when using heavy tools. Heavy tools don't allow for the precision that lighter tools do.

Mistakes are also harder to fix on ice sculptures. Snow sculptors fix mistakes by smoothing them out with clumps of snow. For ice sculptors, one wrong cut is enough to ruin the whole project. Sometimes mistakes cannot be fixed.

Regardless of these differences, making ice and snow sculptures requires a great amount of dedication. Unlike sculptures made of wood, stone, or clay, snow and ice sculptures do not survive long after they are created.

Even the greatest masterpieces cannot last. They eventually melt. But, snow and ice sculptors love that they are always forming new and amazing art.

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**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D33 in step 4.

**Cool Competitions**

Ice and snow sculptures are so cool that the art form has become highly respected. In fact, the best snow and ice sculptors can enter tournaments. They get to compete for prizes and fame. Competitions like the one held at the Sapporo Snow Festival in Japan attract teams from around the world. Even artists from warm places like Hawaii, India, Australia, and Taiwan travel to the isle of Hokkaido for this grand competition.

When the competitions begin, the teams start with the same material. Snow sculptors start with pillars of packed snow. These pillars have to be the same size for each team. Similarly, ice sculptors begin with identical blocks of ice. Each team has to have the same size block of ice so that the competition is fair.

The competitive teams also have very strict time limits to create their art. Often teams work hard to finish on time. They take only short breaks for meals. They get cold, hungry, and tired. But it's all worth it when they show off their finished masterpieces.

At the end of the tournaments, judges look for the sculptures that are the most imaginative and well built. Some tournament winners get awarded thousands of dollars. And more importantly, they can enter bigger and more famous competitions. Some even compete at the Winter Olympics! Though creating snow or ice sculptures isn't a sport, teams can earn official gold, silver, and bronze Olympic medals for their art!

**Cool Constructions**

Tournaments and competitions are not the only places to see snow and ice sculptures.

Every winter, the town of Kiruna, Sweden, builds an entire hotel out of snow and ice. The ice hotel has more than sixty rooms.

It has meeting rooms, a chapel, and even a movie theater! The furniture inside the hotel is made of ice, too.

The ice hotel only exists between November and May. The temperatures in other parts of the year are too high for the hotel to stand. Every year, the hotel melts to the ground. Then, every winter, a totally new and different hotel is crafted!

Kiruna's ice hotel has inspired imitations in other places where it is very cold. Quebec, Canada, and Kemi, Finland, all have ice hotels.

Every year, these hotels attract thousands of people. People come to appreciate the imagination and skill it takes to build an ice hotel. To some people, ice hotels are some of the most amazing pieces of art in the world!

**Cool Conclusions**

Snow and ice sculptures are true art. They can be as intricate and grand as sculptures made of stone, metal, or wood. What makes snow and ice sculptures special is that they are made of frozen water and nothing else. Of course, this means that these works of art eventually melt. But snow and ice sculptors don't mind this. In fact, it is part of what inspires them. As one snow sculptor said, "A sculpture melting is part of the art. You can always make another one."

## The Cartoonist

Mrs. Leland was the type of teacher that every student liked. She was caring and interesting, and she always assigned fun activities. So as she stood in front of the class holding up a newspaper and explaining its different parts, her students wondered what activity she had in mind this time. It was the first day of a new unit about newspapers.

Sam's assigned seat was near the back of the classroom. He listened closely as his teacher described each part of the newspaper. Sam wrote a few notes in his notebook: "the masthead, headlines, the front page, the editorial page, the sports page, reviews…."

Just then, a purple crocodile started to get in the way of his writing! Little by little, the crocodile came to life on Sam's paper. First the tail and bumpy back became visible, and then the giant jaws, which were wide open to eat the words he had just written, appeared. Sam was doodling, as he did quite often.

Sam looked at Mrs. Leland and then quickly returned his attention to his paper. He had to do something to save his notes from the hungry crocodile! "Don't worry, notes! Help is on the way," he thought.

Sam doodled a boy with a cape flying down from the sky to rescue his words from the fierce crocodile. On the back of the cape were the words "News Boy." News Boy threw a net on top of the words to lift the words away from the animal. Sam whispered, "Take that, crocodile."

Just then, he heard Mrs. Leland ask, "Sam, can you please name some of the parts of a newspaper that we've been talking about?"

Sam looked up to see Mrs. Leland and the rest of the class staring at him. He looked back down at his notebook and tried to come up with an answer. He frowned at News Boy, the crocodile, and especially the net. His doodles always seemed to be getting him into trouble.

"There were notes on this page, so why did I doodle over them?" thought Sam.

"Front page?" Sam guessed as he looked up from his notebook.

Mrs. Leland responded hopefully, "Yes, any others?"

Sam wiggled in his chair for a few long moments before Mrs. Leland looked away from him. She asked the class, "Who can help Sam remember some of the other parts of a newspaper?"

Irene's hand shot up immediately, like always, and she shouted out, "the masthead, headlines, the editorial page, the sports page, and reviews!"

Just then, the bell rang for recess. Sam sighed, wishing that he had written down the words Irene had just said. He wished he could concentrate, but he just couldn't seem to stop doodling!

The next day, Mrs. Leland assigned one of her fun activities. "Since we are learning about newspapers, what would you think about making our own newspaper?" she asked the class.

Irene's hand shot up, and she asked excitedly, "Can I be the editor? I have a lot of experience with newspapers. I read the newspaper with my mom every morning before school."

"Yes, and maybe someone would like to be your co-editor," Mrs. Leland said, writing Irene's name on the board.

"Me, me!" volunteered Madeline, waving her hand in the air.

"We also need reporters, columnists, and a layout person," continued Mrs. Leland. As students volunteered for the different jobs, she

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**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D41 in step 4.

wrote their names on the board.

"Sam should be the cartoonist," Noah called out. "You should see some of his great doodles!"

Sam quickly turned and looked at Noah. He wasn't quite sure what to think. Doodling was one thing, but drawing a cartoon for a newspaper was much more serious work. Everyone was waiting for him to accept the job, but he didn't know if he could handle it.

"Okay, I'll give it a try," Sam said with hesitation.

At recess that afternoon, Irene and Madeline walked up to Sam. "I'm so glad that you're drawing a cartoon for the newspaper. Everyone says you're the most talented artist in the class," Irene encouraged.

Sam looked at the ground. "You know, I've never drawn a real cartoon before. All I can do is doodle."

"Doodles are cartoons, and you're great at them!" said Madeline. "We're all expecting wonderful things from you."

For homework that night, the students had to write down their plans for the newspaper. Sam frowned with worry.

Maybe he had bitten off more than he could chew. He was beginning to think he should resign from the job, so he called his friend for advice.

"Come on, Sam, you're the best person I know for the job," cheered Noah. "We're all counting on you. You'll do great!"

After he hung up the phone, Sam sat down at his desk to think of ideas for the cartoon, but his imagination seemed to be gone, because he couldn't think of anything to draw. Not even News Boy

could save him now, and all of the other students were expecting perfection! Sam began to regret accepting the job.

The next day, Sam got to school early to talk with Mrs. Leland. He told her what had happened the night before and that he didn't think he could draw a cartoon after all.

"You're very talented, Sam. Maybe you're just thinking about this too much. No one expects perfection. I know you can draw a wonderful cartoon if you just relax and let it happen," Mrs. Leland said.

"I just can't do it," said Sam, shaking his head sadly. He was sure there was no way he could draw a cartoon that would be good enough for the newspaper. "I have to resign as cartoonist."

"Okay, but I'll hold the cartoon job open for you just in case you change your mind," Mrs. Leland said with a look of encouragement. The bell rang, and the classroom filled quickly. The students got right to work.

Everyone had a job on the newspaper but Sam. He looked around and saw everyone busily working. Irene and Madeline were meeting with the columnists to review story ideas. Noah was at the computer working on the layout. Sam regretted letting everyone down.

That night, while Sam and his dad were eating dinner, Sam's dad asked him why he looked so sad. Sam explained about the newspaper, his job as the cartoonist, and how badly he felt about resigning.

"That sounds like a great job, Sam. I bet a lot of cartoonists get their start by drawing for school newspapers," said Sam's dad. "Maybe Mrs. Leland is right; you're thinking about this too much."

When Sam and his dad were done with the dishes, Sam went to his

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room. He got out a blank piece of paper and a pencil, and, without hesitation, he began to doodle.

He found himself doodling pictures of Irene, Noah, and the other students in his class. Suddenly, Sam had an idea. He knew exactly what to draw—his classmates!

Because it was going to be a very detailed cartoon, Sam had to get started right away, but now he was determined. He had the whole weekend to concentrate on the cartoon.

On Monday morning, Sam quietly handed his cartoon to Irene on the way to his desk. Irene was busy working on the newspaper all morning, so she never mentioned to Sam whether or not she liked the cartoon.

Sam nervously began to doodle, wondering what she thought of it. Soon, he was so busy drawing a giant spider eating an enormous sandwich on the back page of his notebook that he forgot all about being worried.

Toward the end of the day, Irene caught Sam's eye and winked.

On Tuesday, the newspaper made its debut. Only a few students had seen the finished product, because Mrs. Leland wanted it to be a surprise. She handed each student a copy of the newspaper as they returned from lunch. The room grew very quiet as everyone excitedly examined the newspaper.

The front page featured a news story about the school's new playground equipment. The second page had a poem and reviews of two books, a movie, and a video game. Page three was the editorial page. But it was the last page that amazed everyone.

On it, Sam had drawn each member of the class doing something different. Gregory, the class clown, was balancing a pencil on his nose. Irene was raising her hand. Noah was doing a puzzle. Mrs. Leland was writing on the chalkboard. Sam had even drawn himself in the corner, doodling. The resemblances were amazing. Everyone had fun finding their picture in Sam's cartoon.

"Let's hear it for the cartoonist!" said Gregory, clapping. Everyone joined in, and Sam smiled. He was on cloud nine. But it wasn't long before his mind began to wander. Soon he was busy doodling cartoons for the next class newspaper.

## Everyone: The Artist

Whether they realize it or not, most people collect a lot of junk, such as old magazines, empty boxes, and old boards. Some people only look at junk as something to dispose of. But other people collect junk to use in their art. These people are called junk artists.

Junk artists can make art out of almost anything, including garbage. Junk art can be tiny. Or, it can be large enough to walk into. It can be very simple, or intricate and elaborate. It can be a statue, a painting, or a decorated box.

Some junk art is very beautiful. In addition, junk artists can create art that is useful. For example, an artist might make a drinking glass out of an old bottle.

There are many reasons that an artist might be compelled to make junk into treasures. Junk art is a great way for an artist to be creative. Plus, it's fun and challenging to make something out of junk that others can enjoy. Junk art is also a great way to recycle, since the art is made out of objects that would usually go into the garbage.

**Tramp Art: The First Junk Art**

People started creating junk art in the early 1900s. Some of the first junk artists were *tramps,* or homeless people. The art they created was known as *tramp art.*

These homeless artists didn't have jobs. They had no money to buy art supplies, such as paints and brushes. So, they had to get creative. They began making art from the junk they found lying around on the streets.

Homeless artists would often comb the streets or garbage cans looking for objects they could use in their art. Sometimes they found things like old wooden boxes to use in their projects.

### Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D42 in step 4.

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They would cut small pieces of wood from the boxes. Then they would use nails or glue to fasten the pieces together in new and interesting ways. These artists would create intricate picture frames, sculptures, and even furniture this way.

**The Biggest Junk Art Project**

Homeless artists weren't the only people to make junk art in the early 1900s. One of the most famous junk artists of all time is a man named Simon Rodia.

Rodia moved from Italy to America around 1900. In America, Rodia learned about people making junk art. He was very interested in the art that he saw.

He was compelled to try to make his own. But he didn't want to make just any junk art piece. He wanted to make the biggest piece of junk art that he possibly could.

In 1921, Rodia bought a cottage on a small piece of land in Watts, a neighborhood in the city of Los Angeles, California. Now Rodia was ready to begin his enormous junk art project.

Using simple tools, Rodia built tall towers around his cottage. He made the towers out of metal and cement. Then he needed to decorate the towers. He combed the area around his cottage for anything he could use as decorations. He even walked as far as twenty miles to find the right pieces of junk!

Once he found the right pieces, Rodia fastened them onto the tower walls. Rodia added broken dishes, bottles, tiles, seashells, colorful pieces of glass, and even a pair of boots to the towers. The decorations made the towers stand out more against the city streets.

Rodia worked hard to complete his project. He worked on it for thirty-three years. By the time he was finished building the monument, he had erected seventeen structures, including three towers. The tallest of the towers was 100 feet high, as tall as a six-story building! He named his project *Nuestro Pueblo,* which means "Our Town" in Spanish.

When Simon Rodia was building *Nuestro Pueblo,* some of his neighbors did not appreciate the significance of his work. They vandalized, or caused damage to, his monument. Other neighbors suspected that there was buried treasure underneath the towers. Those neighbors did not see anything special in the construction of *Nuestro Pueblo.*

In 1954, at the age of 74, Rodia moved away from Watts. He had grown tired of how some of his neighbors vandalized his work. He sold his land and his project to a friend. Not long after Rodia moved, the cottage on the land burned down. But the towers were stable. They survived the fire.

In 1985, Rodia's project was declared a National Historic Landmark. The damage to it was fixed, and the monument was opened up to the public. *Nuestro Pueblo* compels thousands of people to travel to Watts each year. They love seeing what one man did with a big dream, determination, and a whole lot of junk.

**Junk Art Is Good for Earth**

Today, people still appreciate Nuestro Pueblo and other junk art like it. But, junk art isn't just interesting to look at; it is also good for Earth. Junk art serves as a reminder that recycling is important. Junk art provides an excellent example of how to recycle garbage into something new and exciting.

In 1990, an artist named Jack Kearney built a piece of junk art to celebrate Earth Day. He wanted to support the recycling program at a

## Legendary Volcanoes

Sometimes it seems like active volcanoes are alive. Through their gaping mouths, active volcanoes spit fiery rock. Their power is awesome and often destructive. They demand both fear and respect.

Mount St. Helens and Mount Kilauea (kee-laow-AY-ah) are two of today's most active volcanoes. Both of these volcanoes threaten the people around them. And, both have inspired legends. Yet, these powerful volcanoes are examples of two very different volcano types.

**Mount St. Helens: Stratovolcano**
Mount St. Helens is one of the world's most famous active volcanoes. For centuries, this volcano has threatened the people in the area that is now southwestern Washington State. Scientists classify Mount St. Helens as a stratovolcano.

A stratovolcano is a huge, steep, volcanic mountain. When a stratovolcano erupts, it shoots volcanic debris high into the air. This cloud of debris is so dense that it eventually collapses, creating pyroclastic flows. Pyroclastic flows are mixtures of hot gas, ash, and rock. The flows rush downhill. They thunder loudly and destroy everything in their paths.

During an eruption, a stratovolcano also spits hot, melted rock, called lava. These thick lava flows move slowly down the sides of the volcano. Like the pyroclastic flows, lava flows are very destructive.

A stratovolcano's eruption is so powerful that sometimes it blows the top off the mountain. But, an eruption can also make the mountain much bigger. In fact, as the volcanic flows cool, they add rocky layers onto the mountain. These layers pile up. They increase the stratovolcano's width and height.

After a stratovolcano stops erupting, the debris that is left inside the mountain sometimes blocks the volcano's opening, sealing it. This

creates intense pressure inside the volcano.

The pressure pushes the debris up into a dome. As pressure builds, the dome continues to expand and push out of the volcano's top. Eventually, the pressure builds so much that it causes the volcano to erupt again.

In 1980, the pressure inside Mount St. Helens got so intense that the volcano erupted with explosive force. During this eruption, Mount St. Helens blew more than 1,000 feet off its top. The volcanic flows and falling debris destroyed property and killed plants, trees, animals, and people. This eruption was one of the most disastrous and expensive in United States history. Today, Mount St. Helens threatens to erupt again. Pressure is building in its dome now.

**The Legend of Loo-wit**

The eruption in 1980 was Mount St. Helens's biggest eruption. But, it wasn't its only eruption. Mount St. Helens has been active for centuries. In fact, long ago, when only Native Americans lived in its shadow, Mount St. Helens already had erupted a number of times. The Native Americans feared the fiery volcano. They created legends about it and other volcanoes in the area to explain the violent volcanic activity.

According to the legends of the Native American Klickitat (KLIK-ih-tat) tribe, Mount St. Helens was once a beautiful princess named Loo-wit. Two Native American chiefs, Pahto and Wy'east, fought for her love. Their fighting shook the earth.

Finally, the Great Spirit, who ruled the whole universe, tried to stop the fighting. He turned the chiefs into mountains. Today, these volcanoes are called Mount Adams and Mount Hood. The Great Spirit changed Loo-wit into another mountain. He placed her in between the other two. Today, this volcano is called Mount St.

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D43 in step 4.

Helens.

According to the legend, the chiefs continued fighting each other even after they were turned into mountains. In fact, these two volcanoes threw rocks at one another for thousands of years. The chiefs must be at peace now because the volcanoes are not active today. Loo-wit, however, has shown that her fires still burn!

**Mount Kilauea: Shield Volcano**

Thousands of miles from Mount St. Helens, on the waters of the Pacific Ocean, another volcano named Mount Kilauea burns. This volcano threatens the people of the Big Island of Hawaii. It is one of the world's most active volcanoes.

Scientists classify Mount Kilauea as a shield volcano. A shield volcano gets its name because it looks like a warrior's shield laid flat.

Like a stratovolcano, the flows from a shield volcano's eruptions add layers onto the mountain. But, unlike a stratovolcano, a shield volcano is not steep. It has gently sloping sides.

It is shaped this way because a shield volcano's lava is not thick and chunky, like the stratovolcano's flows. When a shield volcano erupts, thin streams of hot lava pour out of its opening. The lava is so thin and fast moving that it spreads out across the land. When the lava cools, it helps form the gently sloping, shield-like sides of the volcano.

While shield volcano eruptions are less violent than stratovolcano eruptions, they still can be dangerous. Their lava flows are quick and destructive.

Kilauea erupted in 1990. The volcano's lava streams destroyed more than one hundred homes in the village of Kalapana. The lava also flowed into nearby Kaimu Bay, filling it completely.

## San Francisco's Tragic Day

Andrew woke up suddenly. His entire room was shaking, his bed was rattling against the wall, and a glass pitcher had just fallen to the floor and shattered. Then, less than a minute after it started, the shaking stopped.

Immediately, Andrew thought of his uncle in the bedroom down the hall. Andrew had come to San Francisco three weeks ago to be with his uncle, Richard. Aunt Patty had died four months ago, and Uncle Richard was still miserable, so Andrew came to stay with him. But, so far, Richard did not seem like he wanted his nephew's help.

Just then, the house jolted sharply as if it were being jerked off the ground. "I'd better get out of here," Andrew thought. He pulled on his shoes and then stumbled into the hallway. When he reached his uncle's bedroom, he saw that Richard was still in bed.

"Uncle Richard, it's an earthquake!" exclaimed Andrew.

"It's just a tremor," said his uncle gruffly. "Ignore it and go back to bed!"

At that moment, a lamp fell off the table and shattered. Andrew yanked the covers off his uncle and pulled him out of bed.

"It isn't safe in the house, so stop being stubborn, and let's go," Andrew said.

Reluctantly, Richard followed his nephew out of the bedroom, into the hall, and then down the long staircase. The earthquake had damaged the staircase badly, so Andrew and his uncle held the railing tightly as they went.

When they reached the bottom of the staircase, Andrew led his stubborn uncle out of the mansion and onto the street. They looked

around and were shocked by what they saw.

The earthquake had badly damaged the neighborhood's enormous mansions. Bricks, boards, and glass were everywhere, and the entire front wall of one house had collapsed.

A crowd of neighbors slowly gathered in the street. Some were crying, others were trembling in fear, but most were simply staring at the remains of their homes.

Soon, the night sky began to lighten into day. "April 18, 1906, is a day that San Francisco will never forget," one woman whispered.

Just then, the earth began to tremble again, and the ground lifted up into a rolling wave similar to an ocean swell.

"It's an aftershock!" a woman yelled. The powerful wave rolled toward Uncle Richard's mansion, causing one side to collapse with a roar.

"My home...!" Uncle Richard yelled.

Just then, a deep crack opened in the street. The ground rattled loudly, and, after that, the earth was still.

"We need to get to an open area!" shouted a young man.

Everyone seemed to ignore the young man, but Andrew thought the idea sounded like a good one. There was nothing but chaos here.

While most of the neighbors started digging through the remains of their houses, Andrew and his uncle approached the stranger.

"My name is Andrew Braswell, and this is my uncle Richard," said

*Continued*

**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D51 in step 4.

Andrew, reaching out his hand.

"Charles Martinelli," the young man said, shaking Andrew's hand. "I think we should go to Golden Gate Park."

"Why is going to the park better than staying here?" snapped Richard.

"Look around you," Charles said. "There's nothing left here, and the falling debris is dangerous. It will be safer in the park where there are no buildings. When we get to the park, we might have to play it by ear, but it will be better than staying here."

Uncle Richard looked at what was left of his mansion. "I suppose we should go," he said reluctantly.

As Andrew, Richard, and Charles walked to Golden Gate Park, they noticed that the once-quiet streets were now in a state of chaos. People were running from collapsing houses, and scattered debris was everywhere.

On the horizon, a faint orange haze hung over the San Francisco skyline. "The gas lines must have caught fire to create such a haze," Uncle Richard said.

When Andrew, Richard, and Charles arrived at Golden Gate Park, they saw hundreds of displaced people, some of whom were building shelters out of whatever they could find.

"We could use some help over here," said one man who held a wooden board in his hand.

"Come on," said Charles, running and motioning for Andrew and Richard to follow.

Andrew hesitated, so he was surprised when Uncle Richard started following Charles toward a group of men. Andrew ran to catch up to his uncle.

One of the men in the group explained that they were gathering materials to make shelters for all the displaced people in the park. Men were running back and forth between the city and park with materials they gathered from the rubble. The goal was to get as many shelters as possible built before the evening.

Together, Charles and Andrew started gathering whole doors, broken tables and chairs, and pieces of heavy cloth.

But, Uncle Richard worked by himself. He carried huge loads and built shelters without any help.

Andrew shook his head in disbelief. "I've never seen my uncle lift more than a teacup," he said to Charles. "In fact, my uncle hasn't worked in years, and, since his wife died, I don't think he has even gotten out of bed. I can't believe my stubborn uncle is doing so much to help."

By early evening, many shelters had been erected, but there was still much to do. Andrew and Charles were growing tired, but Uncle Richard was still working. He was putting up a shelter for a young woman and her small child.

At sunset, Andrew and Charles finally decided to relax for a moment. They sat on a grassy hill to watch the orange haze over the city grow brighter as the sky got darker.

"You're not from around here, are you?" asked Charles.

"I'm from Iowa. I am just visiting my uncle," said Andrew.

*Continued*

"Wow, what a bad time to come to San Francisco," Charles replied. He leaned over to look at smoke rising into the sky. "I heard that a group is going out to gather food for tonight, so after we finish here, I'm going to help them."

Andrew looked back at Charles. "Aren't you going to rest?"

"I've spent my whole life resting. My parents are very wealthy, so servants do everything for me." Charles stood up and dusted off his cap. "But, I don't want to live like that anymore. It's okay with me if I can barely make ends meet, as long as I am happy. What good is money if your life is meaningless?"

"No good at all," said a voice behind them—Uncle Richard's voice. "Charles, may I speak to my nephew alone?"

Charles nodded and walked away.

"How do you feel, Uncle Richard?" asked Andrew.

"I feel old," he said. Uncle Richard sat down next to Andrew, making a face like he was in pain. "I can't move around like you young men do!"

For the first time since he had arrived in San Francisco, Andrew saw his uncle smile. The smile didn't last long, and it looked almost painful, but it was there.

"I never thanked you, Andrew," said Uncle Richard. "I've been nothing but mean and nasty to you, and, despite my bad mood, you haven't given up trying to help me. Having you around has made me feel better, even if I haven't shown it. It's been hard with Patty gone because I've felt like my life without her is meaningless."

Andrew thought of his uncle's ruined mansion. All of the things that he had from his life with Aunt Patty were destroyed.

"I know, and I'm sorry for your loss…for all your losses," said Andrew.

"Charles is right. What good is wealth if you don't do anything with your life?" Uncle Richard responded. "This tragedy has taught me something about life—I shouldn't take it for granted."

Andrew nodded and then stared at the ruined city below, imagining the skyline as it used to look and wondering what it would look like in the future. He knew that he wanted to be a part of making San Francisco beautiful again. "Let's go help Charles," said Andrew, pulling Uncle Richard to his feet.

"Yes, there's a lot left to do," said Uncle Richard, "and I think there may be more life in these old bones, yet."

## When Earthquakes Strike

### Why Earthquakes Happen

The surface of Earth may seem solid and stable. But that really isn't the case. Earth's crust is actually made up of many separate pieces called *tectonic plates* (teck-TAH-nick plates). These plates are like gigantic puzzle pieces that float on top of Earth's mantle.

But, unlike puzzle pieces, they don't fit together tightly. These plates constantly shift and slide past each other at *faults.* Faults are cracks in Earth's crust where movement occurs.

Tectonic plates are usually able to slide past one another easily. But sometimes, the edge of one tectonic plate gets stuck on the edge of an adjacent plate. The plates continue to try to move past each other. This causes pressure to build at the faults. Eventually, the pressure becomes too great. When this happens, the edges of the plates suddenly and forcefully slide under, over, or past each other.

The sudden movement of adjacent plates creates waves of energy called *seismic waves* (SIZE-mick waves). These waves travel through the ground. When the waves reach Earth's surface, earthquakes occur.

Most of the time, the seismic waves are not strong enough to cause dangerous earthquakes. But sometimes, the seismic waves are very strong. These powerful waves can cause violent earthquakes. This is especially true at an earthquake's *epicenter.* The epicenter is the point on Earth's surface that is directly above where seismic waves are created. The epicenter is where an earthquake is strongest.

### A Destructive Earthquake in Iran

On December 26, 2003, a hazardous earthquake struck southeast Iran. The earthquake's epicenter was near the city of Bam. The earthquake registered 6.7 on the Richter scale. It was very violent.

In less than one minute, about 70 percent of the houses in Bam were

completely destroyed. Two of the city's hospitals collapsed. Bam's residents were cut off from telephone service, electricity, and water supplies.

Over 25,000 people died in this terrible earthquake! An additional 30,000 were injured.

**Predicting Earthquakes: When**

Nothing can prevent a hazardous earthquake like the one in Bam. But, some scientists are trying to figure out how to minimize the death and destruction that violent earthquakes cause.

To do this, these scientists, called *seismologists* (size-MAH-luh-jists), monitor seismic wave activity. They hope that the wave activity will help them forecast earthquakes.

At this time, seismologists cannot guarantee accurate predictions. They don't yet understand how much pressure has to exist at a fault before an earthquake occurs. So, they cannot determine why earthquakes happen at particular times and not others.

Seismologists' recent efforts, however, may give them this information.

**The Parkfield Observatory**

In 2005, seismologists built an observatory in Parkfield, California. An *observatory* is a place from which scientists can observe events in nature. The Parkfield Observatory is located in a very deep hole in the ground.

The observatory's instruments monitor activity along a large fault, called the San Andreas Fault. The instruments gather data about processes happening in Earth's crust and mantle. Seismologists hope that this data will provide information about pressure at the San Andreas Fault. They think the data will help them forecast future California earthquakes.

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D52 in step 4.

So far, the data has not helped them make accurate predictions. Maybe soon, it will.

**Predicting Earthquakes: Where**
Seismologists may not yet be able to predict when earthquakes will strike. But, they can determine where earthquakes may occur. They do this by looking for active faults. They call these active fault sites *high-risk zones.*

Some of the world's biggest cities—like Tokyo, Japan, and San Francisco, California—are located in high-risk zones. A hazardous earthquake could strike one of these places at any time.

**Earthquake-Proof Structures**
Seismologists can't stop seismic activity. But, they have figured out other ways to protect people and property from an earthquake's damaging effects. One way that seismologists have done this is by sharing information about earthquakes with engineers.

Many earthquake-related deaths are caused by structures that topple or collapse. So, seismologists work with engineers to develop ways to make structures more *earthquake-proof.* They have already made significant progress.

With seismologists' help, engineers have discovered that structures must be built to withstand an earthquake's vibrations. One way to reinforce structures is to construct their frames out of steel. Steel is a very strong material. It can handle a great deal of force. Therefore, steel-framed structures are more likely to withstand an earthquake's vibrations than structures that do not have steel frames.

But, steel frames alone cannot reinforce structures enough to withstand extremely violent earthquakes. So, engineers have developed systems that allow structures to absorb seismic waves, rather than just withstand their force.

These systems depend on special devices called *dampers.* Dampers are designed to minimize the force of sudden bursts of energy. Dampers act like cushions for the structures. When seismic waves hit structures that have dampers, the dampers go up and down or side to side to absorb the waves' vibrations. The dampers reduce the earthquake's impact.

**The Torre Mayor**

The 55-story Torre Mayor (TOR-ray my-OR) building has both a steel frame and a damper system. It is located in Mexico City, Mexico, right by a very active fault.

The Torre Mayor is supposed to be able to withstand an earthquake that measures 8.5 on the Richter scale. Engineers designed it to be one of the strongest structures in the world.

The Torre Mayor experienced its first earthquake on January 21, 2003. The earthquake registered 7.6 on the Richter scale. During this earthquake, the Torre Mayor proved its strength. People inside the building reported seeing lights swaying. They also felt a slight shaking. But, the earthquake caused no damage to the building. The Torre Mayor may actually be earthquake-proof. Only time will tell.

**Get Ready for a Strike**

Scientists and engineers have helped develop ways to protect people and property from the effects of earthquakes. But, they cannot stop earthquakes from happening. Seismologists hope that one day accurate earthquake predictions can guarantee people's safety. For now, the sole thing seismologists can do is help people prepare for the times when earthquakes strike.

## The Great Wall of China

On the hilly, forested lands of northern China stand huge walls made of brick and stone. Together, these walls, which follow the contour of the lands, make up the Great Wall of China. The Chinese built the walls to bar invaders from their country. But, these walls were not the first that the Chinese erected to prevent attacks.

**The Great Wall of Ch'in Shihuangdi**

Before 221 BCE, China was made up of several small states, which were often in conflict. These states constantly quarreled with each other. They competed for control of the region.

But, their fighting was not the only danger that China faced. Nomads, or wandering people who roamed the areas north of China, threatened to invade the country at any time.

To protect themselves, the Chinese states built walls at their borders. However, these walls were made of dirt. They weren't strong enough to bar attacks.

In 221 BCE, the Chinese state of Ch'in conquered all of the other states and seized control. The Ch'in leader, Ch'in Shihuangdi (chin shir-hwahng-dee), became China's first emperor.

Ch'in Shihuangdi ordered the old dirt walls on the state borders to be torn down and new walls to be built along China's northern border. He was determined to bar the nomad invaders from China forever.

So, 300,000 workers built a series of walls that followed the contour of the northern lands. But, unfortunately, there were gaps between these walls. Ch'in Shihuangdi depended on natural defenses such as mountains to fill in some of these gaps. Chinese troops guarded the other open spaces to prevent invaders from entering.

Ch'in Shihuangdi died before the walls were finished. Another Ch'in leader came to power and ordered workers to keep building the walls.

But, when the Ch'in dynasty fell in 206 BCE, the walls still were not complete.

The Han dynasty took over in China and continued the construction of the walls. In 200 BCE, the walls were finally finished. The series of walls stretched more than 3,000 miles.

These walls stood for centuries. Each ruler that took over China valued the protection that the walls provided. The dynasties continued to reinforce the walls, knowing that the walls would keep them safe.

But, eventually, the walls failed. Under the leadership of a warrior named Genghis Khan, nomads finally penetrated China's northern border.

**Genghis Khan Defeats the Wall**

In 1206 CE, Genghis Khan united the tribes of nomads that roamed the Chinese borders. Under his leadership, this united horde became known as the Mongols.

Genghis Khan was a very smart military commander. He inspired the Mongols to believe that they were fierce warriors, deserving of greatness. For five years, Khan organized and trained his warriors, knowing that one day he would lead them into China.

The Chinese people, so sure that their walls would protect them, were not prepared for the Mongols to attack. Khan and his forces quickly gained strength. Their powerful presence should have been felt. But, China's vain rulers were too busy quarreling to see it.

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D53 in step 4.

Finally, in 1211 CE, when his warriors were ready for battle, Genghis Khan penetrated the Chinese defense. The Mongol attacks were so well planned and well carried out that Chinese forces at the walls simply collapsed. China's defeat was inevitable.

Divided, the Chinese could not withstand the Mongol attacks. Region by region, the Mongols seized control and increased their power.

In 1227 CE, Khan died, but the Mongols continued their conquests. By 1279 CE, the Mongols had complete control of China.

The Mongols ruled China until 1368 CE, when they were finally overthrown and forced back north. The new rulers, called the Ming dynasty, felt the need for a better series of walls to guarantee the safety of China.

**The Great Wall of the Ming Dynasty**

For nearly 200 years, the Ming dynasty built new walls of stone and brick. In some places, the walls were 25 feet high and 30 feet thick! The entire series of Ming walls stretched over 4,000 miles!

The Chinese could guard China well from this new series of walls. The walls' impressive towers provided a place where troops could watch for oncoming invaders. And, new inventions such as cannons helped the troops bar anyone from getting into China.

**The Wall's True Weakness**

Around 1600 CE, northern people known as the Manchu started attacking China. The walls were a great defense. The Manchu would have to figure out another way to penetrate China's borders.

Chinese leaders were once again quarreling with one another rather than working together to prevent attack. The Manchu convinced Wu Sangui, a Chinese general, to become a traitor and help them with

their attack. In 1644 CE, Wu Sangui led Manchu invaders past his troops and through the walls. After this, China's defeat was inevitable.

Wu Sangui and the Manchu found China's true weakness. It was the same weakness Genghis Khan had used to conquer China centuries before. Walls could not guarantee China's protection. In order to protect their country, the Chinese had to work together. But, they never did.

The Manchu conquered China and founded the Ch'ing dynasty.

**The Twentieth Century's Great Wall**

The Ch'ing dynasty ruled China for almost 300 years. During that time, China's borders grew. The walls no longer separated China and its enemies. So, the Chinese neglected the walls. Parts of the walls crumbled with time. Other parts were destroyed during small battles.

In 1912 CE, the Ch'ing dynasty was overthrown. A new government was formed. Just thirty-seven years later, communists led by Mao Zedong overthrew this new government.

Mao thought the walls were useless. He encouraged people to take the walls apart and use the bricks and stones to rebuild roads and buildings. By the 1990s, entire sections of the walls were ruined. In these areas, only fragments remained.

**Today's Great Wall**

In recent years, the walls have become a valued tourist attraction known as the Great Wall of China. People are interested in its long history. Because of this interest, the Chinese stopped taking down the Great Wall. But, tourists have continued where the Chinese left off. Without realizing it, they are helping to destroy the Great Wall by taking fragments of it home with them.

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Many groups of concerned citizens are fighting to save China's historic treasure. These groups encourage the government not to neglect the Great Wall. They want all forms of the Great Wall's destruction to stop. If the Great Wall of China is destroyed, thousands of years of Chinese history and culture will be lost.

## My Days at Mesa Verde

**Friday, July 25**
Hey, everyone, this is Angela Nguyen! I am writing to you from my hotel room in Mesa Verde National Park in Colorado.

Let me start by saying that I didn't exactly come along on this trip willingly. I wanted to go to Disneyland. Unfortunately, Dad and Mom are history buffs and outvoted me.

Mom didn't want me to bring my computer on the trip because she was worried I'd spend the whole time surfing the Net. I promised her that I wouldn't, and that I would write a blog instead.

I told her that writing a blog about our trip would help me remember everything I learned, and maybe even teach other people about Mesa Verde. Mom is a teacher and gets very excited when I talk about the educational value of my activities, so I managed to convince her to let me bring my computer.

Just after we checked into the hotel, I was surfing the Net while my parents unpacked. I decided to do a search for *Mesa Verde* because I wanted to learn why the park has such an odd name. I learned that *Mesa Verde* (MAY-suh-VER-day) means *green table* in Spanish. A mesa is a wide hill with a large, flat top that looks like a table.

Mesa Verde National Park has several mesas that are almost 800 feet each. Green forests cover these mesas.

Well, it was a long trip…in a car…with my parents, so I'm tired and am going to bed. I'll write more tomorrow.

**Saturday, July 26**
Today was more fun than I ever dreamed it would be. We spent the afternoon at the Mesa Verde Museum. We learned about a group of Native Americans called the *Anasazi* (a-na-SAH-zee) who lived in

Mesa Verde about 1,400 years ago. The *Anasazi* are the ancestors of the Pueblo Native American tribe.

The Anasazi have an interesting history. Scientists think that before the Anasazi settled in Mesa Verde they were hunters. They hunted deer, rabbit, and bighorn sheep. They ate the animal meat and used the skins for clothing. But, the Anasazi people seemed to have grown tired of traveling long distances in search of animals to hunt, so they settled in Mesa Verde and became farmers. They tended crops, such as beans and corn, for food.

Also, the Anasazi were amazing builders. When they first settled in Mesa Verde, they took refuge in homes that were mostly underground. These homes, called *pit houses,* were lined with mud and had roofs made of branches.

Later, they built another type of home. These homes, called *pueblos,* were aboveground. They were stacked one on top of the other, like apartments. The buildings were up to five stories tall and had walls of rock and mud.

But, the most interesting type of home the Anasazi built was called a *cliff house.* Cliff houses were homes built into the walls of a canyon. Some cliff houses were at elevations of up to seventy-five feet above the ground!

No one knows why the Anasazi built these cliff houses at such high elevations. Some scientists think they built the cliff houses to protect themselves from enemy tribes.

The Anasazi took refuge in these cliff houses because the villagers could see very far from them. They knew when enemies were approaching, trying to invade their village. The steep walls of the canyon also were difficult for enemies to climb.

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**Teacher Note**

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D61 in step 4.

We're going out to dinner now. I'll write more later.

**Saturday, July 26, Later**
After dinner, my parents and I went for a drive on Ruins Road. From Ruins Road, you can see many of the ruins in Mesa Verde. Signs are set up along the road so that you can tour the area without a guide. We stopped to read many of the signs about the Anasazi.

Ruins Road fascinated me with the mystery about the Anasazi people. Scientists know the Anasazi occupied Mesa Verde for around 700 years. Then, they departed the area, and no one is sure why.

Some scientists believe the Anasazi left Mesa Verde because they could no longer sustain their way of living. The scientists know that a drought lasting twenty-three years began in the year 1273. During the drought, the Anasazi might have had trouble growing crops, so they might have had to find someplace else to live.

Other scientists think a war might have caused the Anasazi to leave Mesa Verde. Perhaps the Anasazi community was not able to sustain itself during war. Maybe people within the Anasazi tribes were at war with one another.

Or, perhaps other Native American tribes invaded the area. The Anasazi might have left Mesa Verde to find a safer place to live.

The descendants of the Anasazi don't agree with the scientists. They believe their ancestors departed Mesa Verde because the Anasazi people had been there long enough. It was simply time to move on.

No matter why the Anasazi left Mesa Verde, we know they didn't disappear. They moved south and settled in areas that are now Arizona, New Mexico, and Texas. We know this because their descendants still occupy these areas today.

I'm excited to learn more about the Anasazi. Tomorrow we're going to see a cliff house!

**Sunday, July 27**
Today was a great day! A park ranger took us on a tour of Cliff Palace, the biggest cliff house at Mesa Verde. Scientists think more than 100 people once lived in this giant cliff house.

Cliff Palace has about 150 rooms, including twenty-three *kivas* (KEE-vahz), which are round, sunken rooms where the Anasazi held special meetings and rituals.

Some parts of Cliff Palace have three levels. The Anasazi moved from level to level by climbing ladders or using notches carved into the rock. They could only fit the tips of their fingers or toes into these notches. Seeing all the climbing the Anasazi had to do made me glad we have stairs at our house!

My favorite parts of Cliff Palace had decorated walls. The Anasazi decorated the walls of their kivas. They scratched images into the walls with rocks, or they painted images onto the canyon walls with colored dyes.

The park ranger told us about one of the wall paintings. It was a row of triangles. The ranger said that scientists think the triangles might represent mountains. Of course, no one knows for sure what the triangles represent since the Anasazi didn't leave written records. It's too bad the Anasazi didn't have computers. They could have written a blog like I have!

**Monday, July 28**
This morning we went to a class at the museum where we learned about the everyday lives of the Anasazi. Over the years, scientists have learned a lot about the way these people lived.

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Much of what the scientists have learned is from the Anasazi's trash! The Anasazi threw away many things, such as bones from meals and broken dishes. They piled their trash right in front of their homes. Scientists have spent a lot of time examining these ancient trash piles.

Scientists have learned that the Anasazi people who lived in Mesa Verde constantly struggled to find enough food. They carefully tended their crops, but the crops did not sustain them.

The Anasazi also gathered wild plants and berries that they knew were safe to eat. For meat, they hunted wild animals and raised turkeys for their eggs.

I was amazed that someone could learn so much about other people by the trash they made. It makes me wonder what scientists could tell about me from the wastebasket in my room!

In the class, we also learned that the Anasazi were great basket and pottery makers. They used the baskets and pottery mostly to store and carry goods and to prepare meals.

But, they used the baskets for another purpose too. The Anasazi buried their dead in baskets. I would have never thought about using baskets as coffins!

After the class, Mom, Dad, and I ate dinner and packed up. We're going back home early tomorrow morning. I can't believe how sad I am to leave Mesa Verde. I have to say that if we had gone to Disneyland, I would have had fun, but I wouldn't have learned as many interesting things as I did in Mesa Verde. I hope you had as much fun reading my blog as I had writing it!

## The Skywalking Mohawks

Mohawk Indians have helped build many of the tallest bridges and skyscrapers in North America. In fact, the Mohawk Indians are famous for this work. They are known for being able to balance on narrow beams hundreds of feet above the ground. The Mohawks have been "skywalking" on beams for more than 120 years.

Building skyscrapers and tall bridges is very dangerous work because one wrong step could result in a worker's death. So, why would some Mohawk Indians risk their lives doing this job year after year?

These workers take pride in being responsible for many of the world's greatest structures. They consider building these structures to be worthwhile and important work.

**Early Mohawks**
More than 200 years ago, most Mohawks lived in what is now New York State. The Mohawk men spent much of their time fishing and hunting. The tribe had plenty of food to eat.

Then, during the American Revolutionary War, the Mohawks sided with the British. After the Americans won the war in 1783, many of the Mohawks living in American territories moved to Canada. Canada was still under British rule.

In Canada, fur companies offered the Mohawk men jobs paddling canoes. Many Mohawk men earned money for food and supplies this way. But, in the mid-1800s, the fur business in Canada weakened. The fur companies did not need the Mohawks to help paddle the boats anymore.

Since the Mohawks could no longer rely on the fur companies for money, they had to find other work. Some Mohawks made and sold moccasins. Others traveled hundreds of miles, selling herbal medicines. Others joined the circus. But, these unstable jobs left the Mohawks eager for well-paying, steady work.

**The First Skywalking Mohawks**

Life changed for the Mohawks again in the mid- 1800s. The Grand Trunk Railway Company wanted to build a new bridge in Montreal, Canada. The bridge, called the Victoria Bridge, would be the first to cross the St. Lawrence River.

The Grand Trunk Railway Company hired the Dominion Bridge Company to build the Victoria Bridge. But, there was one problem. The company wanted to build the south part of the bridge on a Mohawk Indian Reservation just outside of Montreal. The company had to get permission from the Mohawk Indians to build on reservation land.

Many of the men on this Indian Reservation were looking for work. They saw the bridge as an opportunity to obtain jobs. So, the Mohawks and the company made a bargain. The Mohawks agreed to let the company build the bridge on their land. In return, they required the company to hire members of their tribe to help build the bridge. The company agreed to the tribe's demands.

Because of this bargain, the Dominion Bridge Company hired several Mohawk men to haul the heavy rocks that the bridge would be built upon. The Mohawk workers spent their days hauling tons of rocks for the bridge's base.

After work, the Mohawk workers would entertain themselves by walking along the incomplete bridge's high steel beams. Far below the beams was the St. Lawrence River. The only thing between the beams and the river was air. Except for the beams, there was nothing to hold on to. A worker could easily trip and fall.

The owners of the Dominion Bridge Company would watch the Mohawk workers walk along the beams. The relaxed and fearless dispositions of these workers impressed the owners. The owners real-

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Teacher Note

To view the Fluency Assessment scores for this passage, follow the directions on pp. 15–16 and select unit D62 in step 4.

ized that the Mohawk workers had a talent for skywalking. So, they asked twelve of the workers to help build the frame of the bridge.

The twelve Mohawk workers agreed to do the job even though it would be dangerous and difficult. To build the tallest part of the frame, the workers had to balance on narrow beams hundreds of feet above the river. Many other workers would have been too afraid to work on these beams. But the Mohawks did the job calmly and with great precision. Their courage never seemed to weaken.

**Accepting the Dangers**

After the Victoria Bridge was complete, owners of other companies heard about the Mohawks' skillful work. These owners wanted to hire the Mohawk workers to build their bridges too.

The Mohawks were glad for the work, even though it was dangerous. They were happy to have paychecks they could rely on.

Building tall bridges became the Mohawks' specialty. The Mohawks gracefully balanced on the high beams as they built bridge after bridge. They seemed to have no fear of heights. But, that wasn't really true. Kyle Karonhiaktatie Beauvais, a Mohawk man, once explained, "We have as much fear as the next guy. The difference is that we deal with it better." Beauvais meant that even though they were afraid, they relied on their courage and calm dispositions to keep them safe.

In 1907, the Mohawks got a terrible reminder of how dangerous skywalking work could be. That year, the Quebec Bridge in Canada collapsed while it was being built. Seventy-six workers, including thirty-three Mohawks, were killed when the incomplete bridge came crashing down. Although this disaster frightened the Mohawks, they continued doing this dangerous work.

**Beyond Bridges**

In the 1900s, Mohawk workers began to build tall structures other than bridges. The buildings in big cities were getting taller and taller. Companies needed skillful workers to build these extremely tall structures, or skyscrapers. So, they hired the Mohawks.

Many of the skyscrapers the Mohawks worked on were in New York City. The Mohawks helped build some of the city's most famous skyscrapers, including the Empire State Building and the Chrysler Building.

Skyscrapers continued getting taller over the years. In the 1970s, several Mohawk men were hired to help build two giant skyscrapers at the World Trade Center in New York City. After they were built, these Twin Towers were the tallest buildings in the world. Each stood 110 stories tall.

Unfortunately, the Twin Towers were destroyed on September 11, 2001, in a terrorist attack.

Immediately after the attack, a group of Mohawk Indians went to the site to help take apart the remains of the skyscrapers. Many of these workers had fathers and uncles who had helped build the two skyscrapers thirty years earlier.

**A Tradition of Skywalking**

Skywalking is still a Mohawk specialty. Mohawks feel that their work is worthwhile. The tribe is proud to have had an important role in the building of some of the world's most famous structures. Being involved in these projects has become a tradition within the Mohawk tribe. Because of their skill at great heights, the Mohawks know that people everywhere look up to them—in more ways than one.

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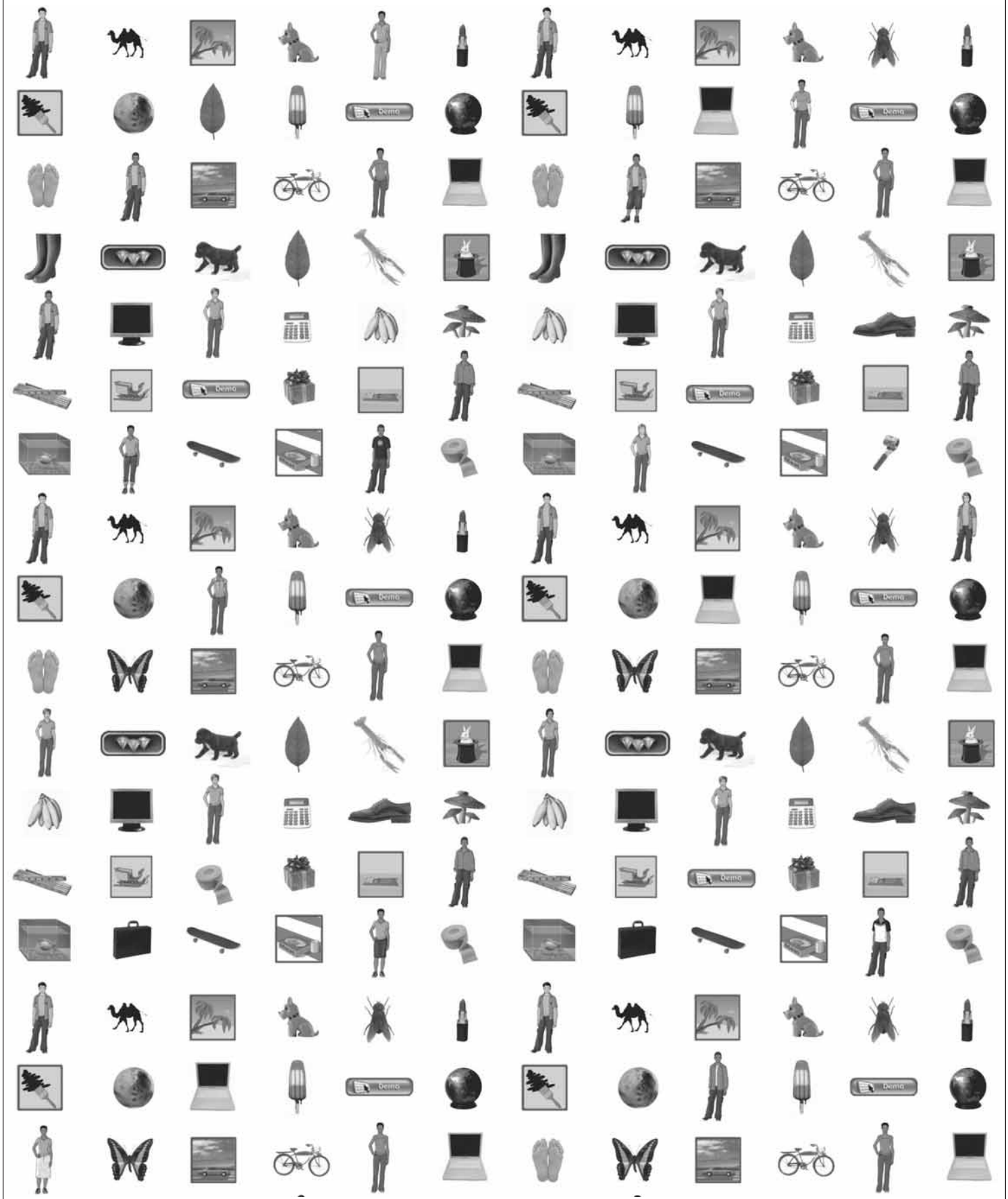



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