Phonics and Decoding

Review Lesson 4 Sound/Spellings

Blending  
**CCSS RF.3.3.C**

**REVIEW** /ū/ spelled _ew_ and _ue_ using *Sound/Spelling Card* 31.

Have students use Routine 4, the Closed Syllable Routine, and Routine 5, the Open Syllable Routine, to review using syllable patterns to help them read words.

Display the word lines and sentences, review the underlined high-frequency words, then have students read each word and sentence.

Fluency  
**CCSS RF.3.4.A, RF.3.4.B**

**TELL** students that reading related words in chunks is an important part of fluency. Assign the fluency passage on pages 151-152 of *Skills Practice 1* for students to practice fluent reading.

Write the following sentence from the passage on the board, marking phrase boundaries with slashes: *They were all hiding/possibly nearby/until the daytime ended/and the sun went down.* Have students listen as you read the sentence, noticing how you paused at the slashes. Then have students read the sentence naturally, using the slashes as guides. Work with students to indicate phrase boundaries in other sentences from the passage and read and reread the sentences fluently.

Word Analysis

Review Lesson 4 Concepts

Decoding  
**CCSS RF.3.3.C**

**HAVE** students review the definition for homographs. Homographs are words that are spelled the same but have different meanings and origins, and often different parts of speech and pronunciations. Review that multiple-meaning words are different from homographs because the different meanings come from the same origin. Then have students read each word and sentence.

Writing  
**CCSS L.3.1.1**

**HAVE** students write riddles for ten of the words from the word lines. Have them exchange pages with a partner, answer each riddle, and then share them with the class. For multiple-meaning words, have students create a pair of riddles that reflect two different meanings for each word.

*This is something a dog might do. This is a tree's skin. Bark*

**English Learner**

**FLUENCY** Remember that, depending on students’ level of language proficiency, students may or may not be ready to read an entire passage. Have students at Level 1 or 2 of English-language proficiency practice reading word lines to you. Pair students at Level 3 or 4 with beyond-level students for fluency practice.
Close Reading

**TELL** students that they will again look at specific parts of the selection. Explain that they will read with a writer’s eye. This means they will look at the text closely to see what makes it a well-written piece.

**Writer’s Craft**

- **Point of View**
  
  **TELL** students that it is important to establish the characters’ thoughts and attitudes about the events and other characters in the story. These points of view are revealed by what the characters say and do. Tell students to also think about how their own points of view are alike and different from those of the characters.

- **Story Elements: Character**
  
  **REMINd** students that when they read fiction they will want to keep track of the traits and actions of the main characters. Information about characters is usually revealed through descriptions of their feelings, words, and actions, or in general descriptive text provided by the author. What the characters think and feel often conveys the theme, or message, of the story.

- **Story Elements: Plot**
  
  **REVIEW** with students that the plot is the series of events in a story. A typical plot includes an introduction, a conflict or problem, events involving the solving of the problem, a climax, and a conclusion.

**Teacher Tip**

**EXCERPTS** You might want to display the excerpts from *Student Anthology 1* so that the whole class can read each one at once. This should help reduce the distraction of turning pages and hunting for text.

**English Learner**

**ADJECTIVES** The following adjectives are on pages 270-273 of *Student Anthology 1*: future, surprised, famous, amazing, big, small, greatest, scientific, twentieth, real, atomic, average-looking, few, straight, black, and red. Ask students questions that will require the use of the adjective in the response, such as: “What kind of mysteries does Einstein Anderson like to solve? Who was Einstein Anderson named after and why is that person famous? What did Albert Einstein’s equation lead to?”

**Differentiated Instruction**

**AL** With self-sticking notes, help students label the different parts of the plot, including the introduction, problem, solution or climax, and conclusion.

**OL** Have students complete a Story Map Graphic Organizer for “Einstein Anderson and the Hurricane Hoax.”

**BL** Have students write a summary of the plot of “Einstein Anderson and the Hurricane Hoax.”
Now, someone named Dr. Raynes had called an emergency town meeting at the high school. He said he had a plan for dealing with future hurricanes. He’d even taken out an ad in the Sparta Tribune and placed notices on local blogs. Einstein’s mother, Emily Anderson, was an editor and reporter for the Tribune. She decided to attend the meeting to see what Dr. Raynes had to say and she invited Einstein along, just in case she needed a science expert.

Anyone who knew Einstein wouldn’t have been surprised that his mother sometimes turned to him for help with science facts. Even though he was only twelve, Einstein Anderson was famous in the town of Sparta for his amazing knowledge of science and for the way he used science to solve mysteries, both big and small. That’s how he got the nickname, Einstein, after the greatest scientific genius of the twentieth century. His real name was Adam, but no one called him that anymore, not even his parents.

He and Paloma had been friends for a few years. They both went to Sparta Middle School. Paloma was the only person he’d met, or at least the only person his age, who loved science as much as he did—or maybe more. Paloma was taller than Einstein and she always wore her straight black hair in a ponytail, just like she always wore her red canvas high-top sneakers.

Emily Anderson turned to her son. “Einstein, I spoke with Dr. Raynes briefly. He says he has a way to stop hurricanes. I don’t understand how anyone could claim to be able to stop hurricanes,” she said. “I mean, some of these storms are hundreds of miles across. How could you stop that?”

Albert Einstein was a world-famous thinker who came up with the equation $E = mc^2$. That simple equation helped lead to atomic energy and a new understanding of the universe. Einstein Anderson, however, was just an average-looking twelve-year-old kid with light brown hair and glasses that seemed too big for his face.
“Well, some researchers have talked about it,” Einstein told her. “Especially since hurricanes seem to be getting bigger and bigger. The way you would stop a hurricane is to do something about heat.”

“Yes?” his mom asked.

“Yes,” Paloma explained, picking up where Einstein left off. “Hurricanes form over the ocean in the tropics, where the water is warmed by the sun. The air over the ocean heats up and, as you know, hot air rises.”

“Heat?” Einstein said with a smile. She was also used to having Paloma explain things to her.

“Well,” Paloma continued, sounding a little bit like a professor, “the more heat in the ocean, the more the hot air rises. But other, cooler air has to come in to replace the hot air. Then that air heats up, and it rises. And if that keeps happening, you get a whirlpool of air rushing in—that’s a hurricane.”

“Some researchers have talked about it,” Emily Anderson said. “Especially since hurricanes seem to be getting bigger and bigger. The way you would stop a hurricane is to do something about heat.”

“Yes,” Paloma explained, picking up where Einstein left off. “Hurricanes form over the ocean in the tropics, where the water is warmed by the sun. The air over the ocean heats up and, as you know, hot air rises.”

“Yes, I did know that,” Emily Anderson said with a smile. She was also used to having Paloma explain things to her.

“Well,” Paloma continued, sounding a little bit like a professor, “the more heat in the ocean, the more the hot air rises. But other, cooler air has to come in to replace the hot air. Then that air heats up, and it rises. And if that keeps happening, you get a whirlpool of air rushing in—that’s a hurricane.”

**Writer’s Craft**

**Story Elements: Plot**

DISCUSS elements of the plot found on these pages as follows.

On the beginning pages of the story, we see important parts of the plot shaping up. The author is introducing the setting and the main characters, and he is setting a series of events in motion. Identify the setting and characters and explain what they are doing on these pages. **Possible Answer:** The setting is a high school auditorium in the town of Sparta. The characters so far are Einstein Anderson, his mother Emily, and his friend Paloma. We have also read about, but not been introduced to, a character named Dr. Raynes. Einstein, Paloma, and Mrs. Anderson are attending a town meeting called by Dr. Raynes. What problem has the author introduced that will set the plot in motion? **Possible Answer:** The town of Sparta has recently been hit by a hurricane that caused a lot of damage. The townspeople are worried, but Dr. Raynes is claiming he has a plan for dealing with hurricanes.

**Story Elements: Character**

**Possible Answer:** The author tells us that Einstein is so famous in his town for being a science expert that no one even calls him by his real name anymore. Paloma is the only other person he knows that loves science as much as him. By telling us about these character traits of Einstein and Paloma, the author sets up that they can be trusted when it comes to talking about science.

**Teacher Tip**

**CHARACTER** Tell students to remember to consider what the illustrations reveal about the characters of Einstein and Paloma as well.
Dr. Raynes nodded and continued. “That’s why I’ve decided to build my hurricane halting machine privately—by forming my own company, Hurri-Can’t, Incorporated. And you, lucky enough to be here today, can be among the first investors!”

Some people applauded, but others shook their heads. When things quieted down, Dr. Raynes looked out over the audience.

“Now, I’m sure some of you have questions,” he said. “Who will be first?”

Almost before the words were out of his mouth, Paloma raised her hand. Dr. Raynes’s face lit up with a big grin.

“Yes, young woman,” he said with amusement. “What’s your question?”

Paloma stood up.

“I’m Paloma Fuentes,” she said. “And I don’t see how you’re going to get an iceberg big enough to cool off the ocean.” Paloma wasn’t very big, but her voice carried everywhere in the auditorium.

“Well, it’s rather complicated, I’m afraid,” Raynes replied. “Let’s just say I don’t need a really giant iceberg. You see, hurricanes are formed from high-pressure systems. The high pressure pushes the air outward in all directions. So the iceberg doesn’t have to cool off the whole ocean, just disrupt the high-pressure air pattern. Did you understand that?”

“No,” Paloma said with an angry frown.

“You could look at my website,” Dr. Raynes said, very kindly. “It has a whole kids section that explains everything. Uh, next question?”

As Paloma sat down, she muttered, “I didn’t understand it because it doesn’t make any sense.”

Now Einstein had his hand up. On the stage, Dr. Raynes laughed.

“My goodness,” he said. “We have another young questioner. I’m glad that young people are so concerned about the environment. And what’s your name, young man?”
Einstein stood up.

“Einstein Anderson,” he answered, but his voice squeaked as he said it. A few people laughed. Dr. Raynes looked very serious.

“Einstein? Really?” he said. “Ladies and gentlemen, it seems we have a genius in the audience. Well, Einstein, what’s your question? Do you also want proof that my machine will work?”

“Einstein is my nickname,” Einstein said, very calmly. “And I don’t have a question. I also have no idea if your machine will work, though I doubt it. But I can prove that you don’t know anything about hurricanes.”

Can you solve the mystery? How can Einstein prove Dr. Raynes doesn’t understand hurricanes?
The smile on Dr. Raynes’s face got even bigger. “Really, Mr. Einstein?” he said mockingly. “How will you prove that?”

Einstein pushed the glasses up his nose. “I can prove it because what you said about hurricanes is exactly backwards,” he replied.

“You said that hurricanes are caused by high pressure systems. That’s wrong. As the hot air rises at the center of a hurricane, it creates a big drop in air pressure. A hurricane is a large area of very low pressure, not high pressure at all. The low pressure is what causes the powerful winds to blow in a spiral toward the center.”

As Einstein finished, Dr. Raynes broad face slowly turned bright pink. For a moment, he was speechless. “Young man, I’m… I’m sure you mean well,” he sputtered. “But I think I know better than…” “He’s right!” someone shouted from the other side of the hall. “Of course, I’m right,” Raynes replied with a huff.

A man stood up near the back of the auditorium. He held up a smartphone. “Not you!” he cried, then he pointed to Einstein. “Him! The kid is right! I just looked it up online.”

The room erupted, with everyone talking at once. On either side, Einstein could see people taking out their phones and checking for themselves.
Paloma stood up and, in a clear voice that carried over the din, she shouted, "Of course he's right! That's why they call him Einstein!"

Raynes looked from left to right. Some folks in the audience had even started booing him. Without another word, he hurried from the stage.

"Well, this is going to be an interesting article," Mrs. Anderson said, as they left the auditorium. "Thanks to you, Einstein."

"I wonder what that guy was a doctor of," Paloma said. "Probably of fakeology."

"Hey, that reminds me!" Einstein said with a laugh.

Paloma groaned, "Oh, no, here it comes!"

But Einstein's mother nodded, "Go ahead Einstein, you earned it."

"Do you know why the house needed to see a doctor?" he asked. Then before anyone could answer, he burst out with, "Because it had window pains!"

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But Einstein's mother nodded, "Go ahead Einstein, you earned it."

"Do you know why the house needed to see a doctor?" he asked. Then before anyone could answer, he burst out with, "Because it had window pains!"
Look Closer

READ over each question with the class. Call on various students to answer each question. Provide enough time for students to respond to each other’s questions and to ask new ones when relevant to the topic. Then have students complete the Write activity on their own.

Keys to Comprehension

1. What is the central message of the story? How is this conveyed through Einstein proving Dr. Raynes is a fake? Possible Answer: The central message of this story is that it is important to understand science because it can help us in our everyday life. By using science to show that Dr. Raynes is a fake, Einstein saves the townspeople a lot of money that they might have given to Dr. Raynes for his hurricane-hating machine.

2. How do the students in this story compare to the students in “Get the Facts?” Possible Answer: In this story, Einstein and Paloma are very smart students who know a lot about science and challenge Dr. Raynes. In “Get the Facts,” the students are less interested in the weather, though they become more interested as they learn about it.

3. What does it mean that “the room erupted” after Einstein challenged Dr. Raynes? Possible Answer: Suddenly there was a lot of noise and motion, a little like a volcano erupting.

4. Why do you think the author stops the story on page 267 to ask the reader to try to solve the mystery? Possible Answer: The author stops on page 267 to encourage readers to try to solve the mystery themselves because he wants readers to be interested in science just like Einstein and Paloma. All of the information needed to solve the puzzle has been provided, so if a reader is paying close attention, they should be able to solve it.

5. How do the illustrations that accompany Einstein’s barometer experiment help you understand it? Is there any information in the illustrations that is not in the written instructions? Possible Answer: The illustrations provide a way to visualize what to do and how to do it. Without them, the instructions could be confusing. The illustrations show the size of the bowl in relation to the water bottle and where to tie the string.

Concept Development

4. What is the central message of the story? How is this conveyed through Einstein proving Dr. Raynes is a fake? Possible Answer: The central message of the story is that it is important to understand science because it can help us in our everyday life. By using science to show that Dr. Raynes is a fake, Einstein saves the townspeople a lot of money that they might have given to Dr. Raynes for his hurricane-hating machine.

Concept Development

Teacher Tip

REMEMBER students that reading with expression can help them understand a story. It also makes listening more enjoyable. Stories are more entertaining if they are read with the same expression we use in our own conversations.

Read pages 290–293 from “Einstein Anderson and the Hurricane Hoax” in a dull, monotonous tone. Discuss whether students enjoyed the reading. Then reread the pages with expression. Use different voices for the different characters. Convey the huffiness of Dr. Raynes, the excitement of the crowd, and Einstein’s pleasure in telling his joke. Discuss the differences in this reading and why it is more appealing. Have students find a partner and practice reading sections of the selection aloud with expression.

CCSS RL.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. RL.3.2 Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text. RL.3.3 Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events. RL.3.4 Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language. RL.3.7 Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur). RF.3.4.A Read grade-level text with purpose and understanding. RF.3.4.B Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.
Science Connection

Text Feature

REMIND students that diagrams are drawings that show the arrangement or parts of something. Diagrams help readers visualize something or understand how it works. Ask students to think about what selections they have read also contained diagrams. What did the diagrams show?

Reading “Beating the Weather”

DISPLAY “Beating the Weather” and read it as a class. Then have students work with a partner to answer the questions.

1. Look at the diagram above. How does this design solution reduce the impact of a flood? What are the drawbacks of this design? Possible Answer: The design solution of placing the house on stilts reduces the impact of the flood by raising the house far above the water. One drawback is that there is an extra set of stairs that the residents must climb up or down every time they come or go. This solution would not work for somebody that could not easily use stairs.

2. Why do scientists need to test their ideas? What would happen if they did not test them? Possible Answer: Scientists need to test their ideas to find out if they work and they get the same results every time. If they did not test them, they might find out later, after people already started using them, that the ideas were wrong or even dangerous.

3. What weather-related problems does your community face? What solutions are already in place? Possible Answer: Sometimes we get flash floods, so much of our community has washes, or dry riverbeds, designed to channel the water away from buildings and homes.

Go Digital

REVIEW with students some of the reliable websites they can visit to do some research on weather-related problems. Remind them that weather-related problems are not always violent storms. Conditions such as drought and spring flooding can also be very dangerous.
**Apply Vocabulary**

**You and Your Circulatory System**

Your body has a system of veins and arteries. The blue lines under your skin are veins. These veins, or blood vessels, carry blood through your body in a circulatory system.

The heart has two pumps. The right side of your heart takes in blood and pumps it into your lungs. When you breathe in, you put oxygen into your blood. That oxygen-rich blood goes back to the left side of your heart. The left side pumps it to every cell in your body.

The cells use the oxygen and send carbon dioxide and other particles back to the right side of your heart. This pumps oxygen-poor blood back to your lungs. When you breathe out, you release carbon dioxide from your cells.

Blood pressure is the force of the blood against the arteries. If your blood pressure is high, it can hurt the walls of your arteries. If it is low, you are not getting enough oxygen to your cells.

You huff and you puff when you run because your body needs more oxygen to work your muscles. Your heart pumps faster too.

If you are sitting on a tropical beach, your heart will probably pump more slowly. If your heart is sputtering or fluttering quickly, you should relax. Do not let anyone mock you for taking care of your heart.

Heart, lungs, heart, cells. Your heart pumps blood this way all day long. But it is not like a whirlpool. The blood circulates in a regular fashion.

Researchers and professors have written countless reports about how to keep your heart strong and healthy by exercising and eating healthy food. You can have confidence in your heart health if you take care of yourself.

**Extend Vocabulary**

**Concept Vocabulary**

Think about the words experiment and observation. How are these words related? Why are they important to scientists?

**You and Your Circulatory System**

Use Routine II, the Selection Vocabulary Routine, to have students read the vocabulary story in *Student Anthology I*, pages 308–309.

Start by reviewing the words and definitions with students. Then explain that many words in the English language can be used in different ways. Sometimes a word can function as a noun, but also as a verb. Sometimes an adjective can become a noun when a suffix is added.

Tell students that as they read through this story they should recognize the selection vocabulary words they have been working with this week. Tell them to pay close attention to each vocabulary word and how it is used in this story. You may want to have students compare and contrast the original definitions and parts of speech with the new definitions and/or parts of speech.

Remind students that the concept vocabulary words are experiment and observation. Have them discuss the question on page 309: How are these words related? Why are they important to scientists? **Possible Answer:** These words are related because they are two things scientists do in order to learn new things. Without them, scientists would just be guessing at what ideas might work, but by experimenting and observing, they can gather actual evidence to prove their ideas are either right or need more work.

Then have students complete the Extend Vocabulary activity on *Student Anthology I* page 309 for more practice with vocabulary.
**Inquiry**

**Step 6—Deliver Presentations**

**Review Conjecture and Ask New Questions**

**REMIND** students that the research process can go on and on. Discuss any new findings, based on the presentation(s), that might lead students to revise their conjectures.

Discuss similarities and connections students find among the ideas they have gathered in their research. What new questions do these ideas generate? How do these new questions connect with questions they posted as they read the unit selections? Make a list of further questions for research, and post them on the Concept/Question Board. Remind students that research can continue beyond the end of the unit.
Writing to Inform

Publishing

Instruct

REMINd students that the final step of the writing process is publishing. They will produce a final copy of their informative/explanatory writing, including one or more visual elements related to the subject of their writing. Then students will present their texts to others.

Refer students to Language Arts Handbook Presentation and Publication pages 310-313 for more information about ways to publish their texts.

Have students think about the process of writing to inform. Lead a discussion about how the graphic organizers helped them plan and draft their writing. Ask students to describe the easiest and most difficult aspects of the writing process. Ask volunteers to share the most helpful piece of feedback they received during the writers' conferences.

Guided Practice

REFER students to Skills Practice I page 144 for a publishing checklist. Model rewriting your revised and edited informative/explanatory text to create a clean copy, and be sure to include a visual element. Have students follow your model and create their own neatly written copies.

Apply ROUTINE 18

USE Routine 18, the Presenting Writing Routine, to have students publish and present their writing. Have students decide whether they want to present their writing orally or in written form. Have volunteers tell how they are publishing their writing and why. Tell students that tomorrow they will have the opportunity to read their writing to the class. Depending on the number of volunteers, it may be appropriate to have students present across both Day 4 and Day 5.

Assessment

USE the Writing Rubrics found in the Level Appendix to evaluate students' informative/explanatory writing. You may use any of the rubrics for Genre, Writing Process, and Writing Traits. Share with students what you will be looking for when assessing their informative/explanatory writing.

Teacher Tip

WRITER'S PORTFOLIO Remind students to keep their informative/explanatory writing somewhere safe for later use.
Penmanship
Cursive Lowercase Letters c and d

Instruct
REVIEW with students the formation of cursive lowercase letters c and d as downcurve letters.

- **c**
  - Starting point, undercurve
  - Downcurve, undercurve: lowercase c

- **d**
  - Starting point, undercurve
  - Downcurve, undercurve
  - Slant down, undercurve: lowercase d

Write the words cone, contact, dapper, and dented on the board to model proper letter formation.

Apply
INSTRUCT students to write each of the letters on their papers twice. Ask them to circle the better formation of each of their letters.

Review the words on the board with students. Ask them to write the words on their papers as many times as they can in three minutes. Tell them you are going to time them and that you will tell them when to stop writing. Remind them to form the letters properly, write legibly, and allow correct spacing between the letters in a word.

Teacher Tip
PENMANSHIP Check students’ handwriting for proper letter formation and spacing.