Wonders

California

Grade 5
Unit 3

TEACHER'S EDITION

An ELA/ELD Program

Mc Graw Hill Education

CCSS

Master the California Common Core State Standards!

WEEKLY OVERVIEW

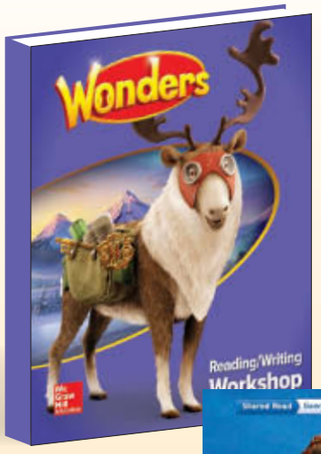
Build Knowledge

Patterns

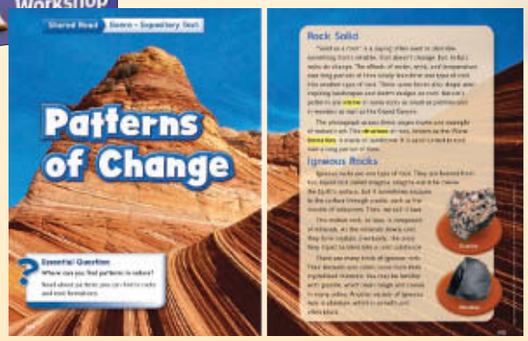
Essential Question:
Where can you find patterns in nature?

Teach and Model

Close Reading and Writing



Reading/Writing Workshop



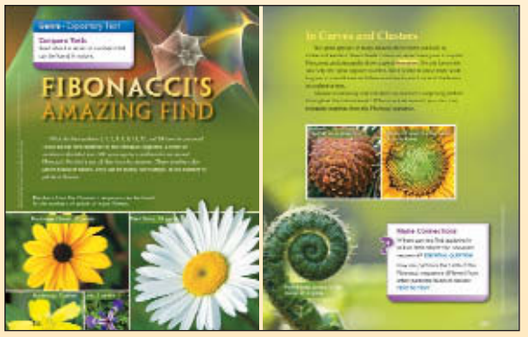
"Patterns of Change," 194–197
Genre Expository Text **Lexile** 840L ETS ***TextEvaluator*** 32

Practice and Apply

Close Reading and Writing

Literature Anthology

The Story of Snow, 216–229
Genre Expository Text **Lexile** 890L ETS ***TextEvaluator*** 17



"Fibonacci's Amazing Find," 232–235
Genre Expository Text **Lexile** 890L ETS ***TextEvaluator*** 48

Differentiated Texts

APPROACHING
Lexile 800L
ETS ***TextEvaluator*** 33

ON LEVEL
Lexile 950L
ETS ***TextEvaluator*** 40

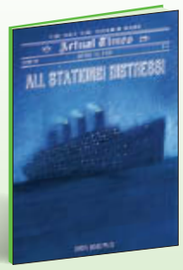
BEYOND
Lexile 980L
ETS ***TextEvaluator*** 42

EL
Lexile 830L
ETS ***TextEvaluator*** 30

Leveled Readers

Extended Complex Texts

So You Want to Be an Inventor?
Genre Informational Text
Lexile 840L
ETS ***TextEvaluator*** 36



All Stations! Distress! The Day the Titanic Sank
Genre Informational Text
Lexile 880L
ETS ***TextEvaluator*** 51

Classroom Library

All Stations! Distress!: "Cover" from the book *All Stations! Distress!* by Don Brown. Copyright © 2008 by Don Brown. Reprinted by permission of Henry Holt and Company, LLC.

Student Outcomes

Ken Karp/McGraw-Hill Education

Meaning Making

- Cite relevant evidence from text
- Describe main idea and key details
- Ask and Answer Questions

RI.5.1,RI.5.2

Effective Expression

Write to Sources

- Draw evidence from informational text
- Write an informative text
- Conduct extended research on water conservation

Writing Process

- Proofread/edit and publish a book review

Speaking and Listening

- Engage in collaborative discussions about patterns
- Paraphrase portions of "Protective Patterns" and presentations on patterns
- Present information on patterns

SL.5.1b, SL.5.1d, SL.5.2, SL.5.3, W.5.2b, W.5.9b, W.5.10

Content Knowledge

- Describe the interaction between the hydrosphere and the atomosphere.

NGSS 5-ESS3-1

Language Development

Conventions

- Explain the function of main and helping verbs

Vocabulary Acquisition

- Acquire and use academic vocabulary

contact	erode	formation	moisture
particles	repetition	structure	visible

- Use Greek roots as clues to the meaning of a word

L.5.1b, L.5.1c. L.5.4b, L.5.6, RI.5.4

Foundational Skills

Phonics/Word Study

- Vowel Team Syllables

Spelling Words

footprint	fairground	although	laughter
appoint	coastal	bleachers	grownup
encounter	grouchy	flawless	lawyer
entertain	applause	faucet	caution
boundary	doubting	southern	roughness

Fluency

- Rate and Accuracy

RF.5.3a, RF.5.4a, RF.5.4b, RF.5.4c

Professional Development

- See lessons in action in real classrooms.
- Get expert advice on instructional practices.
- Collaborate with other teachers.
- Access PLC Resources.

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INSTRUCTIONAL PATH

1 Talk About Patterns

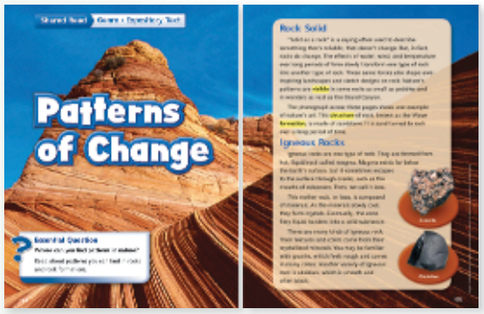
Guide students in collaborative conversations.

Discuss the essential question: *Where can you find patterns in nature?*

Develop academic language and domain specific vocabulary on patterns.

Listen to "Protective Patterns" to summarize how patterns on the wings of moths and butterflies help protect these insects.

2 Read "Patterns of Change"



Model close reading with a short complex text.

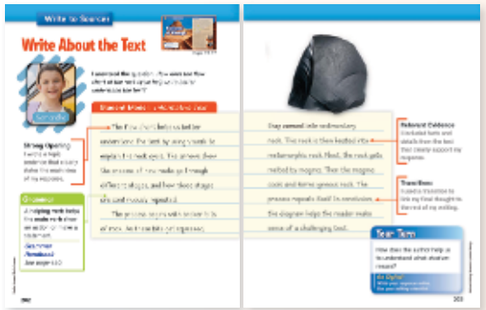
Read

"Patterns of Change" to learn about patterns you can find in rocks and rock formations, citing text evidence to answer text-dependent questions.

Reread

"Patterns of Change" to analyze text, craft, and structure, citing text evidence.

3 Write About Patterns



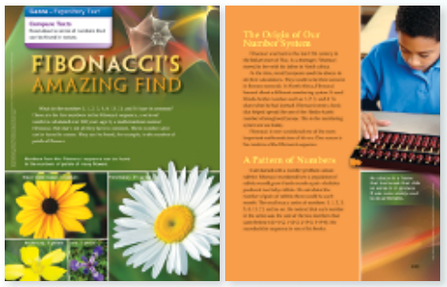
Model writing to a source.

Analyze a short response student model.

Use text evidence from close reading to write to a source.

4 Read and Write About Patterns

Practice and apply close reading of the anchor text.



Read

The Story of Snow to learn how patterns in snow crystals form.

Reread

The Story of Snow and use text evidence to understand how the author presents information about how snow crystals take shape.

Write a short response about *The Story of Snow*.

Integrate

Information patterns that reflect the Fibonacci sequence and other patterns found in nature.

Write to Two Sources, citing text evidence to compare *The Story of Snow* and "Fibonacci's Amazing Find."

5 Independent Partner Work

Gradual release of support to independent work

- Text-Dependent Questions
- Scaffolded Partner Work
  Talk with a Partner
  Cite Text Evidence
  Complete a sentence frame.
- Guided Text Annotation

6 Integrate Knowledge and Ideas

Connect Texts

Text to Text Discuss how each of the texts answers the question: Where can you find patterns in nature?

Text to Fine Art Compare information about patterns in the texts read with patterns in Van Gogh's "Flower Beds in Holland."

Performance Task

Take notes about water conservation.

DEVELOPING READERS AND WRITERS

Write to Sources

Day 1 and Day 2

Build Writing Fluency

- Quick write on "Patterns of Change," p. T156

Write to a Source

- Analyze a student model, p. T156
- Write about "Patterns of Change," p. T157
- Apply Writing Trait: Relevant Evidence, p. T156
- Apply Grammar Skill: Main Verbs and Helping Verbs, p. T157

Day 3

Write to a Source

- Write about *The Story of Snow*, independent practice, p. T153P
- Provide scaffolded instruction to meet student needs, p. T158

Day 4 and Day 5

Write to Two Sources

- Analyze a student model, pp. T158–T159
- Write to compare *The Story of Snow* with "Fibonacci's Amazing Find," p. T159

WEEK 1: PREWRITE WEEK 2: DRAFT AND REVISE | WEEK 3: PROOFREAD/EDIT, PUBLISH, EVALUATE

Writing Process

Go Digital

Writer's Workspace

Genre Writing: Opinion

Book Review

Proofread/Edit

- Discuss the edited student model
- Review main verbs and helping verbs

Publish

- Review options for publishing writing

Evaluate

- Use rubric and anchor papers to evaluate student writing

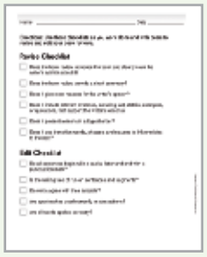

Edited Student Model • Book Review • 47

Tuck Everlasting

by Maria P.

Edited Student Model


Proofreading Marks


Edit Checklist


Book Review: Rubric

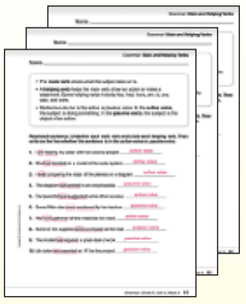

Book Review: Anchor Papers

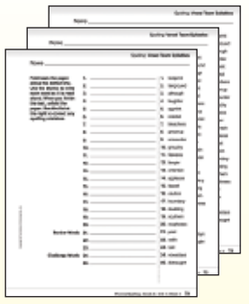
Grammar and Spelling Resources


Reading/Writing Workshop Grammar Handbook, p. 460

Online Spelling and Grammar Games

Online PDFs


Grammar Practice, pp. 61–65


Phonics/Spelling Practice, pp. 73–78

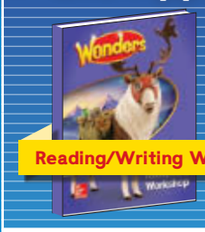
For additional support for Standard English Learners, see the online SEL Handbook.

SUGGESTED LESSON PLAN

Whole Group

READING

Teach, Model and Apply



	DAY 1	DAY 2
Core	**Introduce the Concept** T138–T139 **Vocabulary** T142–T143 **Close Reading** "Patterns of Change," T144–T145	**Close Reading** "Patterns of Change," T144–T145 **Strategy** Ask and Answer Questions, T146–T147 **Skill** Main Idea and Key Details, T148–T149 **Vocabulary Strategy** Greek Roots, T152–T153
Options	**Listening Comprehension** T140–T141	**Genre** Expository Text, T150–T151

LANGUAGE ARTS

Writing
Grammar
Spelling
Build Vocabulary

	DAY 1	DAY 2
Core	**Grammar** Main Verbs and Helping Verbs, T160 **Spelling** Vowel Team Syllables, T162 **Build Vocabulary** T164	**Write About the Text** Model Note Taking and Write to a Prompt, T156–T157 **Grammar** Main Verbs and Helping Verbs, T160 **Build Vocabulary** T164
Options	**Write About the Text** Writing Fluency, T156 **Genre Writing** Book Review: Discuss the Edited Model, T348	**Genre Writing** Book Review: Proofread/Edit, T348 **Spelling** Vowel Team Syllables, T162

Writing Process **Writing Process: Opinion** Book Review, T344–T349 Use with Weeks 1–3

Small Group

Differentiated Instruction Use your data dashboard to determine each student's needs. Then select instructional support options throughout the week.

APPROACHING LEVEL

Leveled Reader
Weather Patterns, T168–T169

"Cloud Atlas," T169
Literature Circles, T169

Phonics/Decoding
Review Words with Long *e* Vowel Team Syllables, T170 TIER 2
Build Words with Vowel Team Syllables, T170 TIER 2
Practice Words with Vowel Team Syllables, T171

Vocabulary
- High-Frequency and Vocabulary Words, T172 TIER 2
- Understand Vocabulary Words, T173

Greek Roots, T173

Comprehension
- Identify Important Details, T174 TIER 2
- Review Main Idea and Key Details, T175

Self-Selected Reading, T175

Fluency
Rate and Accuracy, T174 TIER 2

ON LEVEL

Leveled Reader
Weather Patterns, T176–T177

"Cloud Atlas," T177
Literature Circles, T177

Vocabulary
Review Vocabulary Words, T178
Greek Roots, T178

Comprehension
- Review Main Ideas and Details, T179
- Self-Selected Reading, T179

DESIGNATED ELD SEE PAGES 328–353 OF THE ELD TEACHER'S EDITION

Emerging, Expanding, Bridging

Oral Language/Vocabulary
- Explore the Essential Question: Where can you find patterns in nature?
- Develop Vocabulary and Academic Language

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CUSTOMIZE YOUR OWN LESSON PLANS

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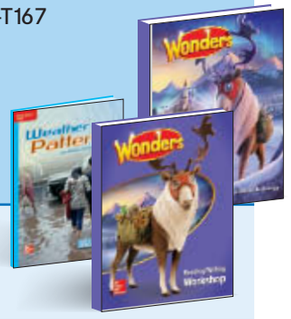
WEEK 3

DAY 3	DAY 4	DAY 5
Close Reading *The Story of Snow,* T153A–T153P 	**Fluency** T155 **Close Reading** "Fibonacci's Amazing Find," T153Q–T153T **Integrate Ideas** Inquiry Space, T166–T167	**Integrate Ideas** T166–T167 • Text Connections • Inquiry Space **Weekly Assessment** 
Phonics/Decoding • Vowel Team Syllables, T154–T155	**Close Reading** *The Story of Snow,* T153A–T153P	
Grammar Main Verbs and Helping Verbs, T161	**Write About Two Texts** Model Note Taking and Taking Notes, T158–T159	**Write About Two Texts** Analyze Student Model and Write to the Prompt, T159 **Spelling** Vowel Team Syllables, T163
Write About the Text T158 **Genre Writing** Book Review: Publish, T348 **Spelling** Vowel Team Syllables, T163 **Build Vocabulary** T165	**Genre Writing** Book Review: Evaluate, T349 **Grammar** Main Verbs and Helping Verbs, T161 **Spelling** Vowel Team Syllables, T163 **Build Vocabulary** T165	**Genre Writing** Book Review: Conference with Students, T349 **Grammar** Main Verbs and Helping Verbs, T161 **Build Vocabulary** T165

Writing Process **Writing Process: Opinion** Book Review, T344–T349 Use with Weeks 1–3

BEYOND LEVEL

Leveled Reader
Weather Patterns, T180–T181
"Cloud Atlas," T181
Literature Circles, T181

Vocabulary
Review Domain-Specific Words, T182
• Greek Roots, T182
• Independent Study, T182

Gifted and Talented

Comprehension
Review Main Idea and Details, T183
• Self-Selected Reading, T183
• Independent Study: Patterns, T183

Gifted and Talented

ENGLISH LEARNERS

Shared Read
"Patterns of Change," T184–T185

Leveled Reader
Weather Patterns, T186–T187
"Cloud Atlas," T187
Literature Circles, T187

Phonics/Decoding
Review Words with Long *e* Vowel Team Syllables, T170
Build Words with Vowel Team Syllables, T170
Practice Words with Vowel Team Syllables, T171

Vocabulary
Preteach Vocabulary, T188
Review High-Frequency Words, T172
Review Vocabulary Words, T188
Greek Roots, T189
Additional Vocabulary, T189

Spelling
Words with Vowel Team Syllables, T190

Writing
Writing Trait: Ideas, T190

Grammar
Main Verbs and Helping Verbs, T191

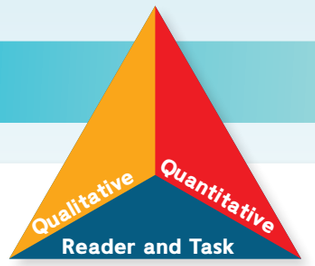
Close Reading • Read Aloud: "Protective Patterns" • "Patterns of Change" • Differentiated Texts: *A Pattern for Hiding*	**Writing/Grammar** • Write to One Source • Write to Two Sources • Grammar: Main and Helping Verbs	**Progress Monitoring** • Written Production • Oral Production • Diagnose and Prescribe

DIFFERENTIATE TO ACCELERATE

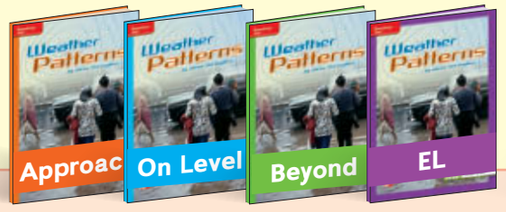
ACT Scaffold to Access Complex Text

IF the text complexity of a particular selection is too difficult for students

THEN see the references noted in the chart below for scaffolded instruction to help students Access Complex Text.



TEXT COMPLEXITY

	Reading/Writing Workshop	Literature Anthology	Leveled Readers	Classroom Library
				
Quantitative	*"Patterns of Change"* **Lexile 840** ***TextEvaluator*™ 32**	*The Story of Snow* **Lexile 890** ***TextEvaluator*™ 17** *"Fibonacci's Amazing Find"* **Lexile 890** ***TextEvaluator*™ 48**	**Approaching Level** **Lexile 800** ***TextEvaluator*™ 33** **On Level** **Lexile 950** ***TextEvaluator*™ 40** **Beyond Level** **Lexile 980** ***TextEvaluator*™ 42** **EL** **Lexile 830** ***TextEvaluator*™ 30**	*So You Want to Be An Inventor?* **Lexile 840** ***TextEvaluator*™ 36** *All Stations! Distress!* **Lexile 880** ***TextEvaluator*™ 51**
Qualitative	**What Makes the Text Complex?** • **Connection of Ideas** Rocks T145 • **Genre** Text Features T151 ACT *See Scaffolded Instruction in Teacher's Edition T145 and T151.*	**What Makes the Text Complex?** • **Specific Vocabulary** Context Clues T153A, T153I; Caption T153F • **Genre** Text Features T153C, T153K • **Connection of Ideas** Text Features T153E, T153M, T153S • **Organization** Cause and Effect T153G • **Prior Knowledge** Number Words T153Q ACT *See Scaffolded Instruction in Teacher's Edition T153A–T153T.*	**What Makes the Text Complex?** • **Specific Vocabulary** • **Prior Knowledge** • **Sentence Structure** • **Connection of Ideas** • **Genre** ACT *See Level Up lessons online for Leveled Readers.*	**What Makes the Text Complex?** • **Genre** • **Specific Vocabulary** • **Prior Knowledge** • **Sentence Structure** • **Organization** • **Purpose** • **Connection of Ideas** ACT *See Scaffolded Instruction in Teacher's Edition T360–T361.*
Reader and Task	The Introduce the Concept lesson on pages T138–T139 will help determine the reader's knowledge and engagement in the weekly concept. See pages T144–T153 and T166–T167 for questions and tasks for this text.	The Introduce the Concept lesson on pages T138–T139 will help determine the reader's knowledge and engagement in the weekly concept. See pages T153A–T153T and T166–T167 for questions and tasks for this text.	The Introduce the Concept lesson on pages T138–T139 will help determine the reader's knowledge and engagement in the weekly concept. See pages T168–T169, T176–T177, T180–T181, T186–T187, and T166–T167 for questions and tasks for this text.	The Introduce the Concept lesson on pages T138–T139 will help determine the reader's knowledge and engagement in the weekly concept. See pages T360–T361 for questions and tasks for this text.

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Universal Access

Monitor and *Differentiate*

Quick Check

To differentiate instruction use the Quick Checks to assess students' needs and select the appropriate small group instruction focus.

Comprehension Strategy Ask and Answer Questions T147

Comprehension Skill Main Idea and Key Details T149

Genre Expository Text T151

Vocabulary Strategy Greek Roots T153

Phonics/Fluency Vowel Team Syllables, Rate and Accuracy T155

If No →	Approaching Level	**Reteach** T168–T175
	EL	**Develop** T184–T191
If Yes →	On Level	**Review** T176–T179
	Beyond Level	**Extend** T180–T183

Using Weekly Data

Check your data Dashboard to verify assessment results and guide grouping decisions.

Level Up with Leveled Readers

IF students can read their leveled text fluently and answer comprehension questions

THEN work with the next level up to accelerate students' reading with more complex text.

ENGLISH LEARNERS

Integrated ELD

Language Development
Develop academic vocabulary related to patterns and participate in collaborative conversations about patterns.

Meaning Making
Read "Patterns of Change" and *The Story of Snow* using scaffolded prompts to support accessing meaning of the complex texts.

Effective Expression
Write about "Patterns of Change" and *The Story of Snow* to show understanding of patterns.

Designated ELD

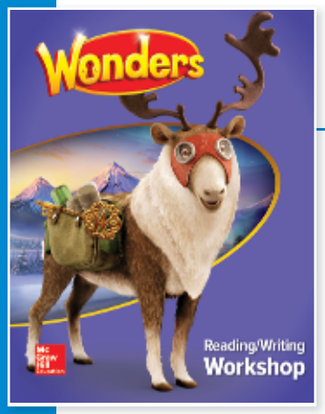
Extended Language Interactions
Participate in conversations about patterns, using academic vocabulary, supported by sentence frames and sentence starters.

Focus on Meaning
Annotate "Patterns of Change" and *A Pattern for Hiding* differentiated texts using differentiated scaffolded prompts.

Focus on Forms
Write about the texts "Patterns of Change" and *A Pattern for Hiding* using scaffolded support to understand text structure and using text evidence.

Wonders for ELs Teacher Edition and Companion Worktexts

Introduce the Concept



Reading/Writing Workshop

MINILESSON 10 Mins

Build Background

ESSENTIAL QUESTION

Where can you find patterns in nature?

Have students read the Essential Question on page 190 of the **Reading/Writing Workshop**. Tell them that an example of a pattern in nature would be a unique **formation,** a form or shape made over time.

Discuss the photograph of the salt marsh with students. Focus on the **repetition**, or repeated patterns, that students can observe in each photograph.

- Repeating lines, shapes, and colors form patterns in nature.
- Features in landscape and living things can have patterns.
- Patterns in nature help us see that things on Earth are connected.

Talk About it

COLLABORATE

Ask: *What are some kinds of **formations** that are created over time? What kind of **repetition** do you notice in the honeycomb? In the leaf?*

- With your students, brainstorm words and phrases to add to the graphic organizer. Add students' ideas to the organizer.
- Have partners share patterns they have observed in nature and talk about what they have learned about patterns in nature. Have them work together to add words and phrases to the organizer.

OBJECTIVES

CCSS Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts,* building on others' ideas and expressing their own clearly. Follow agreed-upon rules for discussions and carry out assigned roles. **SL.5.1b**

ACADEMIC LANGUAGE

- *formation, repetition*
- Cognates: *formación, repetición*

Collaborative Conversations

Take On Discussion Roles As students engage in partner, small-group, and whole-class discussions, have them take on roles to keep the discussion on track. Roles can include

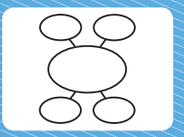
- a questioner who asks questions in order to keep everyone involved and keep the discussion moving.
- a recorder who takes notes and later reports to the class.
- a discussion monitor who keeps the group on topic and makes sure everyone gets a turn to talk.

Go Digital

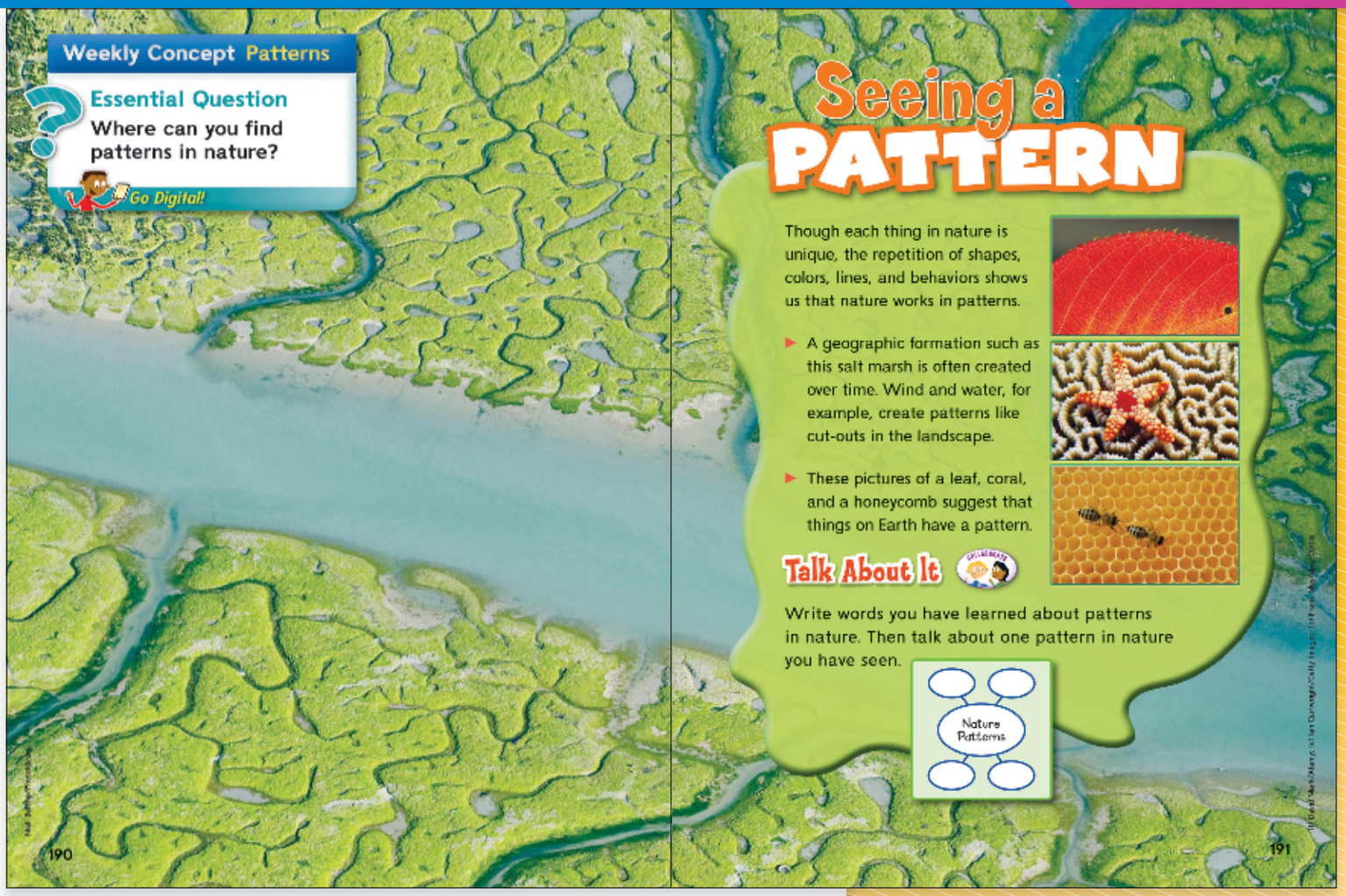
Discuss the Concept

Watch Video

View Photos



Use Graphic Organizer



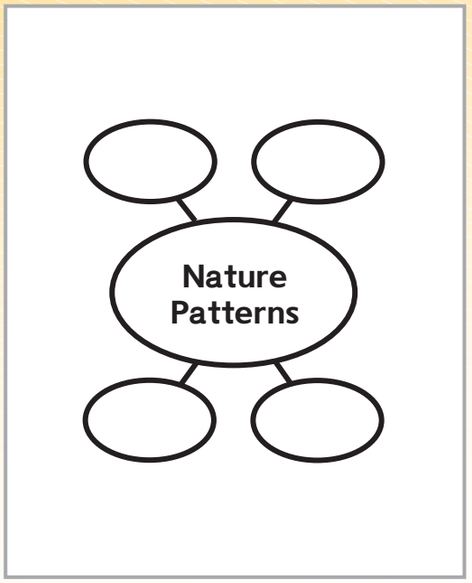
READING/WRITING WORKSHOP, pp. 190–191

ENGLISH LEARNERS SCAFFOLD

Emerging	Expanding	Bridging
Use Visuals Point to the photo of the honeycomb. Say: *This honeycomb has the same shape over and over.* Say: *This is an example of repetition.* Have students repeat. Ask: *What pattern is repeated in the honeycomb?* Correct responses as needed.	**Describe** Have students take turns describing the photo of the leaf. Ask: *What kind of repetition do you see here? How do the lines repeat?* Encourage students to use the word *repetition* in their responses. Clarify responses as needed.	**Discuss** Ask students to describe the repetition of patterns in the photos. Elicit details to support responses. Ask: *What other patterns of repetition have you seen in nature?* Clarify and elaborate as needed.

ELD ELD.PI.5.I.Em • ELD.PI.5.I2a.Em | ELD.PI.5.I.Ex • ELD.PI.5.I2a.Ex | ELD.PI.5.I.Br • ELD.PI.5.I2a.Br

GRAPHIC ORGANIZER 62



Listening Comprehension

MINILESSON 10 Mins

Interactive Read Aloud

OBJECTIVES

CCSS Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. **SL.5.2**

- Listen for a purpose.
- Identify characteristics of expository text.

ACADEMIC LANGUAGE

- *expository text, ask and answer questions*
- Cognate: *texto expositivo*

Connect to Concept: Patterns

Tell students that patterns can be found throughout nature, and that they serve many different purposes. Let students know that you will be reading aloud a passage that explains how patterns on the wings of moths and butterflies help protect these insects from danger.

Preview Genre: Expository Text

Explain that the text you will read aloud is expository text. Discuss the features of expository text:

- explains a topic with reasons and evidence
- supports the reasons and evidence with facts and details
- may include text features such as headings and diagrams

Preview Comprehension Strategy: Ask and Answer Questions

Explain that readers sometimes have questions when they read about science. One way readers can check that they understand information is to pause at different points in the text to ask themselves questions. If they cannot answer a question, they may want to reread that part of the text.

Use the Think Alouds on page T141 to model the strategy.

Respond to Reading

Think Aloud Clouds Display Think Aloud Master 1: *I wonder ...* to reinforce how you used the ask and answer strategy to understand content.

Genre Features With students, discuss the elements of the Read Aloud that let them know that it is expository text. Ask them to think about other texts that you have read or they have read independently that were expository text.

Summarize Have students restate the most important information from "Protective Patterns" in their own words.

Go Digital

View Photos

Model Think Alouds

Genre Chart

Protective Patterns

You see patterns every day, but did you ever think a pattern could help insects and other animals survive? If you are a moth or butterfly, one thing you want to avoid is a predator—a creature that aims to eat you! Bats, spiders, frogs, and mice are some of the creatures that make a meal of butterflies and moths. But these graceful insects aren't totally defenseless. The patterns on their wings sometimes allow them to escape danger. 1

Camouflage

You may notice that both kinds of insects have spots or other patterns on their wings. These patterns can help protect the insects from their enemies. One kind of protective pattern is called *camouflage*.

A camouflage pattern allows moths or butterflies to look like something else in their environment. The pattern on their wings might look like a leaf or flower. For example, an imperial moth can look like an autumn leaf. Like a disguise, camouflage lets an insect hide in plain sight.

Mimicry

Another kind of protective pattern is called *mimicry*. To mimic something means to copy it. How does mimicry offer protection? Some moths and butterflies are poisonous or bad-tasting, and predators avoid them. Other moths and butterflies mimic the markings of these poisonous species, and gain the same protection. For example, the viceroy butterfly looks very much like the monarch butterfly. Birds dislike the taste of the monarch and stay away from the viceroy also. 2

Giant Eyes

Some patterns make a butterfly or moth look like a different type of animal. The pattern on the wings of some moths looks like giant eyes. A mouse who sees those "eyes" may mistake the moth for an owl. Since owls eat mice, the mouse might be frightened off, allowing the moth to fly away safely.

The next time you see a butterfly or moth fly by, you will know that their patterned wings are not just pretty, but helpful, too! 3

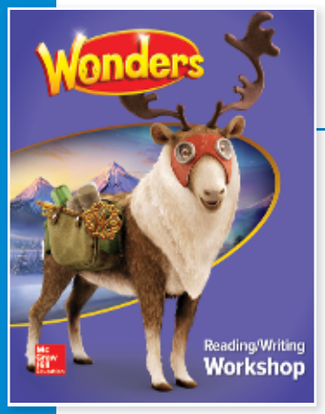
1 **Think Aloud** To be sure I remember important information, I can **ask and answer** a question: "What do I learn from the first paragraph?" I learned that patterns help moths and butterflies avoid predators.

2 **Think Aloud** To check my understanding of mimicry, I can **ask and answer:** "What is the main idea of this section?" It is that some butterflies avoid danger because they look like other butterflies that are poisonous or bad-tasting.

3 **Think Aloud** Now that I've finished reading, I can check my understanding by asking: "How do patterns help butterflies and moths?" I can reread the important ideas in each section if I need help remembering the answer.

Andersen Ross/Blend Images/Getty Images

Vocabulary



Reading/Writing Workshop

MINILESSON 10 Mins

Words in Context

Model the Routine

Introduce each vocabulary word using the Vocabulary Routine found on the **Visual Vocabulary Cards**.

Visual Vocabulary Cards

Vocabulary Routine

Define: **Contact** is a touching or meeting of things.

Example: When I turned on the gas stove, the flame made contact wih the metal pot.

Ask: What happens when your hand comes into contact with something hot?

Use Visual Glossary

Definitions

- **erode** — ***Erode*** means "to wear or wash away very slowly." Cognate: *erosionar*
- **formation** — A **formation** is something that is made or formed. Cognate: *formación*
- **moisture** — **Moisture** is a slight wetness caused by water or another liquid.
- **particles** — **Particles** are very small bits or pieces. Cognate: *partículas*
- **repetition** — **Repetition** is saying or doing something over and over. Cognate: *repetición*
- **structure** — A **structure** is an arrangement of parts that fit together. Cognate: *estructura*
- **visible** — When something is **visible**, it can be seen. Cognate: *visible*

Talk About It

COLLABORATE

Have students work with a partner to read the sentence and discuss the definition for each word. Then ask students to choose three words and write questions for their partner to answer.

OBJECTIVES

CCSS Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*). **L.5.6**

ACADEMIC LANGUAGE

- *formation, repetition*
- Cognates: *formación, repetición*

Go Digital

Words to Know

Vocabulary

Use the picture and sentences to talk with a partner about each word.

contact

When I turned on the gas stove, the flame made **contact** with the metal pot.

What happens when your hand comes into contact with something hot?

erode

When storms **erode** the beach, they carry sand away from the shore.

Why does the beach get smaller when storms erode it?

formation

The marching band played in **formation** during halftime.

Does formation mean that you make something or destroy it?

moisture

I knew it had rained when I saw drops of **moisture** on the leaves.

What is an antonym for moisture?

particles

Tiny **particles** of sand floated in the light shining across the dunes.

What is a synonym for particles?

repetition

I do each exercise in a **repetition** of ten, and hope to increase it to twenty.

What is a skill you have learned better through repetition?

structure

My little sister built a **structure** with blocks.

Did you ever build a structure, such as a castle or fort?

visible

The boy's face was **visible** through the apartment window.

What is visible from your window?

Your Turn COLLABORATE

Pick three words. Write three questions for your partner to answer.

Go Digital! Use the online visual glossary

READING/WRITING WORKSHOP, pp. 192–193

ENGLISH LEARNERS SCAFFOLD

Emerging	Expanding	Bridging
Use Visuals Say: *Let's look at the photo for the word* contact. Demonstrate touching a surface as you say *contact*. Elicit that another word for *contact* is *touch*. Ask: *What should you do if you have contact with a hot stove?* Elaborate and clarify as needed.	**Describe** Have students describe the photo. Ask: *Is it safe for my hand to have contact with this pot? Explain your answer.* Then ask partners to describe what contact with an ice cube might feel like. A cotton ball? Sandpaper? A rock? Elicit details.	**Discuss** With a partner, have students discuss the photo for *contact*, and then write their own definition for the word using synonyms or antonyms. Ask students to write and share a sentence, using the word. Elaborate or clarify as needed.

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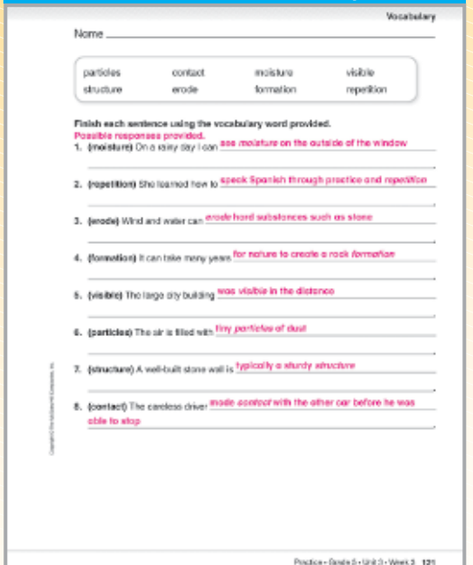
ON-LEVEL PRACTICE BOOK p. 121



Vocabulary

Name _____

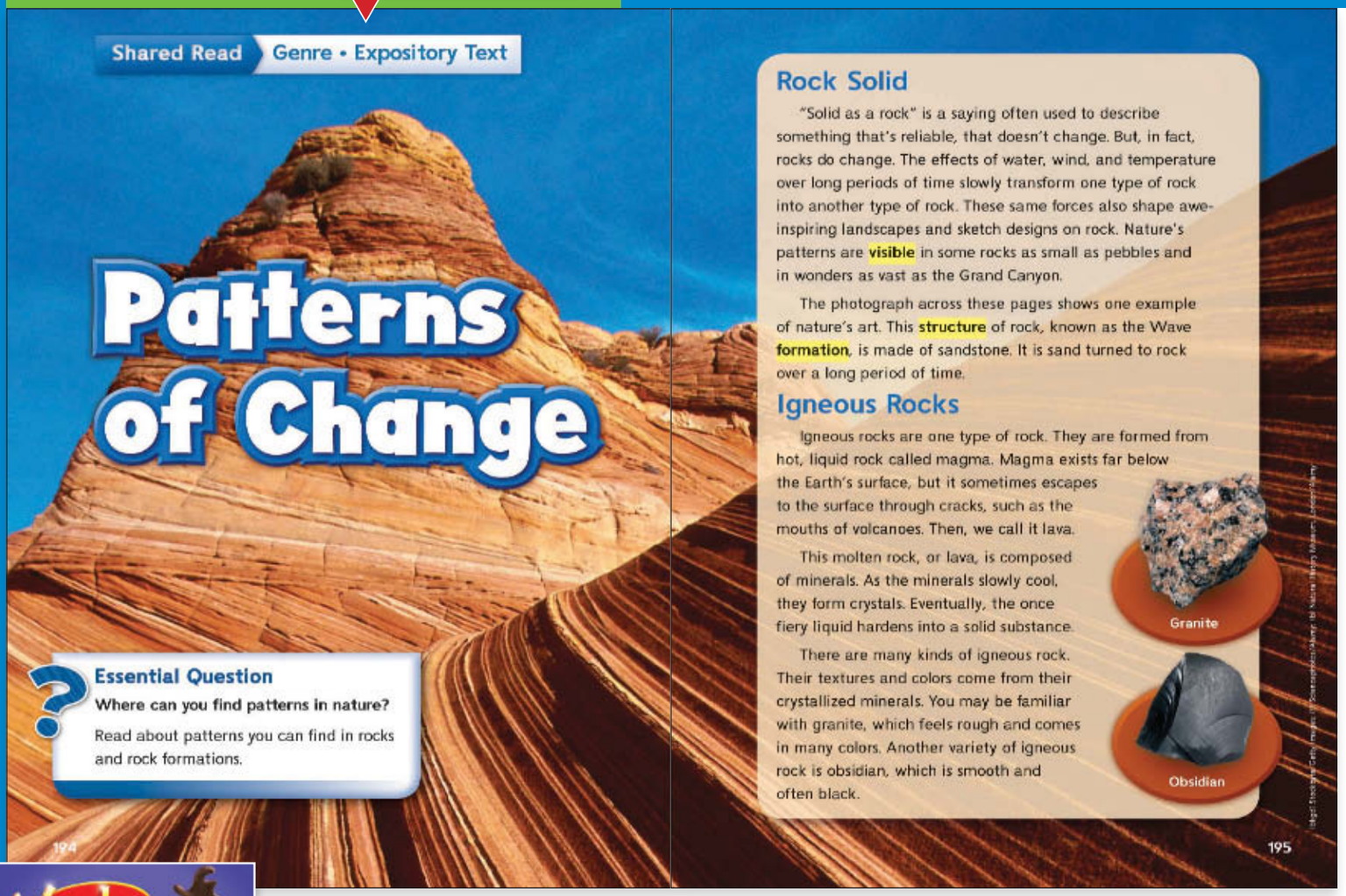
particles contact moisture visible
structure erode formation repetition

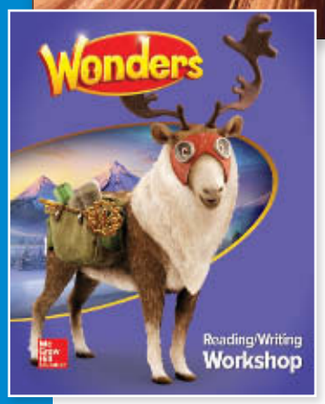
Finish each sentence using the vocabulary word provided.
Possible responses provided.

1. (moisture) On a rainy day I can see moisture on the outside of the window.
2. (repetition) She learned how to speak Spanish through practice and repetition.
3. (erode) Wind and water can erode hard substances such as stone.
4. (formation) It can take many years for nature to create a rock formation.
5. (visible) The large city building was visible in the distance.
6. (particles) The air is filled with tiny particles of dust.
7. (structure) A well-built stone wall is typically a sturdy structure.
8. (contact) The careless driver made contact with the other car before he was able to stop.

Practice • Grade 5 • Unit 3 • Week 3 121

APPROACHING p. 121 | BEYOND p. 121 | EL p. 121





Reading/Writing Workshop

READING/WRITING WORKSHOP, pp. 194–195

Shared Read

CLOSE READING

Lexile 840 *TextEvaluator*™ 32

Close Reading Routine

Read **DOK 1–2**

- Identify key ideas and details about patterns in nature.
- Take notes and summarize.
- Use ACT prompts as needed.

Reread **DOK 2–3**

- Analyze the text, craft, and structure.
- Use the **Reread Minilessons**.

Integrate **DOK 4**

- Integrate knowledge and ideas.
- Make text-to-text connections.
- Use the Integrate lesson.

EL

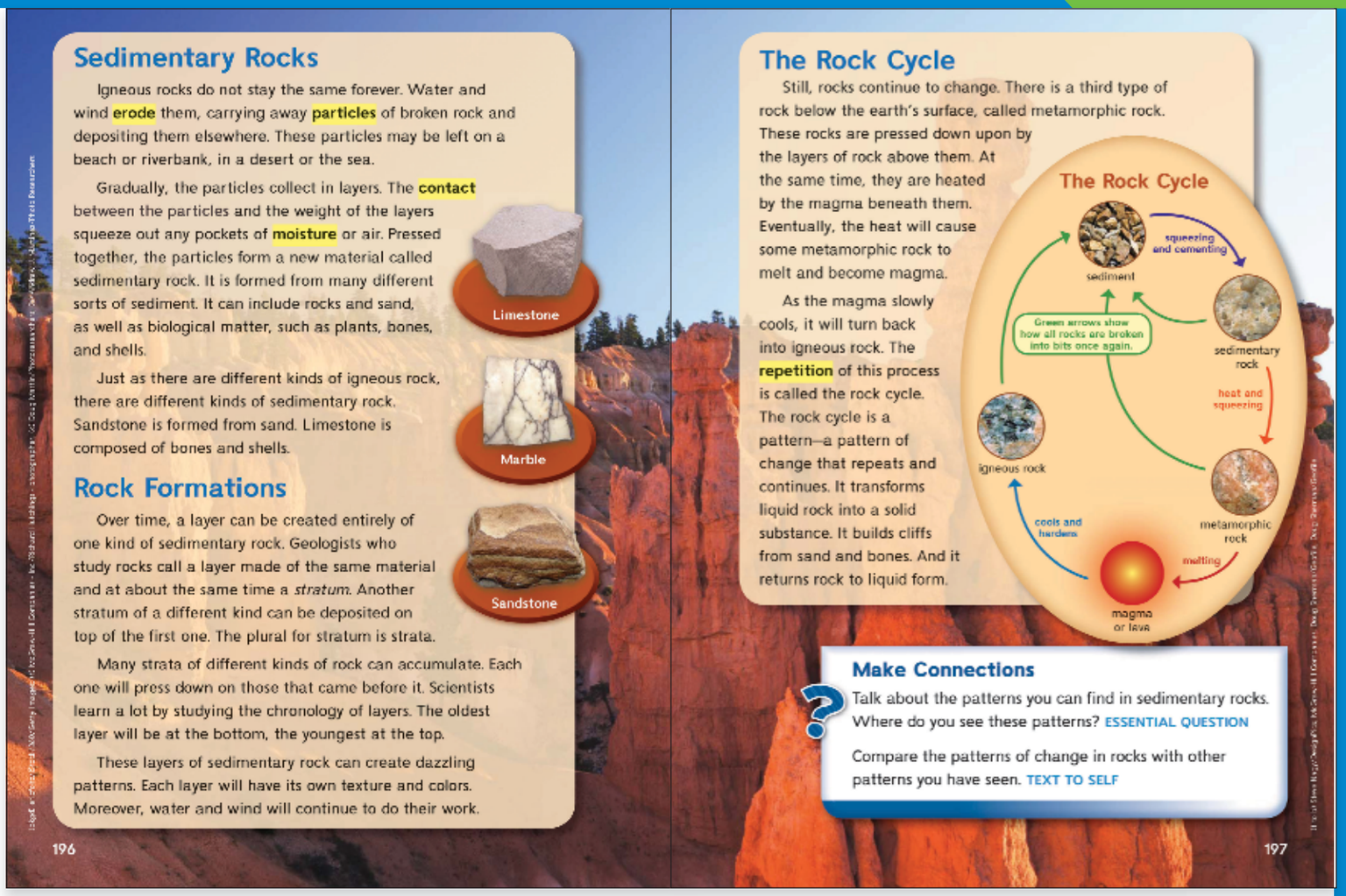
See pages T184–T185 for Interactive Question-Response routine for the Shared Read.

Read

Connect to Concept: Patterns Explain to students that they will read about patterns in nature.

Note Taking Read page 195 and model how to take notes. *I will think about the Essential Question as I read and take notes about the main idea and key details.* Encourage students to also note words they don't understand and questions they have.

Paragraphs 1–2: Read the first two paragraphs together. Ask: *How does the description of the Wave formation support the idea that one type of rock can be transformed into another?*
The Wave formation shows how wind, water, and temperature can transform rocks over time. The Wave formation is made of sandstone, which is sand turned to rock over millions of years.



Sedimentary Rocks

Igneous rocks do not stay the same forever. Water and wind **erode** them, carrying away **particles** of broken rock and depositing them elsewhere. These particles may be left on a beach or riverbank, in a desert or the sea.

Gradually, the particles collect in layers. The **contact** between the particles and the weight of the layers squeeze out any pockets of **moisture** or air. Pressed together, the particles form a new material called sedimentary rock. It is formed from many different sorts of sediment. It can include rocks and sand, as well as biological matter, such as plants, bones, and shells.

Just as there are different kinds of igneous rock, there are different kinds of sedimentary rock. Sandstone is formed from sand. Limestone is composed of bones and shells.

Limestone

Marble

Sandstone

Rock Formations

Over time, a layer can be created entirely of one kind of sedimentary rock. Geologists who study rocks call a layer made of the same material and at about the same time a *stratum*. Another stratum of a different kind can be deposited on top of the first one. The plural for stratum is strata.

Many strata of different kinds of rock can accumulate. Each one will press down on those that came before it. Scientists learn a lot by studying the chronology of layers. The oldest layer will be at the bottom, the youngest at the top.

These layers of sedimentary rock can create dazzling patterns. Each layer will have its own texture and colors. Moreover, water and wind will continue to do their work.

196

The Rock Cycle

Still, rocks continue to change. There is a third type of rock below the earth's surface, called metamorphic rock. These rocks are pressed down upon by the layers of rock above them. At the same time, they are heated by the magma beneath them. Eventually, the heat will cause some metamorphic rock to melt and become magma.

As the magma slowly cools, it will turn back into igneous rock. The **repetition** of this process is called the rock cycle. The rock cycle is a pattern—a pattern of change that repeats and continues. It transforms liquid rock into a solid substance. It builds cliffs from sand and bones. And it returns rock to liquid form.

The Rock Cycle

sediment

squeezing and cementing

sedimentary rock

Green arrows show how all rocks are broken into bits once again.

heat and squeezing

igneous rock

metamorphic rock

cools and hardens

melting

magma or lava

Make Connections

Talk about the patterns you can find in sedimentary rocks. Where do you see these patterns? ESSENTIAL QUESTION

Compare the patterns of change in rocks with other patterns you have seen. TEXT TO SELF

197

READING/WRITING WORKSHOP, pp. 196–197

Paragraphs 3–4: Model how to identify key ideas that point to the main idea.
The heading tells me that this section is about igneous rocks. The text tells me that igneous rocks are formed from magma. Then it explains the details in the process by which magma, a liquid, becomes igneous rock, a solid. These details support the main idea that igneous rocks are formed from magma.

Make Connections

Essential Question Encourage students to work with a partner to discuss patterns in the rock cycle. Ask them to cite text evidence. Use these sentence frames to focus discussion:

Sedimentary rock is formed when . . .
Metamorphic rock is formed when . . .

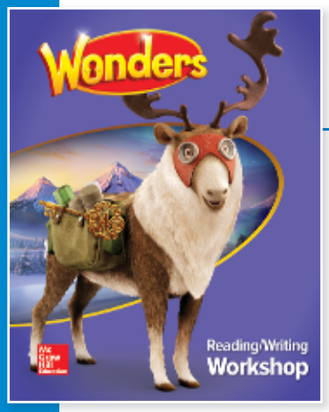
ACT Access Complex Text

Connection of Ideas

Students may have difficulty understanding how the different types of rocks are connected in the rock cycle. Ask:

- *How does metamorphic rock become igneous rock?* (When metamorphic rock melts, it becomes magma. When the magma cools, it turns into igneous rock.)
- *How does igneous rock become sedimentary rock?* (Water and wind break igneous rock into particles that collect in layers and are pressed to form sedimentary rock.)

Comprehension Strategy



Reading/Writing Workshop

MINILESSON 10 Mins

Ask and Answer Questions

OBJECTIVES

CCSS Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. **RI.5.3**

Ask and answer questions to increase understanding of a text.

ACADEMIC LANGUAGE

- *ask and answer questions, informational text*
- Cognate: *texto informativo*

1 Explain

Explain to students that informational texts, such as science texts, may be especially challenging because they introduce new concepts and provide detailed explanations. Remind students that they can ask and answer questions about the information they encounter.

- Tell students that when they come across a confusing or challenging section of text, they should ask themselves, "Why does this happen?"
- Students may need to go back and reread an earlier section of the text in order to answer questions they have asked.
- Students may also need to read on, as the author may give more information about a concept or idea later in the text.

Point out that asking and answering questions helps students check their understanding of main ideas and key details in the text.

2 Model Close Reading: Text Evidence

Model how asking and answering questions can help you check your understanding of how rocks change. Ask: *How do rocks change?* Then model rereading and paraphrasing the first paragraph on page 195 to answer the question.

3 Guided Practice of Close Reading

COLLABORATE

Have students work in pairs to ask and answer a question about the information in the section "Igneous Rocks" on page 195. For example, students might ask how igneous rocks form. After students ask their questions, have them reread "Igneous Rocks" to answer them. Have partners discuss other questions they might ask about "Igneous Rocks" or about another section in "Patterns of Change."

Go Digital

Present the Lesson

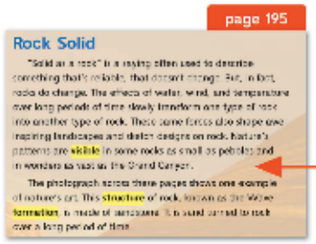
Comprehension Strategy

Ask and Answer Questions

One way to be sure you understand a science text is to ask and answer questions about the information. You can ask a question such as, *Why does this happen?* Then look for information in the text to help you answer the question.

Find Text Evidence

You might ask *How do rocks change?* when you read the first paragraph of "Patterns of Change" on page 195. As you read, you can look for answers to your question.


page 195

Rock Solid

The text explains that water, wind, and temperature over long periods of time can change one type of rock into another type. They can also shape landscapes and sketch designs on rock.

Your Turn

Ask and answer a question about the information in the section "Igneous Rocks" on page 195. As you read, use the strategy Ask and Answer Questions.

198

READING/WRITING WORKSHOP, p. 198

Monitor and Differentiate

Quick Check

Do students ask questions to check their understanding of informational texts? Do they answer the questions in a way that makes sense?

Small Group Instruction

If No →	Approaching Level	Reteach p. T168
	EL	Develop p. T185
If Yes →	On Level	Review p. T176
	Beyond Level	Extend p. T180

ENGLISH LEARNERS SCAFFOLD

Emerging	Expanding	Bridging
Respond Orally Reread aloud the first paragraph on page 195. Point out difficult words and phrases, such as *transform, shape,* and *awe-inspiring landscapes.* Define them for students. Help students replace the words with words they know, such as *change, make,* and *amazing views of land.* Ask: *Does water change rocks?* (yes)	**Distinguish** Help students reread the first paragraph on page 195. Ask: *What forces change rocks?* (wind, water, and temperature) *How do they change them?* (They transform rock types, shape landscapes, and sketch designs on rock.) Discuss the figurative use of *sketch* to describe how the elements change the rock.	**Practice** Have students reread the first paragraph on page 195. Elicit from students why this text may be confusing. Ask: *How have outside forces changed rocks in both small ways and big ways? Turn to a partner and explain.* Have students ask and answer questions about the second paragraph on page 195. Encourage discussion.

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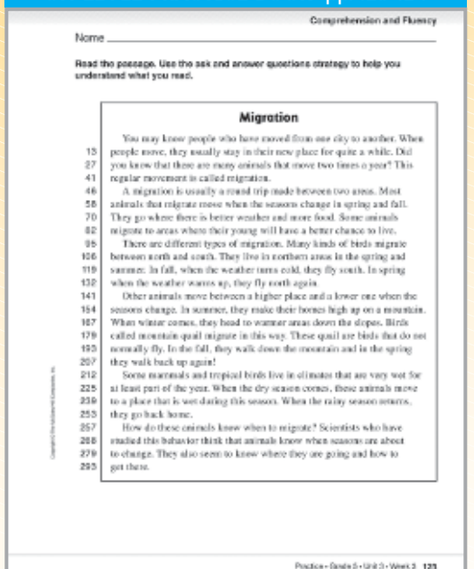
ON-LEVEL PRACTICE BOOK pp. 123–124


Comprehension and Fluency

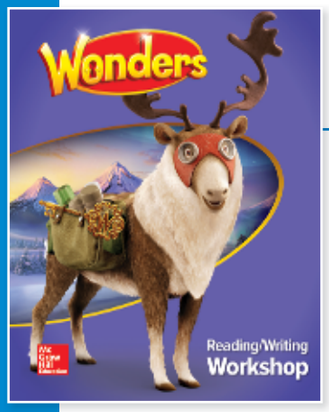
Name _____

Read the passage. Use the ask and answer questions strategy to help you understand what you read.

Migration

APPROACHING pp. 123–124 | BEYOND pp. 123–124 | EL pp. 123–124

Comprehension Skill



Reading/Writing Workshop

MINILESSON 10 Mins

Main Idea and Key Details

OBJECTIVES

CCSS Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text. **RI.5.2**

ACADEMIC LANGUAGE

- *main idea, details*
- Cognate: *detalles*

1 Explain

Explain to students that the overall **main idea** of an expository text is what the author most wants readers to know about the topic.

- Explain that the text as a whole has a main idea but that each section of the text has a main idea, too. The main idea is supported by **key details.**
- Sometimes the main idea is explicitly stated in the text, but often readers must look at the key details in order to figure out the main idea.
- To determine the main idea, students should identify the key details and figure out what they have in common.

2 Model Close Reading: Text Evidence

Reread "Sedimentary Rocks" on page 196. Identify the key details in the first, second, and third paragraphs and list them on the graphic organizer. Then model identifying what the details have in common to determine the main idea.

Analytical Writing **Write About Reading: Summary** Model for students how to use the notes from the organizer to write a summary of what they learned from "Sedimentary Rocks."

3 Guided Practice of Close Reading

COLLABORATE Have students work in pairs to complete an organizer for "Rock Formations" on page 196. Tell them to use key details in the text to find the main idea of the section. Discuss the organizer as students complete it.

Analytical Writing **Write About Reading: Summary** Ask pairs to work together to write a summary of "Rock Formations." Select pairs of students to share their summaries with the class.

SKILLS TRACE

MAIN IDEA AND KEY DETAILS

Introduce U3W3

Review U3W4, U3W6, U4W6, U5W6, U6W6

Assess U3

Go Digital

Present the Lesson

Comprehension Skill

Main Idea and Key Details

Most texts have an overall **main idea**. This is what the writer most wants you to know about a topic. To find the **main idea**, identify **key details.** Then decide what all the key details have in common.

Find Text Evidence

After I read "Sedimentary Rocks" on page 196, I see that the key details are about how different particles form sedimentary rocks. From these details, I can find the main idea.

Main Idea Particles such as sand or bones and shells form different sedimentary rocks.
Detail Wind and water carry away rock particles.
Detail Particles collect in layers and are pressed together.
Detail Sedimentary rocks are made from the pressed particles.

Your Turn COLLABORATE

Reread "Rock Formations" on page 196. Use key details to find the main idea of this section.

Go Digital! Use the interactive graphic organizer

199

READING/WRITING WORKSHOP, p. 199

Monitor and Differentiate

Quick Check

As students complete the graphic organizer for "Rock Formations," are they able to identify key details? Can they determine the main idea?

Small Group Instruction

If No →	Approaching Level	Reteach p. T175
	EL	Develop p. T185
If Yes →	On Level	Review p. T179
	Beyond Level	Extend p. T183

ENGLISH LEARNERS SCAFFOLD

Emerging	Expanding	Bridging
Comprehend Reread "Sedimentary Rocks" aloud. Ask: *Do wind and water break igneous rocks into particles?* (yes) *Do wind and water move these particles to other places?* (yes) *Can particles such as sand and bones form different kinds of sedimentary rocks?* (yes) Point out that these details support one main idea: sedimentary rocks are made of particles.	**Explain** Reread "Sedimentary Rocks" with students. Ask: *What effects do wind and water have on igneous rock? What makes up different kinds of sedimentary rocks, such as sandstone and limestone?* Write answers to these questions in complete sentences on the board and in the organizer. Have partners identify what main idea they support.	**Identify** Have students reread "Sedimentary Rocks." Ask them to identify the key details in each of the three paragraphs. Guide them to use these details to determine the main idea and to complete the graphic organizer.

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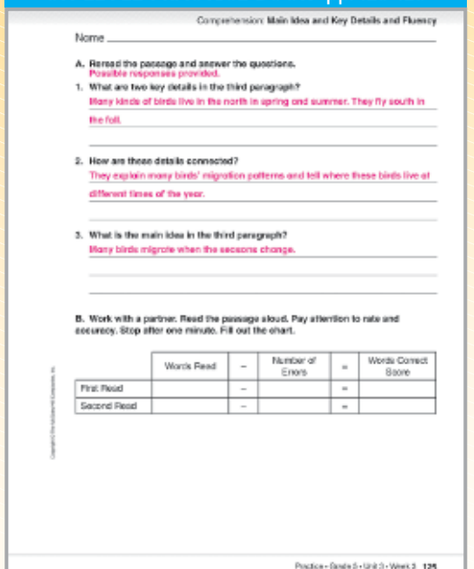
ON-LEVEL PRACTICE BOOK pp. 123–125


Comprehension: Main Idea and Key Details and Fluency

Name _____

A. Reread the passage and answer the questions.
Possible responses provided.

1. What are two key details in the third paragraph?
Many kinds of birds live in the north in spring and summer. They fly south in the fall.

2. How are these details connected?
They explain many birds' migration patterns and tell where these birds live at different times of the year.

3. What is the main idea in the third paragraph?
Many birds migrate when the seasons change.

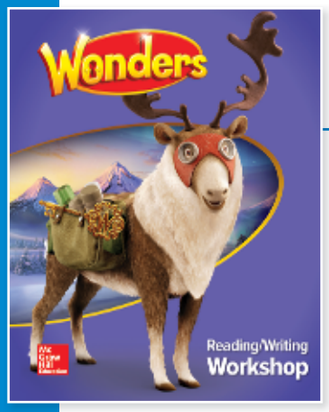
B. Work with a partner. Read the passage aloud. Pay attention to rate and accuracy. Stop after one minute. Fill out the chart.

	Words Read	–	Number of Errors	=	Words Correct Score
First Read		–		=	
Second Read		–		=	

Practice • Grade 5 • Unit 3 • Week 3 125

APPROACHING pp. 123–125 | BEYOND pp. 123–125 | EL pp. 123–125

Genre: Informational Text



Reading/Writing Workshop

MINILESSON 10 Mins

Expository Text

OBJECTIVES

CCSS By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently. **RI.5.10**

CCSS Interpret information presented visually, orally, or quantitatively (e.g. in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears. **RI.4.7**

ACADEMIC VOCABULARY

- *expository text, diagram*
- Cognates: *texto expositivo, diagrama*

1 Explain

Share with students the following key features of **expository text**.

- Expository text supports a topic with reasons and evidence. Possible topics include real people and places, actual events, and scientific concepts.
- Expository text supports reasons and evidence with facts, examples, and concrete details.
- Text features help readers visualize information. Headings, photographs, illustrations, captions, diagrams, maps, and time lines are features that commonly appear in expository text.

2 Model Close Reading: Text Evidence

Model identifying the characteristics of expository text and using the text features on pages 195–197 of "Patterns of Change."

Diagram Remind students that diagrams help readers visualize information. Point out the diagram on page 197 and read the title. Explain that major events in the rock cycle that were described in the text are illustrated in this diagram. Ask: *Why is a diagram an appropriate feature for this text? What information does it help you visualize?*

3 Guided Practice of Close Reading

COLLABORATE

Have students work with a partner to describe the rock cycle. Remind them to start with magma or lava and follow the arrows to explain how molten rock changes in each stage. Have pairs share their description of the rock cycle with the class.

Go Digital

Present the Lesson

Genre Informational Text

Expository Text

The selection "Patterns of Change" is expository text.

Expository text:

- Explains a topic with reasons and evidence
- Supports reasons and evidence with facts, examples, and concrete details
- May include text features, such as diagrams or time lines

Find Text Evidence

I can tell "Patterns of Change" is expository text. It provides evidence and gives reasons why patterns occur, supporting these with facts and concrete details. A diagram illustrates information.

page 197

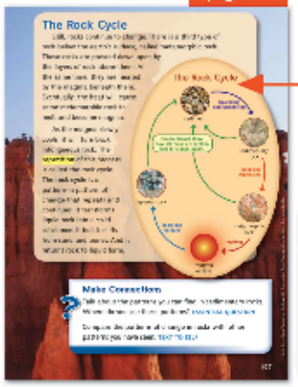


Diagram A diagram helps readers visualize information. Read the title, callouts, and labels. Then study the way information is arranged, paying attention to the direction in which arrows point.

COLLABORATE

Your Turn

With a partner, describe the rock cycle. Begin with magma or lava. Following the arrows, explain how the molten rock changes.

200

READING/WRITING WORKSHOP, p. 200

Monitor and Differentiate

Quick Check

Are students able to follow the diagram and use it to describe the rock cycle?

Small Group Instruction

If No →	Approaching Level	Reteach p. T169
	EL	Develop p. T187
If Yes →	On Level	Review p. T177
	Beyond Level	Extend p. T181

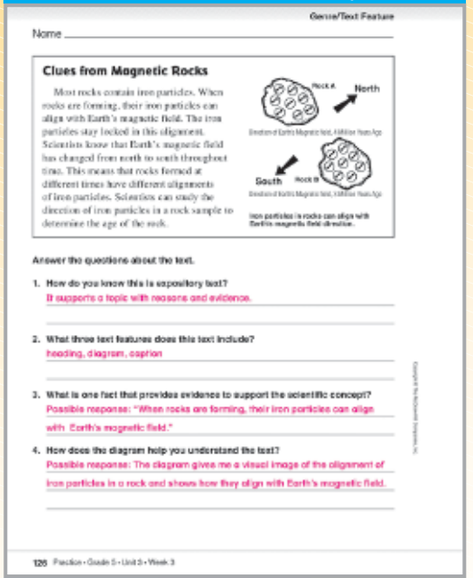
ACT Access Complex Text

Genre

Students may have difficulty understanding how text features connect to the text.

- *What are strata, according to the first paragraph in the section "Rock Formations"?* (A stratum is a layer of sedimentary rock made from the same material at about the same time. The plural for stratum is strata.)
- *How does the photograph of sandstone on page 196 help you better understand this information?* (It shows strata, or layers of rock, so readers can visualize the concept.)

ON-LEVEL PRACTICE BOOK p. 126


Genre/Text Feature

Name _____

Clues from Magnetic Rocks

Most rocks contain iron particles. When rocks are forming, their iron particles can align with Earth's magnetic field. The iron particles stay locked in this alignment. Scientists know that Earth's magnetic field has changed from north to south throughout time. This means that rocks formed at different times have different alignments of iron particles. Scientists can study the direction of iron particles in a rock sample to determine the age of the rock.

Rock A North

South Rock B

Iron particles in rocks can align with Earth's magnetic field direction.

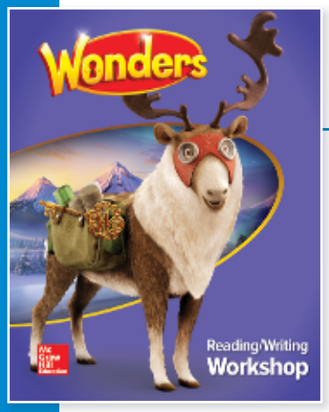
Answer the questions about the text.

1. How do you know this is expository text?
   It supports a topic with reasons and evidence.
2. What three text features does this text include?
   heading, diagram, caption
3. What is one fact that provides evidence to support the scientific concept?
   Possible response: "When rocks are forming, their iron particles can align with Earth's magnetic field."
4. How does the diagram help you understand the text?
   Possible response: The diagram gives me a visual image of the alignment of iron particles in a rock and shows how they align with Earth's magnetic field.

126 Fraction • Grade 5 • Unit 3 • Week 3

APPROACHING p. 126 | BEYOND p. 126 | EL p. 126

Vocabulary Strategy



Reading/Writing Workshop

MINILESSON 10 Mins

Greek Roots

OBJECTIVES

CCSS Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g. *photograph, photosynthesis*). **L.5.4b**

CCSS Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases and to identify alternate word choices in all content areas. **L.5.4c**

ACADEMIC LANGUAGE

Greek roots

SKILLS TRACE

GREEK ROOTS

Introduce	U1W4
Review	U3W3, U5W4
Assess	U1, U3, U5

1 Explain

Remind students that they can determine the meanings of unfamiliar words by using their knowledge of word roots.

- Explain that many words contain Greek and Latin roots.
- Tell students that some roots from Greek include *geo,* which means "earth"; *logy,* which means "study"; *chrono,* which means "time"; *bio,* which means "life"; *meta,* which means "change"; and *morph,* which means "form."
- Explain that some words, such as *biology,* have more than one root. Students can combine the definitions of the roots, as well as other word parts, to determine a word's meaning.

Context clues can also help determine an unfamiliar word's meaning.

2 Model Close Reading: Text Evidence

In the second sentence of "Rock Formations" on page 196, model using Greek roots (*geo*: "earth"; *logy*: "study") and context clues *(who study rocks)* to determine the meaning of *geologists*.

3 Guided Practice of Close Reading

COLLABORATE

Have students work in pairs to figure out the meanings of *biological, chronology,* and *metamorphic* in "Patterns of Change." Have partners use their knowledge of Greek roots and any context clues.

Use Reference Sources

Print and Online Dictionaries Have students check a print dictionary and compare the meanings they find there for *biological, chronology,* and *metamorphic* with the meanings they came up with from context.

Then review an online dictionary entry for the word *chronology.* Discuss each part of the entry: the meanings and example sentences; the syllabification and phonetic respelling; the part of speech label. Have students identify how the print and online entries for *chronology* are both similar and different.

Go Digital

Present the Lesson

Vocabulary Strategy

Greek Roots

If you know the meaning of a word's root, you can use it as a clue to figure out the meaning of an unfamiliar word. Some roots from ancient Greek are *geo*, which means "earth"; *logy*, which means "study"; *chrono*, which means "time"; *bio*, which means "life"; and *morph*, which means "form."

Find Text Evidence

I'm not sure what geologists *means on page 196 of "Patterns of Change." I know that* geo *means "earth" and* logy *means "study." The context clue* who study rocks *also helps me figure out that* geologists *means "someone who studies the earth."*

Over time, a layer can be created entirely of one kind of sedimentary rock. Geologists who study rocks call a layer made of the same material and at about the same time a *stratum*.

Your Turn

COLLABORATE

Use what you know about Greek roots, along with other context clues, to figure out the meaning of the following words.

biological, *page 196*
chronology, *page 196*
metamorphic, *page 197*

201

READING/WRITING WORKSHOP, p. 201

Monitor and Differentiate

Quick Check

Can students identify and use Greek roots to determine the meanings of *biological, chronology,* and *metamorphic*?

Small Group Instruction

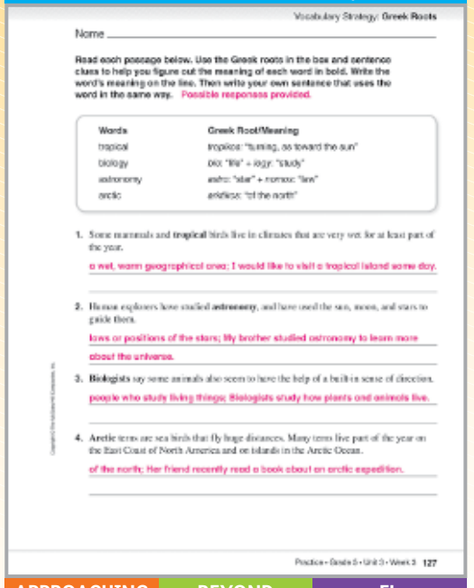
If No →	Approaching Level	Reteach p. T173
	EL	Develop p. T189
If Yes →	On Level	Review p. T178
	Beyond Level	Extend p. T182

ENGLISH LEARNERS SCAFFOLD

Emerging	Expanding	Bridging
Derive Meaning Point out and pronounce the words *biological, chronology,* and *metamorphic*. Have students repeat each word. Model how to underline the Greek roots in each word and put the word parts together to determine the word's meaning. Point out the cognates: *biológico, cronología,* and *metamórfico*.	**Understand** Point out and define the words *biological, chronology,* and *metamorphic*. Have students use sentence frames to tell how they used Greek roots: *The root ____ means ____. The word means ____.* Have students identify any context clues that helped them. Point out the cognates: *biológico, cronología,* and *metamórfico*.	**Explain** Write the words *biological, chronology,* and *metamorphic* on the board. Have students underline the Greek root or roots in each word and then identify the meaning of the word. Have pairs identify the cognates for these words and find additional cognates in the text.

ELD ELD.PI.5.6b.Em ELD.PI.5.6b.Ex ELD.PI.5.6b.Br

ON-LEVEL PRACTICE BOOK p. 127



Vocabulary Strategy: Greek Roots

Name _____

Read each passage below. Use the Greek roots in the box and sentence clues to help you figure out the meaning of each word in bold. Write the word's meaning on the line. Then write your own sentence that uses the word in the same way. Possible responses provided.

Words	Greek Root/Meaning
tropical	tropikos: "turning, as toward the sun"
biology	bio: "life" + -logy: "study"
astronomy	astro: "star" + nomos: "law"
arctic	arktikos: "of the north"

1. Some mammals and **tropical** birds live in climates that are very wet for at least part of the year.
a wet, warm geographical area; I would like to visit a tropical island some day.

2. Human explorers have studied **astronomy**, and have used the sun, moon, and stars to guide them.
laws or positions of the stars; My brother studied astronomy to learn more about the universe.

3. Biologists say some animals also seem to have the help of a built-in sense of direction.
people who study living things; Biologists study how plants and animals live.

4. Arctic terns are sea birds that fly huge distances. Many terns live part of the year on the East Coast of North America and on islands in the Arctic Ocean.
of the north; Her friend recently read a book about an arctic expedition.

Practice • Grade 5 • Unit 3 • Week 3 127

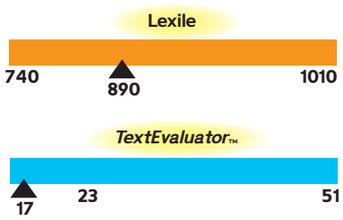
APPROACHING p. 127 | BEYOND p. 127 | EL p. 127

CLOSE READING

The Story of Snow

Literature Anthology
**Although the selection score falls below the TextEvaluator range, the selection includes difficult vocabulary and complex connections of ideas.*

Text Complexity Range



What makes this text complex?

- **Specific Vocabulary**
- **Genre**
- **Connection of Ideas**
- **Organization**

Close Reading Routine

Read **DOK 1–2**

- Identify key ideas and details about patterns in nature.
- Take notes and summarize.
- Use ACT prompts as needed.

Reread **DOK 2–3**

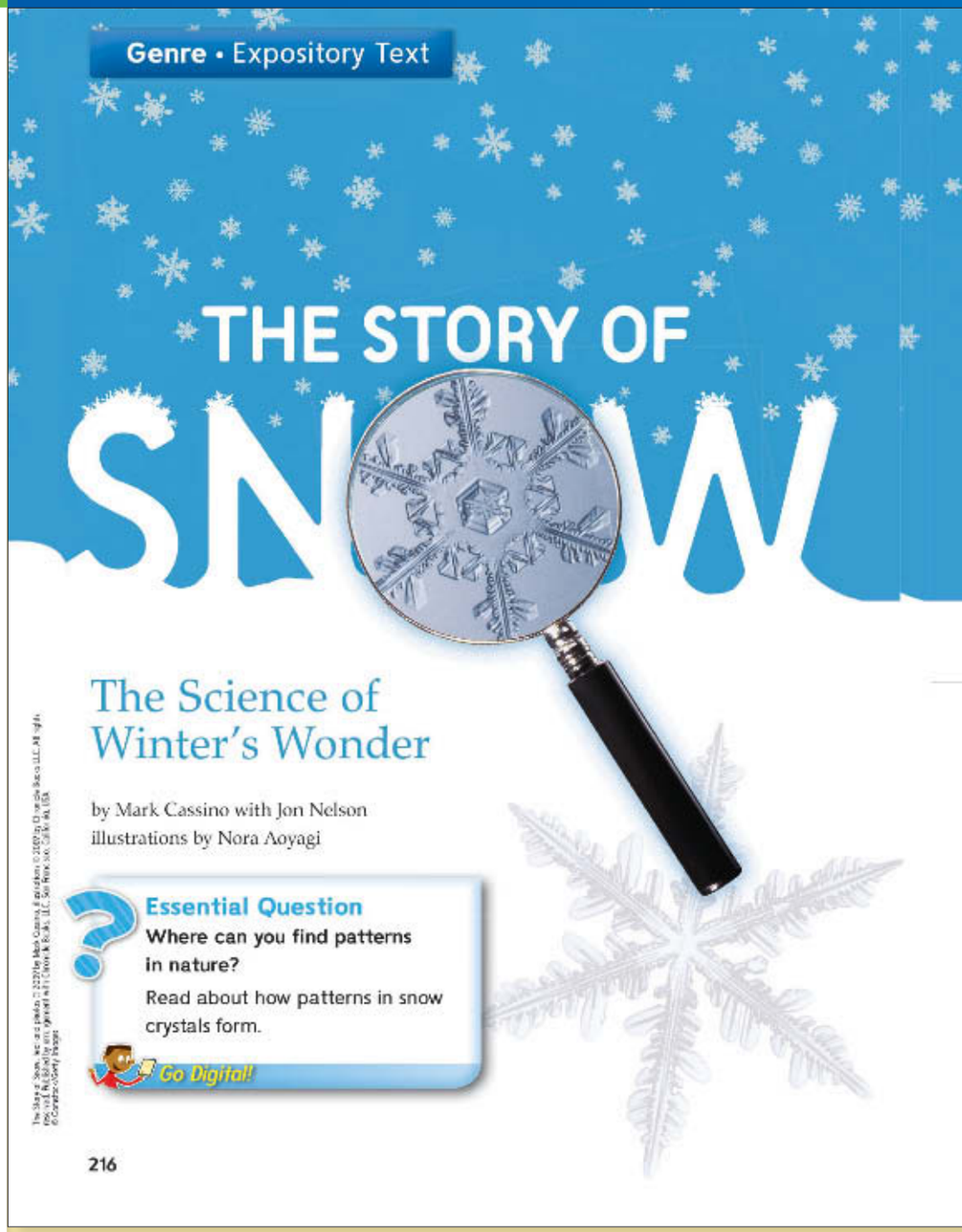
- Analyze the text, craft and structure.
- Use *Close Reading Companion*, pp. 81–83.

Integrate **DOK 4**

- Integrate knowledge and ideas.
- Make text-to-text connections.
- Use the Integrate lesson.

Curriculum Connection

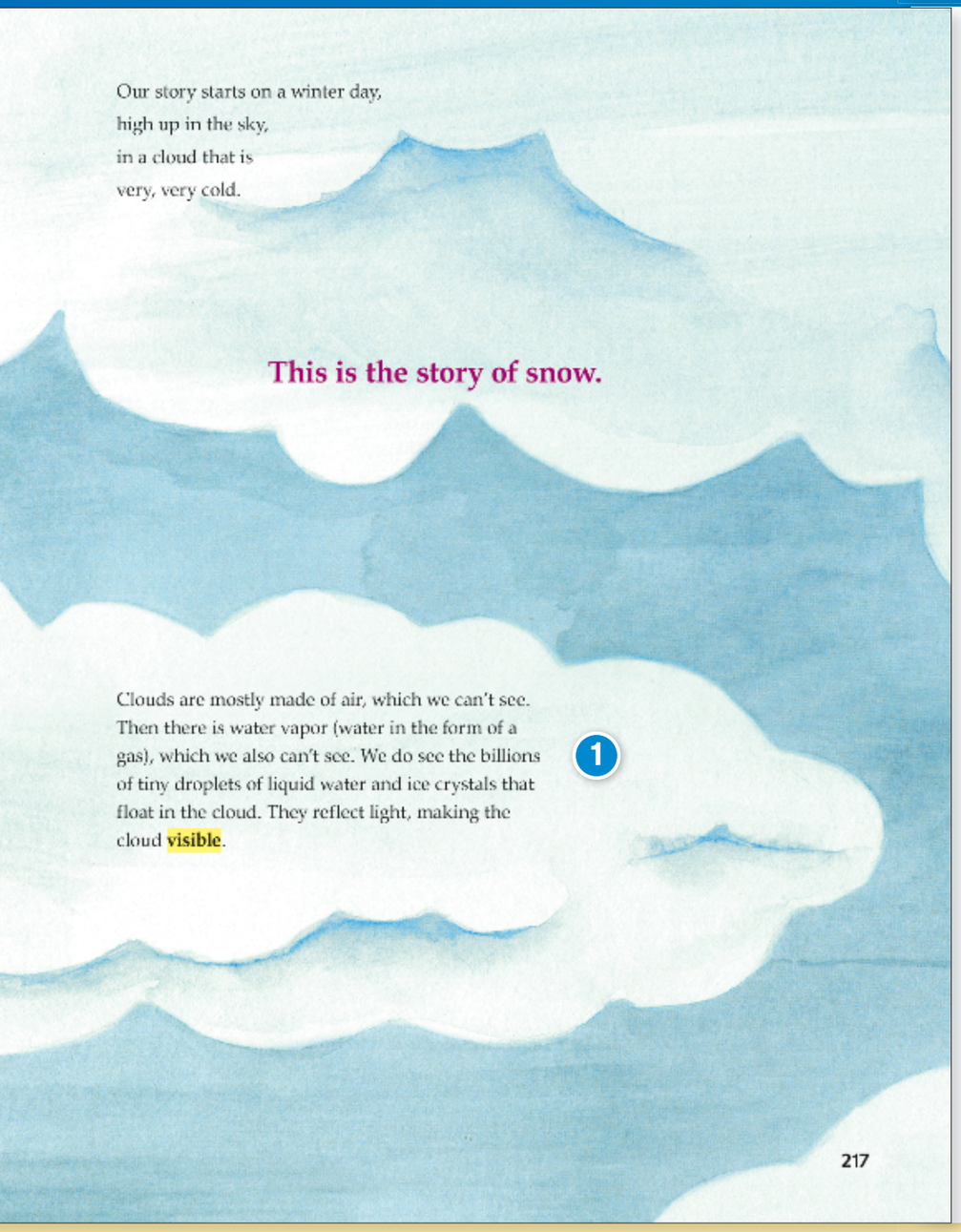
NGSS 5.ESS2.A



ACT Access Complex Text

Specific Vocabulary

Review strategies for finding the meaning of an unfamiliar word, such as looking for definitions, restatements, and other context clues in the text. Explain that authors may directly define an unfamiliar word. Often, the definition is set apart by commas or parentheses. Point out the word *vapor* on page 217.


Our story starts on a winter day,
high up in the sky,
in a cloud that is
very, very cold.

This is the story of snow.

Clouds are mostly made of air, which we can't see. Then there is water vapor (water in the form of a gas), which we also can't see. We do see the billions of tiny droplets of liquid water and ice crystals that float in the cloud. They reflect light, making the cloud visible.

1

217

LITERATURE ANTHOLOGY, pp. 216–217

Read

Tell students that they will read about how snow crystals and snowflakes form. Ask them to predict how this selection will help them answer the Essential Question.

Note Taking: Use the Graphic Organizer

Analytical Writing

Remind students to take notes as they read. Have them fill in the graphic organizer on **Your Turn Practice Book** page 122. Ask them to record the main idea and key details of each section. They can also note words they don't understand and questions they have.

1 Author's Craft: Text Structure

The word *also* signals a comparison. Read the first two sentences of the paragraph on page 217. What is the author comparing? (air and water vapor) How are they alike? (We cannot see them.)

- *Reread the paragraph. What is* water vapor*?* (Water vapor is water in the form of a gas.)
- *How do the authors help you figure out the meaning of* water vapor*?* (They put the definition in parentheses.)

CLOSE READING

Read

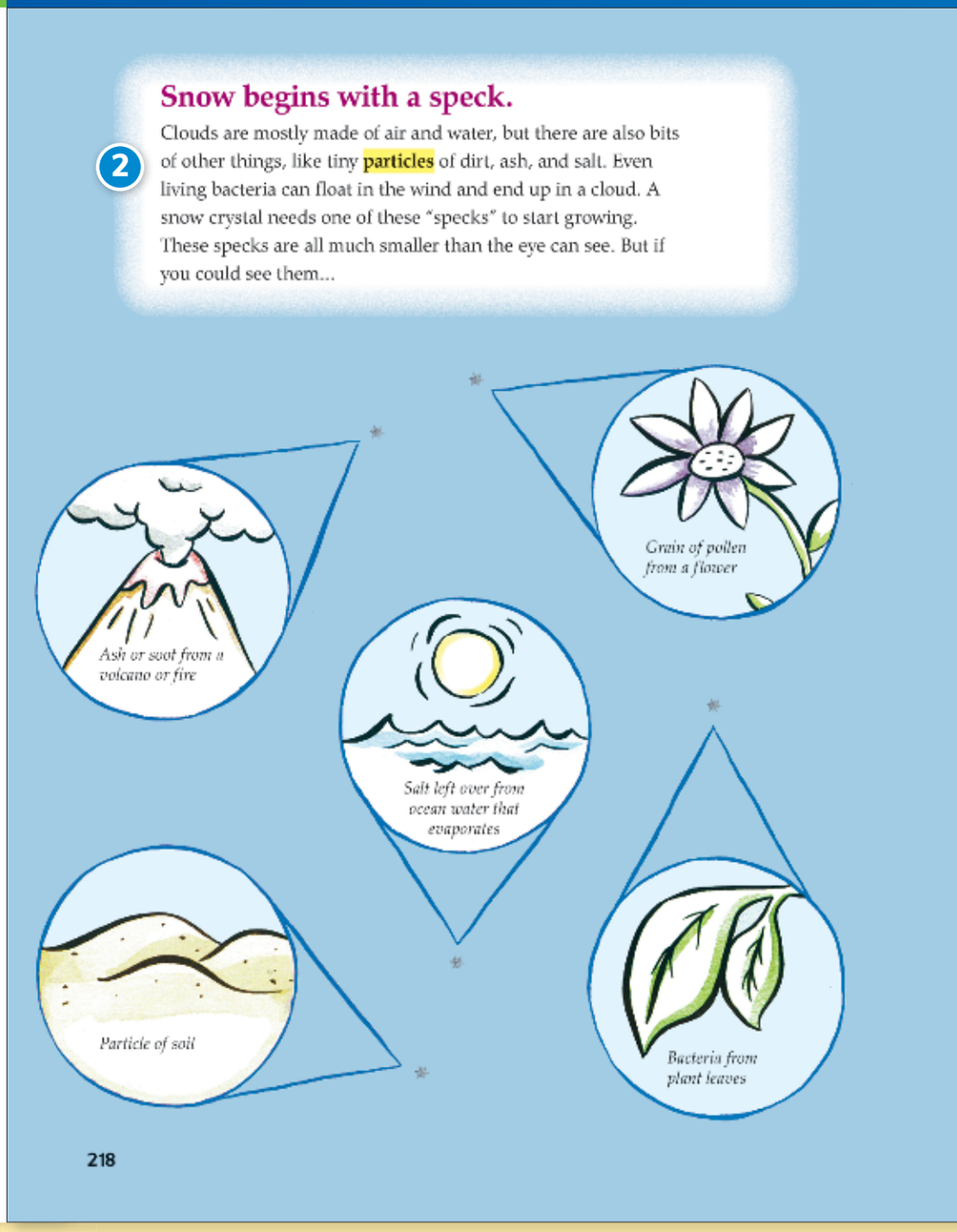
2 Skill: Main Idea and Key Details

To find the main idea on page 218, study the key details. The main idea is what the key details have in common. What do the key details in this section have in common? (They all tell about how snow develops.) Add the main idea and key details to your organizer.

Main Idea
Snow has a development process.
Detail
Clouds contain tiny particles of dirt, ash, salt, and bacteria.
Detail
A snow crystal needs a speck to start growing.
Detail
The specks are smaller than the eye can see.

Build Vocabulary on page 218

bacteria: tiny living cells that can only be seen through a microscope



ACT Access Complex Text

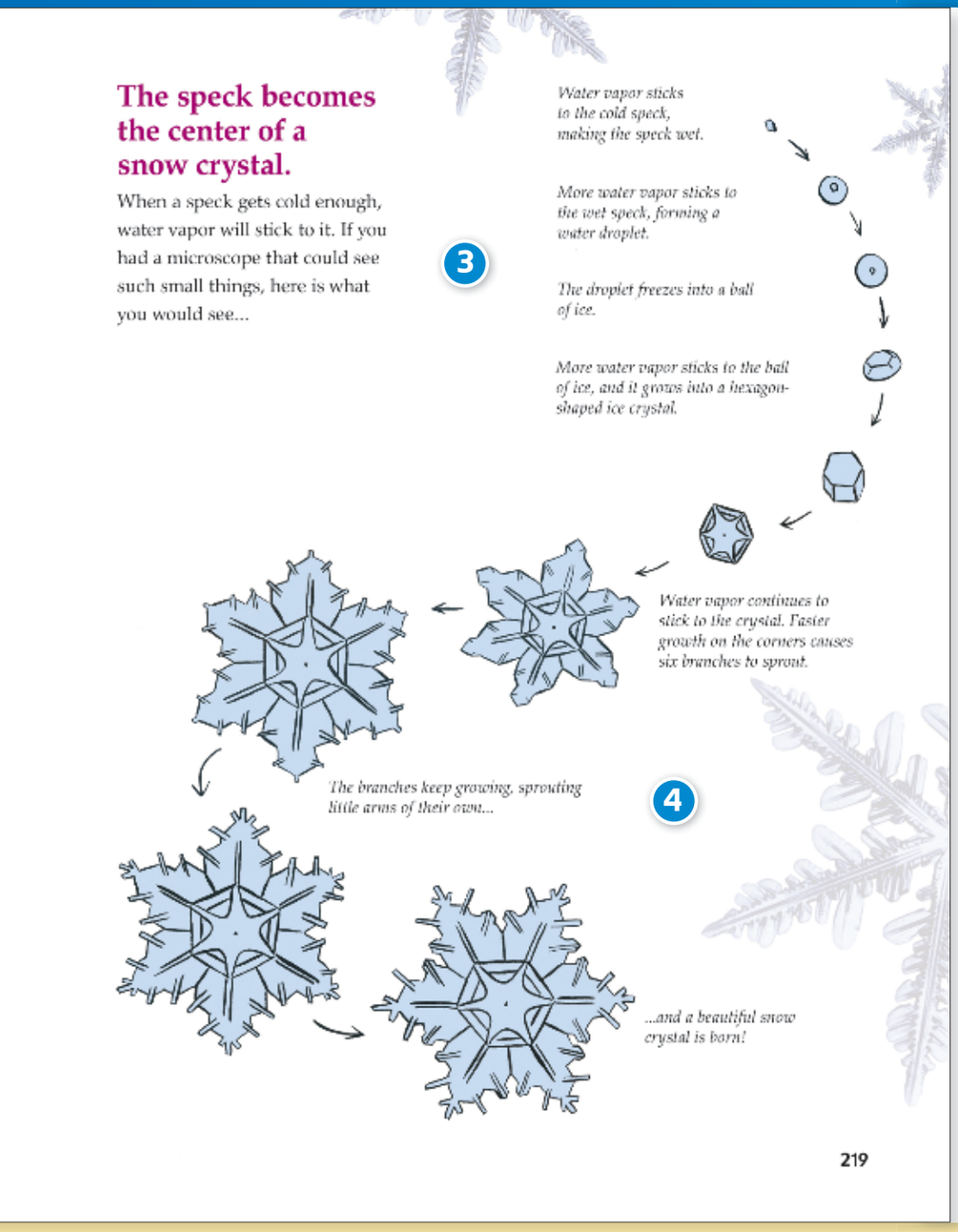
Genre

Remind students to connect diagrams with the text. Read the last sentence in the paragraph on page 218 with students: "But if you could see them..." Point out that the sentence and the diagram directly below it are connected.

- *What does the diagram show?* (It shows where specks come from.)

Guide students to notice that the diagram on page 219 shows examples of specks that can turn into snow crystals. Then read the last sentence in the paragraph on page 219 with students.

- *How does the diagram connect with the sentence?* (The sentence describes what is shown in the diagram: how a snow crystal is formed.)



LITERATURE ANTHOLOGY, pp. 218–219

Read

3 Vocabulary: Greek Roots

The word *microscope* on page 219 has a prefix and a Greek root. The prefix *micro-* means "small." The root *scope* means "see or watch." Use this information, along with context clues, to figure out the meaning of *microscope*. (A *microscope* is an instrument used to help people see very small things.)

4 Strategy: Ask and Answer Questions

Teacher Think Aloud As I read, I can pause to **ask and answer questions**. One question I've asked myself is how snow crystals get their arms. To find out, I can look at the diagram again and reread the captions. The fifth caption has the word *branches* and the sixth has the word *arms,* so I pay special attention to them. Then I paraphrase the text in the captions to make sure I understand it: Snow crystals grow their arms because they grow faster on their corners. This causes six branches to grow.

Build Vocabulary on page 219

hexagon: a flat shape with six sides

sprout: begin to grow

EL Encourage students to notice cognates in the diagram on page 218: volcano/*volcán*; particle/*partícula*; evaporates/*evaporar*. Ask if anyone can find another cognate. (bacteria/*bacteria*)

CLOSE READING

Read

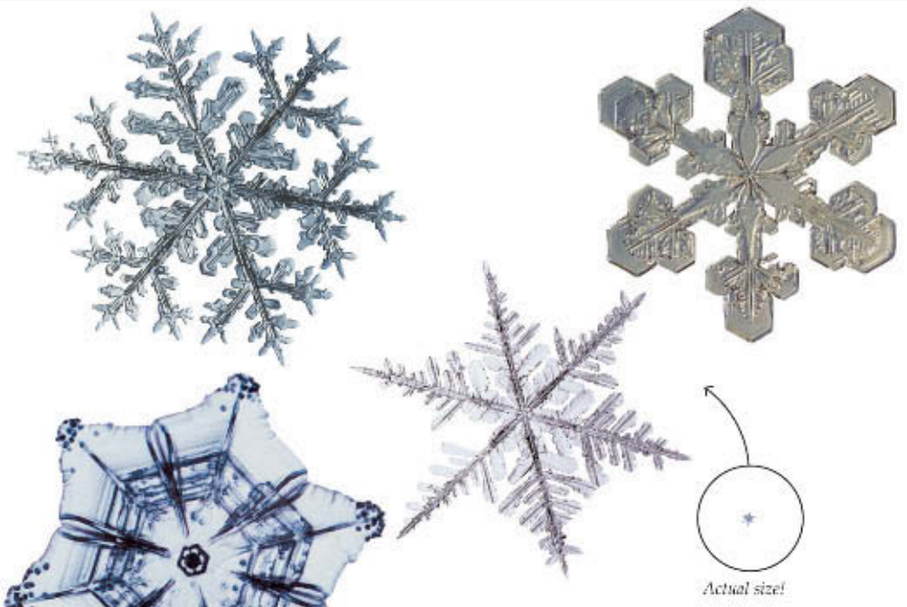
5 Genre: Expository Text

How do you know this is an expository text? Turn to a partner and discuss how you know. (The text includes photographs and very specific information on a scientific topic.)

6 Skill: Main Idea and Key Details

What are the key details on pages 220–221? What do the key details on these pages have in common? (They tell how snow crystals are shaped and formed.) Add the main idea and details to your organizer.

Main Idea
Snow crystals have a particular shape and form.
Detail
Snow crystals usually have six arms that reach out from a center point.
Detail
The center point is home to the speck that started the crystal.
Detail
The arms of crystals may look alike, but are almost never exactly the same.



5 *These photographs of real snow crystals are shown much larger than their actual size. The crystals were collected during many different snowfalls.*

As the snow crystal gets bigger and heavier, it starts to fall to earth. It keeps growing as it falls through its cloud, taking on its own special shape. The shape depends on how *wet* the cloud is and how *cold* it is. A snow crystal can start to grow one way, but then grow another way when it passes through a wetter or colder part of its cloud. The crystal stops growing soon after falling below the clouds.

STOP AND CHECK

Ask and Answer Questions How does a snow crystal take shape? Go back to the text to find details that support your answer.

220

ACT Access Complex Text

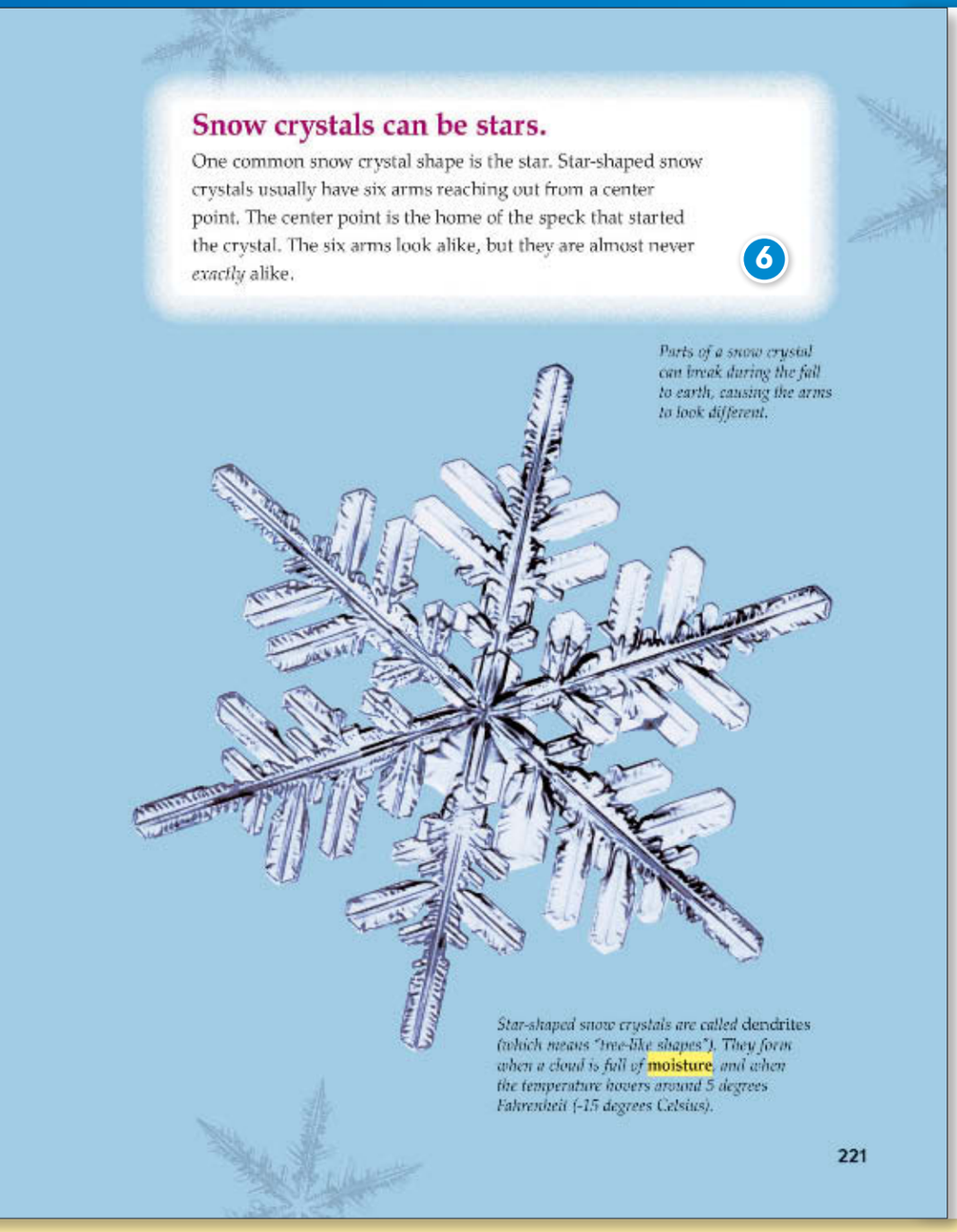
Connection of Ideas

Point out that the paragraph on page 220 connects the reader to the diagram on page 219 that explains how snow crystals form.

- *The second sentence on page 220 says that a snow crystal keeps growing as it falls through a cloud. Look back at the diagram on page 219. How does a snow crystal grow?* (Water vapor sticks to a speck.)

Have students look at the photographs at the top of page 220 and the heading and text on page 221.

- *What can you learn about the shape of snow crystals from the photographs?* (They all have six branches, but they are all unique in their detail.)
- *What do you learn from the text on page 221?* (One of the common shapes is the star shape.)



Snow crystals can be stars.

One common snow crystal shape is the star. Star-shaped snow crystals usually have six arms reaching out from a center point. The center point is the home of the speck that started the crystal. The six arms look alike, but they are almost never *exactly* alike.

6

Parts of a snow crystal can break during the fall to earth, causing the arms to look different.

Star-shaped snow crystals are called dendrites *(which means "tree-like shapes"). They form when a cloud is full of* moisture, *and when the temperature hovers around 5 degrees Fahrenheit (-15 degrees Celsius).*

221

LITERATURE ANTHOLOGY, pp. 220–221

STOP AND CHECK

Ask and Answer Questions How does a snow crystal take shape? (A snow crystal gets its special shape as it falls through a cloud. The shape it takes depends on how wet and how cold the cloud is. A snow crystal may change the way it grows as it passes through a wetter or colder part of its cloud.)

Build Vocabulary on page 221

hovers: stays near a specific point

Reread *Close Reading Companion,* 81

Text Features: Photographs and Captions

Why did the author include a photo showing the actual size of a snow crystal? (The author included it to show just how tiny snow crystals are.) How do the photographs and captions on pages 220–221 create more interest about snow crystals? (The enlarged images help the reader picture the information in the text. They show what the complex but tiny crystals look like up close. This is something readers would not otherwise be able to see.)

Specific Vocabulary

Point out the word *dendrite* and its definition in the caption on page 221.

- *Why might star-shaped snow crystals be called* dendrites? (They have branches that look like the branches of a tree.)

EL Read the caption about star-shaped crystals on page 221 with students.

- Help them pronounce *dendrite, Fahrenheit,* and *Celsius.*
- Clarify that Fahrenheit is the temperature scale used in the United States, and that water freezes at 32 degrees.

CLOSE READING

Read

7 Author's Craft: Text Structure

The word *like* is usually a signal word for comparing, or figuring out how things are the same. The word *but* is usually a signal word for contrasting, or figuring out how things are different. Read the first sentence on page 222. What are the authors comparing and contrasting here? (plate crystals and star crystals) How are they alike? (They are both thin.) How are they different? (Plate crystals don't have arms.)

8 Skill: Main Idea and Key Details

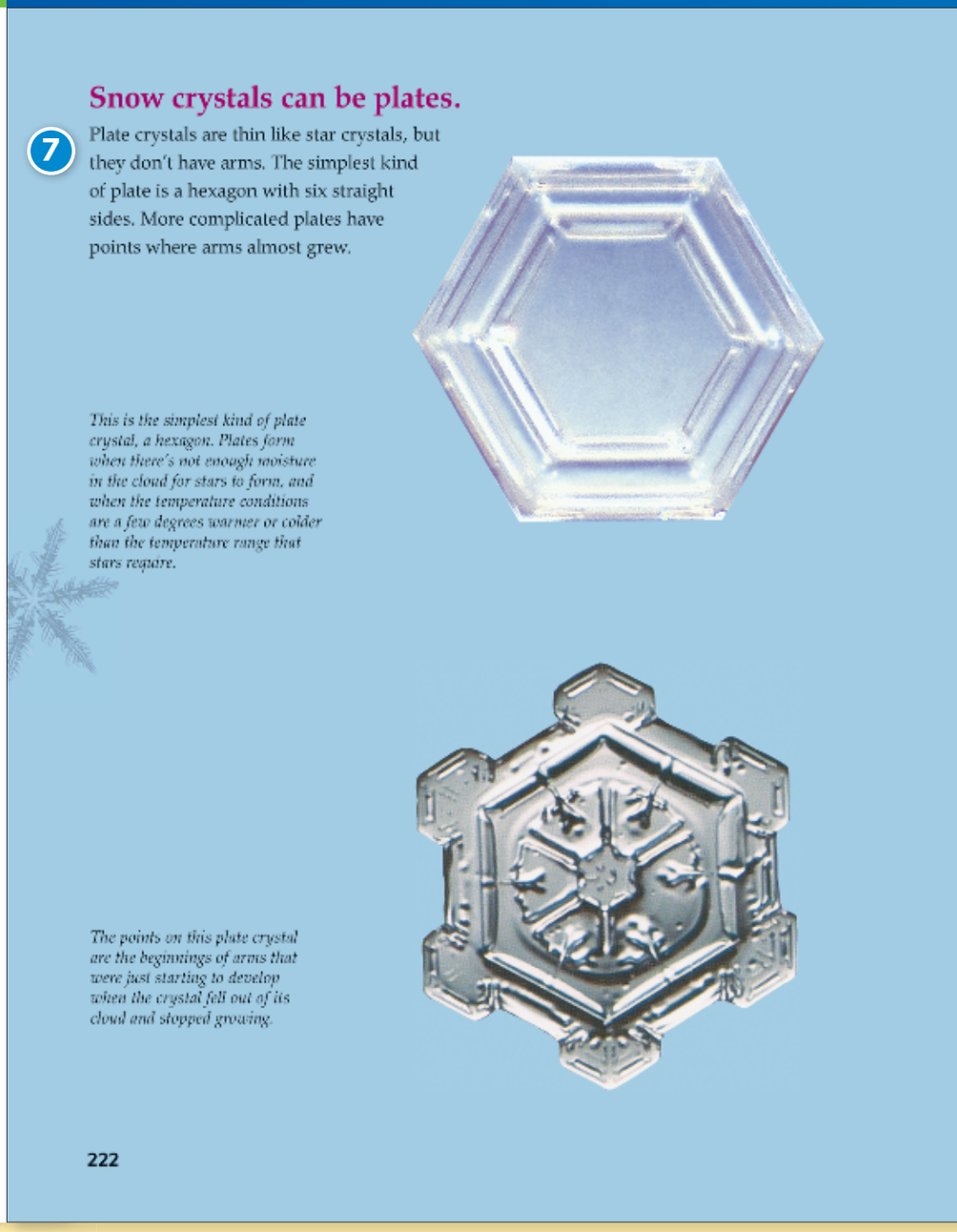
What is the main idea of the text on page 223? (Column-shaped snow crystals have a unique shape and forming process.) How do the details support the main idea? (They all tell about column-shaped snow crystals.) Add the main idea and key details to your organizer.

Build Vocabulary on pages 222–223

complicated: hard to understand

range: the highest and lowest limits possible

millimeter: a very small measurement; one one-thousandth of a meter



Snow crystals can be plates.

7 Plate crystals are thin like star crystals, but they don't have arms. The simplest kind of plate is a hexagon with six straight sides. More complicated plates have points where arms almost grew.

This is the simplest kind of plate crystal, a hexagon. Plates form when there's not enough moisture in the cloud for stars to form, and when the temperature conditions are a few degrees warmer or colder than the temperature range that stars require.

The points on this plate crystal are the beginnings of arms that were just starting to develop when the crystal fell out of its cloud and stopped growing.

222

ACT Access Complex Text

Organization

Review with students that a cause is an event that makes something happen, and an effect is what happens as a result of the cause. Looking for cause-and-effect relationships can help students better understand what they read.

Look at the photograph on the bottom of page 222 and reread the caption.

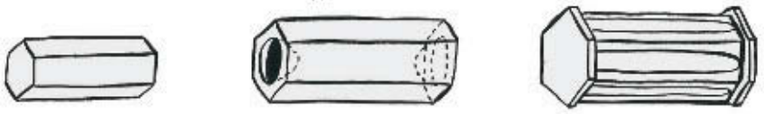
- *What caused the arms of this plate crystal to stop developing?* (The crystal fell out the cloud.)
- *What was the effect of the plate crystal falling out of the cloud?* (The points of the crystal did not develop into arms.)

Snow crystals can also be columns.

8

Column-shaped snow crystals are shaped like pencils. They're not flat like stars and plates. Columns can form high in the clouds and at very cold temperatures. They are *very* tiny, and when they fall, they make for very slippery snow.

A column has six sides. These are the three types:



Solid column
These are the smallest type of column.

Hollow column
These are longer and more common than solid columns.

Capped column
The caps on each end of these columns can be plate crystals or star crystals.

Actual size!
Column crystals are very tiny, usually no longer than half a millimeter!

Capped columns like this one develop when a column crystal moves into a part of its cloud where the temperature is right for plates or stars to grow at the ends. The two end caps can grow to different sizes, as you can see here.

STOP AND CHECK

Ask and Answer Questions How are hollow column crystals different from other types of column crystals? Use the diagrams and text to find the answer.

223

LITERATURE ANTHOLOGY, pp. 222–223

STOP AND CHECK

Ask and Answer Questions How are hollow column crystals different from other types of column crystals? (Hollow column crystals are longer and more common than solid crystals. They don't have caps on their ends, like capped crystals do.)

Reread *Close Reading Companion, 82*

Author's Craft: Text Structure

Reread pages 222–223. How does the author organize the information to help you understand more about snow crystals? (The author uses both a cause-and-effect and compare-and-contrast text structure to organize the information and explain the science behind snow crystals. He explains how snow crystals are formed and compares the different types. He supports this structure by using headings that chunk related text. The photos, illustrations, and captions support the structure by providing a visual representation of the text.)

NGSS 5.ESS2.A

CONNECT TO CONTENT
FACTORS THAT DETERMINE WEATHER

Air temperature, humidity, wind speed, and various forms of precipitation, such as snow, determine the weather in a particular place and time. Snow is part of the water cycle and falls to the ground as a solid. When snow melts, however, it changes form and becomes a liquid. On pages 220–223, students read about how air temperature and the amount of moisture in a cloud form different types of snow crystals.

STEM

EL To help students understand cause-and-effect relationships, have students compare the plate crystal on page 222 with the star-shaped crystal on page 221. Explain that because the plate crystal fell from the cloud (cause/what happened), its arms stopped growing and it did not become a star-shaped crystal (effect/the result of what happened).

CLOSE READING

Read

9 Strategy: Ask and Answer Questions

Teacher Think Aloud I want to be sure I understand why six is such an important number for snow crystals. What can I do to confirm my understanding?

Prompt students to apply the strategy in a Think Aloud by asking themselves a question. Then have them turn to a partner and paraphrase the text that answers it.

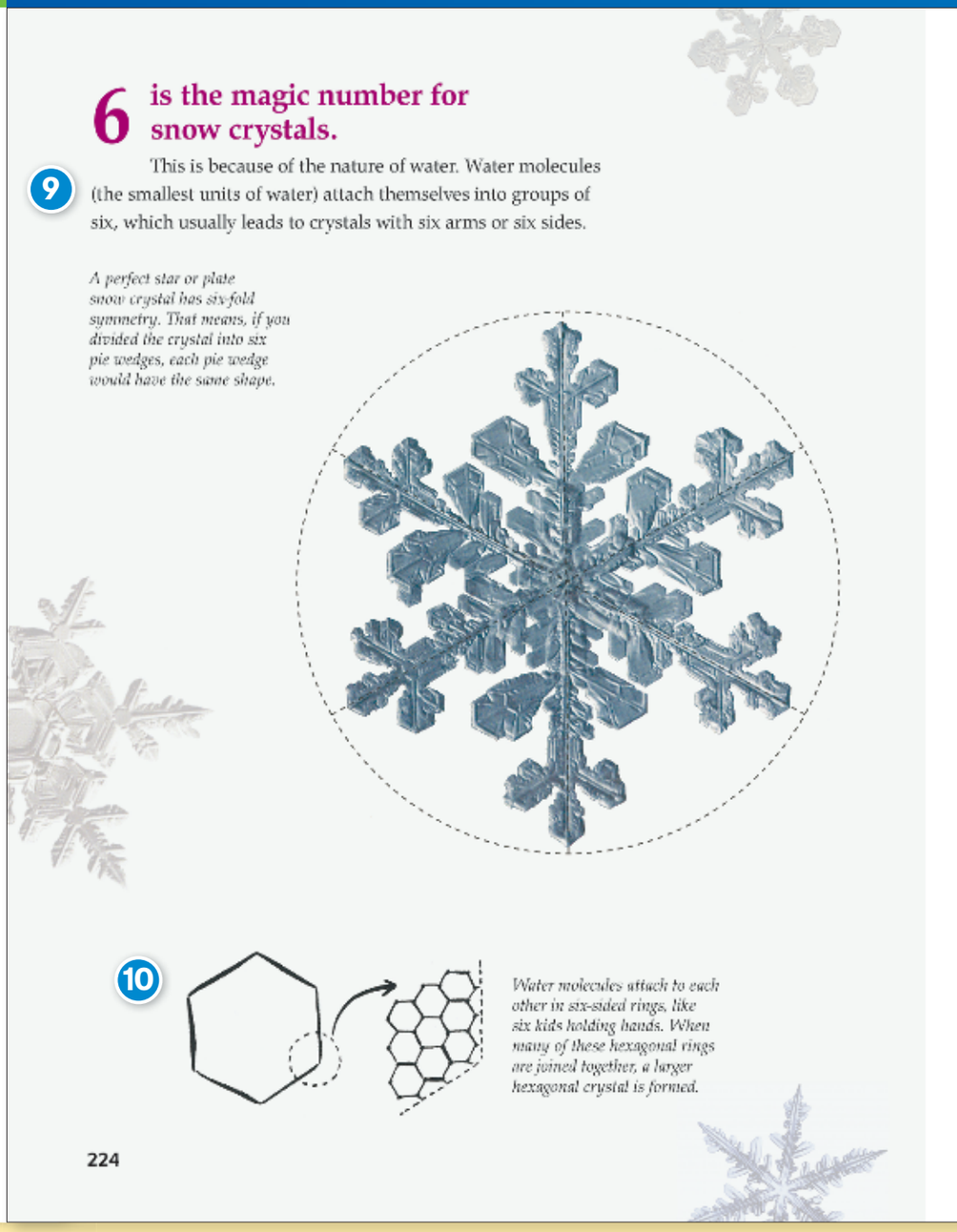
Student Think Aloud I asked myself why six is an important number for snow crystals. I will reread the paragraph to make sure I understand. Most crystals have six arms or six sides because water molecules attach themselves in groups of six.

10 Text Feature: Diagrams

Turn to a partner and use the diagram on page 224 to explain how a larger hexagonal crystal forms from water molecules shaped like hexagonal rings. (The hexagonal rings join together to make a larger crystal.)

Build Vocabulary on page 224

wedges: things with a similar triangle shape



6 is the magic number for snow crystals.

This is because of the nature of water. Water molecules (the smallest units of water) attach themselves into groups of six, which usually leads to crystals with six arms or six sides.

9

A perfect star or plate snow crystal has six-fold symmetry. That means, if you divided the crystal into six pie wedges, each pie wedge would have the same shape.

10

Water molecules attach to each other in six-sided rings, like six kids holding hands. When many of these hexagonal rings are joined together, a larger hexagonal crystal is formed.

224

ACT Access Complex Text

Specific Vocabulary

Review strategies for finding the meaning of unfamiliar words, including looking for context clues, such as restatements. Point out the words *water molecule* in the first paragraph on page 224.

- *Identify the restatement of text that gives the meaning of* water molecule. ("the smallest units of water")

Point out the word *symmetry* in the first caption on page 224.

- *What context clues can you find in the first caption to figure out the meaning of* symmetry*?* ("the same shape")
- *What does an object that has symmetry look like?* (It has the same shape when divided equally.)

So much can happen during a snow crystal's fall to earth, it is rare that one will turn out perfectly. If a droplet of water passes close to one arm of a snow crystal, that arm can start to grow faster. Before long, that one arm will be a lot longer than the others!

A snow crystal can be a twin!

A snow crystal can have twelve arms. This is a twin crystal, which happens when two crystals start from the original speck and form on top of each other.

A snow crystal can have bumps!

If there are enough water droplets near the crystal, some can strike the crystal and freeze on contact. This gives the crystal little bumps called rime.

225

Read

11 Skill: Main Idea and Key Details

Is the main idea directly stated on page 225? (no) How do you know what the main idea is? (The details on the page all explain that snow crystals develop into many forms.) Add the main idea and details to your organizer.

Main Idea
Snow crystals can develop into many forms.
Detail
It is rare for snow crystals to turn out perfectly.
Detail
A droplet of water can cause one arm to grow faster.
Detail
Snow crystals can have twelve arms.
Detail
Snow crystals can have bumps called *rime*.

Reread

Author's Purpose

Why does the author use exclamation points in the headings on page 225? (The author is conveying excitement about the complexities of snow crystals and wants to make readers curious to learn more about snow crystals.)

LITERATURE ANTHOLOGY, pp. 224–225

EL Encourage students to notice cognates on page 224: molecules/*moléculas*; symmetry/*simetría*; and crystal/*cristal*.

- *How many molecules join together to form a snow crystal?* (six) *Point to the text that gives you the clue.*
- Fold a piece of paper in half to model an object that has symmetry. *Are objects with symmetry the same or different on each side?* (the same)

CLOSE READING

Read

12 Skill: Main Idea and Key Details

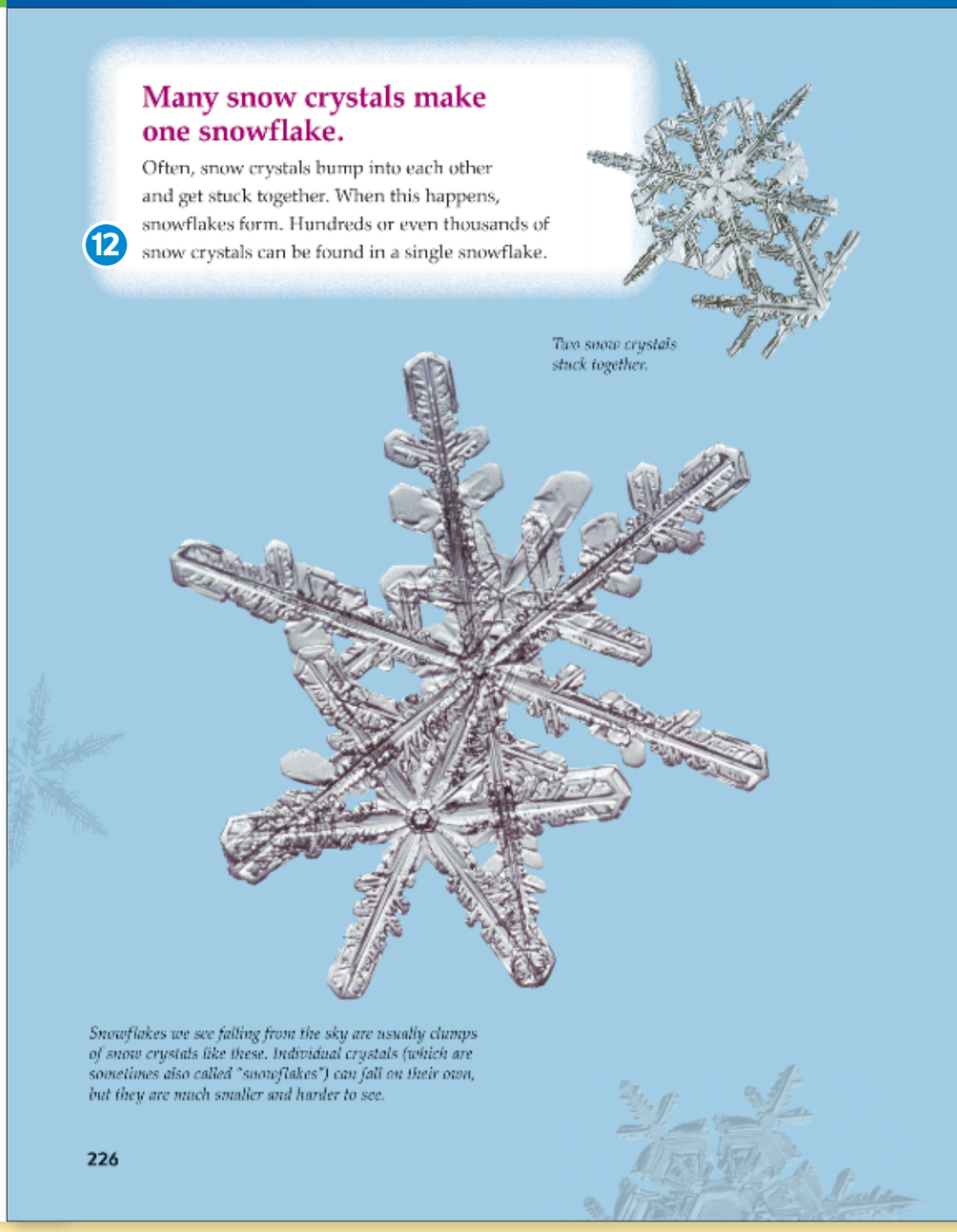
How do the details support the main idea? (The details are all about snow crystals sticking together.) Add the main idea and details to your organizer.

Main Idea
Hundreds or thousands of snow crystals can make one snowflake.
Detail
Snow crystals bump into each other and stick together.
Detail
Snowflakes can be just one crystal. They are very small and hard to see.

13 Strategy: Ask and Answer Questions

Tell your partner a question you asked yourself as you read pages 226–227. Paraphrase your answer.

Student Think Aloud A question I asked myself was, "Why do snow crystals stop growing when they fall from clouds?" The caption on page 227 explains snow crystals must be surrounded by water vapor in clouds to keep growing. Once crystals leave a cloud, they are no longer surrounded by the water vapor they need to keep growing.



Many snow crystals make one snowflake.

12 Often, snow crystals bump into each other and get stuck together. When this happens, snowflakes form. Hundreds or even thousands of snow crystals can be found in a single snowflake.

Two snow crystals stuck together.

Snowflakes we see falling from the sky are usually clumps of snow crystals like these. Individual crystals (which are sometimes also called "snowflakes") can fall on their own, but they are much smaller and harder to see.

226

ACT Access Complex Text

Genre

Remind students that photographs and captions connect to expository text and also provide additional information. Have students reread the text and captions on page 226.

- *How do the photographs of snowflakes help you understand what snowflakes look like?* (The photographs show snow crystals joined together to form snowflakes.)
- *How does this connect to the text?* (The text explains that most snowflakes are made of many snow crystals that are stuck together.)

Snow crystals can't keep growing after they fall from the clouds. And when a crystal stops growing, it immediately starts to wither. Soon, the arms of the crystal break down and the crystal's shape becomes rounded. This means that if you want to see a snow crystal, you need to catch it in the air, or find it very soon after it lands.

When they're not in the clouds, surrounded by the water vapor they need to grow, snow crystals quickly start to **erode**. *Try catching one on your sleeve or glove to see the crystal* **structure** *at its best.*

13

STOP AND CHECK

Summarize How does a snow crystal change after it falls from a cloud? Use the strategy Summarize to help you.

227

LITERATURE ANTHOLOGY, pp. 226–227

STOP AND CHECK

Summarize How does a snow crystal change after it falls from a cloud? (After a snow crystal falls from the cloud it stops growing and starts to wither. Its arms break down and its shape becomes more rounded.)

Build Vocabulary on page 227

immediately: right away

Reread *Close Reading Companion,* 83

Text Features: Photographs and Captions

Look at the photograph and caption on page 227. Why does this photo stand out? (The photograph immediately draws readers' attention because it is the first photo in the selection to show a snow crystal in a real-life, outdoor situation.) How does the caption create more interest about snow crystals? (The caption encourages readers to see for themselves just how short the life span of a snow crystal is.)

EL Point to and read the caption of the bottom photograph on page 226, noting that the words *clumps* and *individual* are used to describe snow crystals that fall from the sky. As you read the caption, have students use the photograph and context clues to determine the meanings of *clumps* and *individual.*

- *Which are easier to see, snow crystals that are in clumps or individual snow crystals?* (snow crystals in clumps) *How do you know?* (The caption says individual crystals are smaller and harder to see.)

CLOSE READING

Read

14 Skill: Main Idea and Key Details

The main idea is not directly stated in the text, so we have to determine it ourselves. What do all the details on page 228 have in common? (They describe the ways things in nature are different.) What is the main idea? (Most things in nature are not exactly alike, including snowflakes.) Add the main idea and details to your organizer.

Main Idea Most things in nature are not exactly alike, including snowflakes.
Detail Simple plate crystals may appear alike.
Detail More complicated snow crystals aren't exactly alike.
Detail No two leaves, flowers, or people are exactly alike.

14 **Are no two snow crystals alike?**

Some simple plate crystals may appear exactly alike, as seen
15 through a high-quality microscope. When it comes to more complicated snow crystals though, odds are that no two are exactly alike. But then, no two leaves, flowers, or people are exactly alike, either! Snow crystals are like us—we're each different, but we have a lot in common.

228

ACT Access Complex Text

Connection of Ideas

Have students connect the information from the text and photos on pages 228 and 229 to information they have already read.

- *Think about what you have learned about how snow crystals and how they form. Why are no two are exactly alike?* (Snow crystals start from specks in the clouds. As the snow crystals travel through the cloud, the temperature and moisture affects how they form. No two are exactly alike because no two come from the same specks or go through exactly the same weather conditions.)

LITERATURE ANTHOLOGY, pp. 228–229

Read

15 Skill: Make Inferences

If you were looking at two snow crystals under a microscope and they appeared exactly alike, what inference could you make? (They are probably simple plate crystals.) What evidence from the text supports your inference? ("Some simple plate crystals may appear exactly alike, as seen through a high-quality microscope," "odds are that no two [complicated snow crystals] are exactly alike.")

Return to Purposes Review students' predictions and purposes for reading. Ask them to use text evidence to answer the Essential Question. (Patterns in nature can be found in snow crystals. Because snow crystals are made of water, each crystal usually has six arms or sides. The combination of moisture and temperature in the cloud in which a snow crystal forms determines the crystal's own unique pattern.)

EL Help students understand that when the authors say that "odds are" that no two snow crystals are exactly alike on page 228, it means that it is likely that no two will be exactly the same. Provide this example: *Odds are we will have homework tonight.* Ask: *Is it likely that we will have homework?* (yes) Ask students to use the phrase "odds are" in sentences.

Read

About the Author

Mark Cassino, Jon Nelson, and Nora Aoyagi

Have students read the information about the authors and the illustrator. Ask:

- Why do you think Mark Cassino and Jon Nelson chose to write about snow?
- How do Nora Aoyagi's illustrations help you visualize what the authors are describing?

Author's Purpose

To Inform: Review with students that when authors write to inform, they may include images to clarify their ideas. Snow crystals have many things in common, but each one is different. Showing photographs and diagrams of snow crystals is a visual way to explain the surrounding text.

Reread

Author's Craft: Word Choice

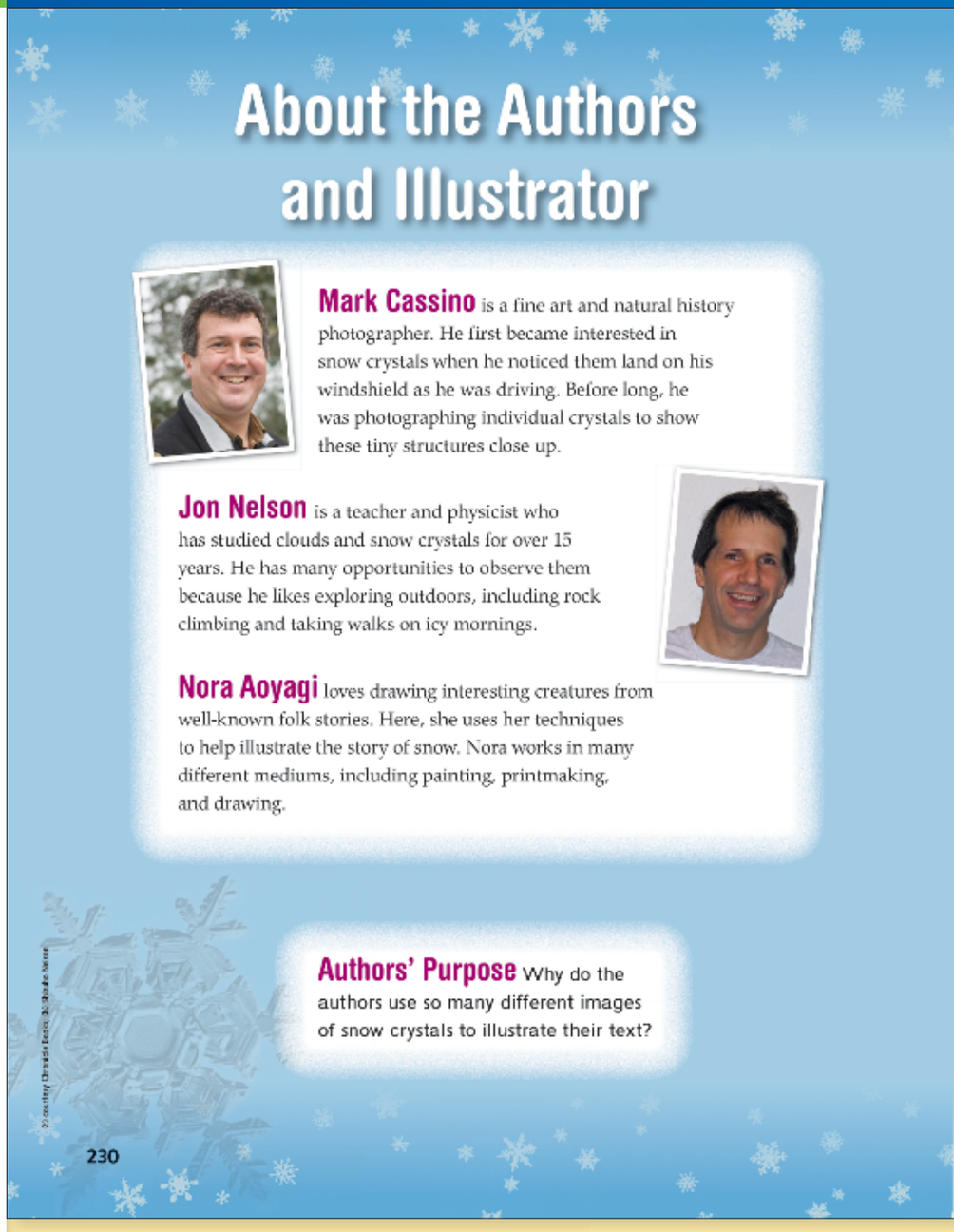
Why does the author use words such as *water vapor* on page 219, *dendrites* on page 221, and *symmetry* on page 224? (These words are used in the study of science. The author uses these words to express ideas precisely.)

Illustrator's Craft

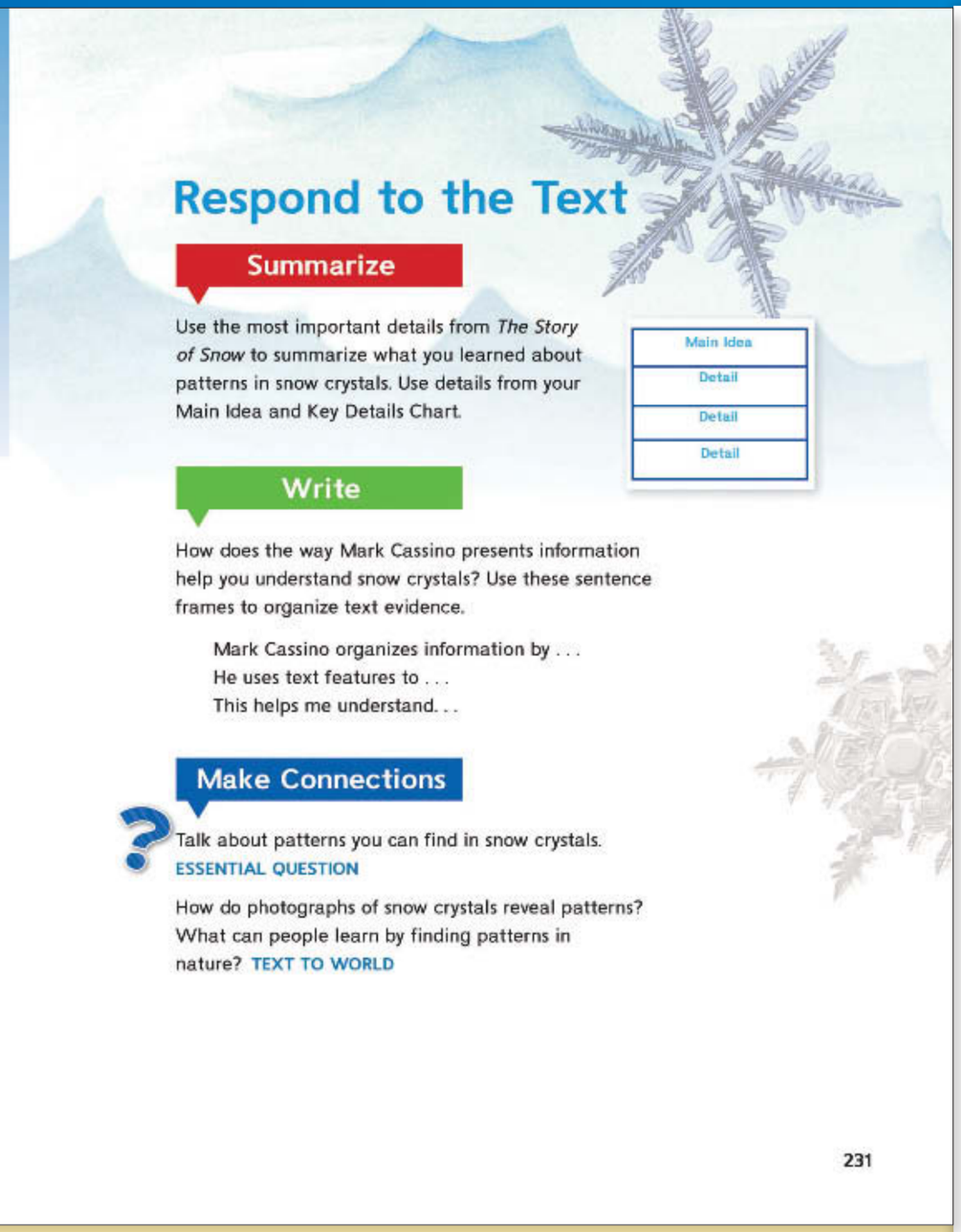
Expository text is often accompanied by text features. Have students look at the diagram at the bottom of page 224 and discuss how it helps clarify the text.

The diagram shows . . .

Use text evidence to support your idea.



LITERATURE ANTHOLOGY, pp. 230–231



Respond to the Text

Read

Summarize

Tell students they will use the details from their Main Idea and Key Details Chart to summarize. As I read the selection, I wrote down key details that supported the main ideas. I can use each section's main idea to retell the selection.

Reread

Analyze the Text

After students summarize the selection, have them reread to develop a deeper understanding of the text and answer the questions on **Close Reading Companion** pages 81–83. For students who need support in citing text evidence, use the Reread prompts on pages T153F–153O.

Write About the Text

Review the writing prompt with students. Remind students to use their responses from the Close Reading Companion to support their answers. For a full lesson on writing a response supported by text evidence, see page T158.

Answer: The author's use of structure and text features helps readers visualize and understand the complex science of snow. Evidence: On page 219, the diagram shows how a snow crystal starts with a speck. On page 227, the photograph and caption demonstrate how quickly snow crystals erode.

Integrate

Make Connections

Essential Question Answer: Star-shaped snow crystals have six-fold symmetry. This means that each arm is almost the same. It is a repeating pattern. Evidence: On page 224, I read that if these snow crystals were divided into six wedges, each wedge would have the same shape.

Text to World Answers may vary, but encourage students to cite text evidence and then think of an example from their own lives.

Literature Anthology

"Fibonacci's Amazing Find"

Text Complexity Range

Lexile
740 890 1010

TextEvaluator™
23 48 51

What makes this text complex?

- **Prior Knowledge**
- **Connection of Ideas**

Compare Texts

As students read and reread "Fibonacci's Amazing Find" encourage them to take notes and think about the Essential Question: *Where can you find patterns in nature?* Tell students to think about how this text compares with what they learned about snow crystals in *The Story of Snow.*

ACT Access Complex Text

Prior Knowledge

Explain the references to *abacus* and *Roman numerals* in the second paragraph on page 233.

- *An* abacus *consists of beads strung on rows of wires. The wires represent ones, tens, hundreds, and so on. To add or subtract amounts, you slide the beads to different positions on the wire.*

The Origin of Our Number System

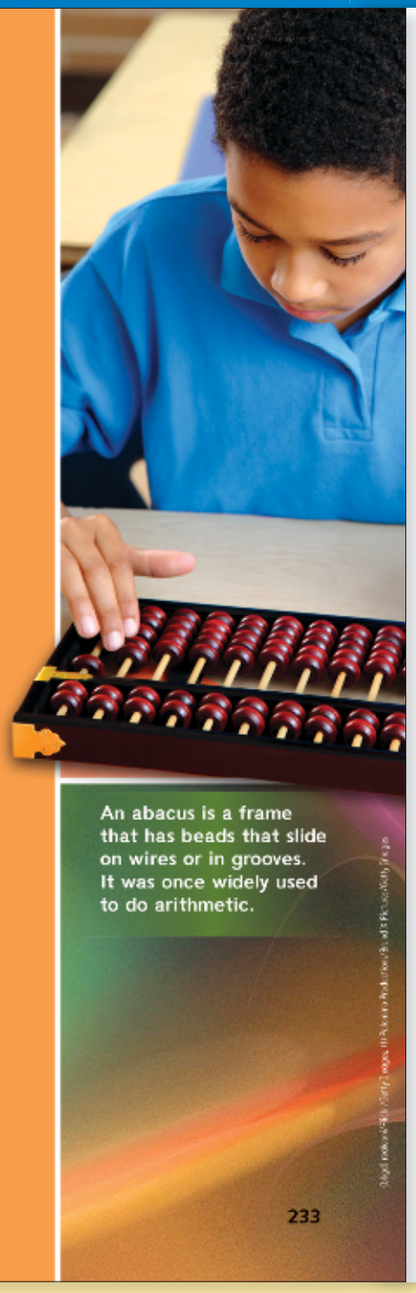
Fibonacci was born in the late 12th century in the Italian town of Pisa. As a teenager, Fibonacci moved to live with his father in North Africa.

At the time, most Europeans used the abacus to do their calculations. They would write their answers in Roman numerals. In North Africa, Fibonacci learned about a different numbering system. It used Hindu-Arabic numbers such as 1, 2, 3, and 4. To share what he had learned, Fibonacci wrote a book that helped spread the use of the Hindu-Arabic numbers throughout Europe. This is the numbering system we use today.

Fibonacci is now considered one of the most important mathematicians of his era. One reason is his creation of the Fibonacci sequence. 2

A Pattern of Numbers

It all started with a number problem—about rabbits! Fibonacci wondered how a population of rabbits would grow if each month a pair of rabbits produced two baby rabbits. He calculated the number of pairs of rabbits there would be each month. The result was a series of numbers: 1, 1, 2, 3, 5, 8, 13, 21, and so on. He noticed that each number in the series was the sum of the two numbers that came before it (1+1=2; 1+2=3; 2+3=5; 3+5=8). He recorded this sequence in one of his books.



An abacus is a frame that has beads that slide on wires or in grooves. It was once widely used to do arithmetic.

233

Read

1 Strategy: Ask and Answer Questions

How does the Fibonacci sequence relate to nature? (The Fibonacci numbers often match the numbers of things in nature.)

2 Skill: Main Idea and Key Details

What are the key details and main idea of the section titled "The Origin of Our Number System"? (**Key Details:** When Fibonacci was a teenager, most Europeans used the abacus. In North Africa, where he lived, they used Hindu-Arabic numbers. Fibonacci wrote a book to let people know about this number system, which we still use today. **Main Idea:** Fibonacci had a tremendous impact on mathematics.)

Reread

Author's Purpose

Reread "A Pattern of Numbers." Why does the author include the story about the rabbit population? (This section explains how Fibonacci came up with his famous sequence, and how it works.) What does this tell you about Fibonacci? (He took a scientific approach to learning about math.)

LITERATURE ANTHOLOGY, pp. 232–233

The Roman system uses letters to represent number values, such as I for 1, V for 5, and X for 10. The number 3 would be III, and 6 would be VI, for example.

- *How were Hindu-Arabic numerals helpful to Fibonacci?* (They helped him do calculations more easily.)

EL To help students understand the Hindu-Arabic system, point out the cognates number/*número* and calculation/*calculación*.

- *Does the Hindu-Arabic system use letters or numbers?* (numbers)

CLOSE READING

Read

3 Strategy: Summarize

Turn to a partner and discuss how a spiral shape can be helpful in nature. (The spiral shape helps things in nature. For example, it allows many seeds to grow in a small area, and it allows leaves to get lots of sunlight.)

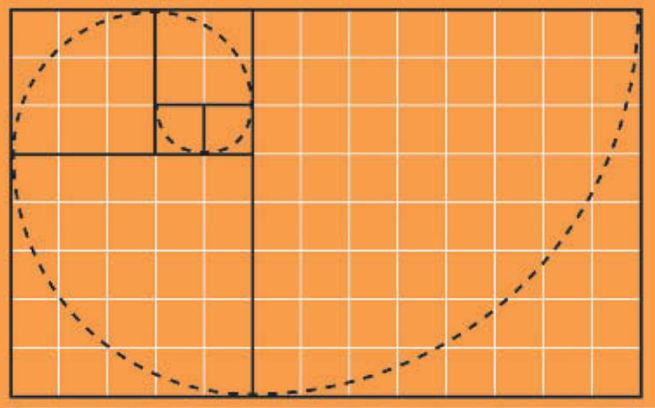
Reread *Close Reading Companion*, 86

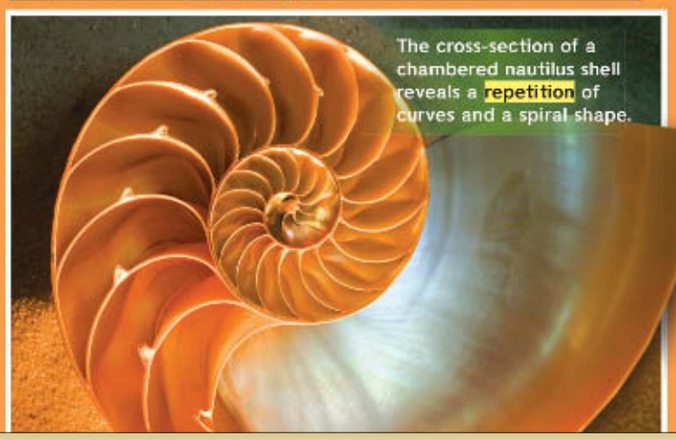
Text Features: Diagrams and Photographs

What does the author do to help you understand the Fibonacci sequence? (The author includes a diagram of a spiral and a real-life example of a spiral found in nature to help the reader picture the information explained in the text. The diagram illustrates how each chamber is the same shape as the last, but increases in size. The photograph shows a cross-section of an actual nautilus shell with the same curves and shape shown in the diagram.)

Centuries later, people noticed these numbers in nature. Naturalists found that the growth pattern of some living things reflected Fibonacci numbers. For example, the chambered nautilus, a type of marine animal, adds a new chamber to its shell as it grows. Each additional chamber is the same shape as the previous one, but larger in size. This maintains the shell's overall shape. The diagram and directions below illustrate how this type of growth can produce a pattern that reflects the Fibonacci sequence.

On graph paper, draw a square with a side length of 1. Add another square with side length of 1 next to it. Then add a square above that has a side length equal to the sum of the side lengths of the two preceding squares (2). Add on three more squares using the same process, moving in a counterclockwise direction. Each square will have a side length that is a Fibonacci number. An arc drawn from the first square counterclockwise through the squares produces a spiral.





The cross-section of a chambered nautilus shell reveals a repetition of curves and a spiral shape.

234

ACT Access Complex Text

Connection of Ideas

Point out that the first single graph box in black outline is 1 in the sequence. The box in black outline next to that is the second 1 in the sequence. The black square of 2 boxes by 2 boxes is the 2 in the sequence. Now have students place a finger on the square where the spiral starts.

- *Trace the spiral with your finger. Write down the length of the side of each of the squares that the spiral passes through. How do these numbers relate to the first numbers in the Fibonacci sequence?* (They are the same: 1, 1, 2, 3, 5, 8.)

Point out that Fibonacci numbers help create the spiral shape of the chambered nautilus.

LITERATURE ANTHOLOGY, pp. 234–235

EL Use the three photos on page 235 to clarify the relationship between the Fibonacci numbers found in the graph and spirals in nature.

- *What do the shapes of the graph and the photographs have in common?* (They are spirals.)
- *Complete the sentence: In nature, ____ have a spiral form.* (seashells, pinecones, pineapples.)

Read

Summarize

Guide students to summarize the selection.

Reread

Analyze the Text

After students read and summarize, have them reread to develop a deeper understanding of the text by annotating and answering questions on pages 84–86 of the **Close Reading Companion.** For students who need support citing text evidence, use the scaffolded instruction from the Reread prompts on pages T153R–T153S.

Integrate

Make Connections

Essential Question Answer: Fibonacci numbers are reflected in the growth patterns of many living things. These numbers are often found in plants. Evidence: On page 235, I read that the sunflower has spirals of seeds in its head, and that fern fronds have a spiral pattern. Both have the Fibonacci sequence.

Text to Text Answer: Snow crystals form in patterns of six. They have six sides, six arms, and six points. Pinecones, sunflowers, and nautilus seashells have a spiral form with a pattern that relates to the Fibonacci number sequence. Evidence: On page 224 of *The Story of Snow*, I read that six is the magic number for snow crystals. On page 235 of "Fibonacci's Amazing Find," I read plants have a spiral pattern that reflect Fibonacci's numbers.

Phonics/Fluency

MINILESSON 20 Mins Vowel Team Syllables

OBJECTIVES

CCSS Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context. **RF.5.3a**

CCSS Use context to confirm or self-correct word recognition and understanding, rereading as necessary **RF.5.4c**

Rate: 117–137 WCPM

ACADEMIC LANGUAGE

- *rate, accuracy*
- Cognate: *ritmo*

1 Explain

Review with students that every syllable has only one vowel sound. Explain that sometimes the vowel sound is spelled with more than one letter. When this happens, the syllable is called a **vowel team syllable**. Vowel teams are any combination of two, three, or four letters that stand for a single vowel sound.

Write the word *rainy* on the board and read it aloud. Then draw a slash between the *n* and the *y* to separate the syllables. Point to the first syllable and read it slowly, drawing a line under the letters *ai*. Explain that the letters *a* and *i* work together to form one vowel sound, /ā/.

2 Model

Write the following vowel team syllables and related words on the board. Model how to pronounce each syllable, and then model how to read the related word. Underline the vowel team in each word.

heav as in ***heaven***	**light** *as* in ***delight***
train as in ***trainer***	**neigh** as in ***neighbor***
geal as in ***congeal***	**bout** as in ***about***
low as in ***below***	**spoil** as in ***spoilage***

3 Guided Practice

Write the following words on the board. Have students underline the vowel team syllable in each word. Then have them read the words chorally.

painful	mouthful	beaded
beastly	below	midnight
heavily	monsoon	maybe
yellow	replay	leader

EL Refer to the sound transfers chart in the **Language Transfer Handbook** to identify sounds that do not transfer in Spanish, Cantonese, Vietnamese, Hmong, and Korean.

ELD **ELD.PIII.5**

Go Digital

Vowel Team Syllables

View "Patterns of Change"

Read Multisyllabic Words

Transition to Longer Words Write on the board the following one-syllable words and related multisyllabic words, each of which contains a vowel team. Have students read the one-syllable words. Then model how to read the longer word. Finally, have students read the words chorally as you point to them. Vary the order of words and the speed at which you move from one to another.

brain	brainy	book	booklet
pay	payment	field	outfield
toe	tiptoe	boy	boyfriend
tree	treetop	ground	grounded
road	roadway	tie	necktie
bowl	bowlful	weigh	weighing

Monitor and Differentiate

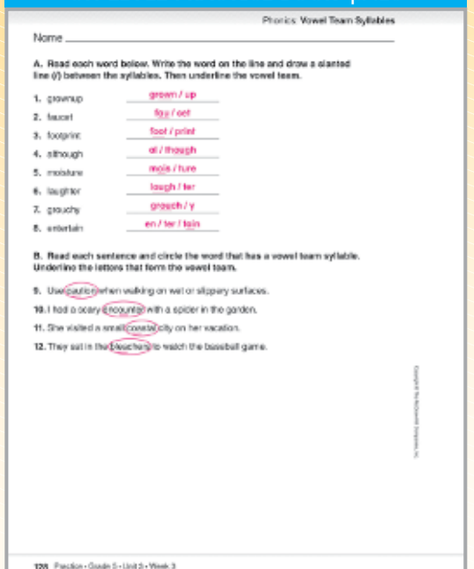
Quick Check

Can students read words with vowel team syllables? Can students read fluently?

Small Group Instruction

If No →	Approaching Level	Reteach pp. T168, T170
	EL	Develop pp. T187, T190
If Yes →	On Level	Apply pp. T176–T177
	Beyond Level	Apply pp. T180–T181

ON-LEVEL PRACTICE BOOK p. 128


Phonics: Vowel Team Syllables

Name _____

A. Read each word below. Write the word on the line and draw a slanted line (/) between the syllables. Then underline the vowel team.

1. caveman — cave / man
2. faucet — fau / cet
3. footprint — foot / print
4. although — al / though
5. moisture — mois / ture
6. laughter — laugh / ter
7. grouchy — grouch / y
8. entertain — en / ter / tain

B. Read each sentence and circle the word that has a vowel team syllable. Underline the letters that form the vowel team.

9. Use caution when walking on wet or slippery surfaces.
10. I had a scary encounter with a spider in the garden.
11. She visited a small coastal city on her vacation.
12. They sat in the bleachers to watch the baseball game.

128 Fluency • Grade 5 • Unit 3 • Week 3

APPROACHING p.128 | BEYOND p. 128 | EL p. 128

FLUENCY

Rate and Accuracy

Explain/Model Tell students that good readers vary their rate, or reading speed, based on what they are reading and on their purpose for reading. For example, they might read a magazine article for pleasure at a quicker rate than they would read a chapter from their science textbook. It order to read accurately, it may be necessary to read at a slower rate. Model reading the first page of "Patterns of Change," **Reading/Writing Workshop** pages 194–197 accurately and at an appropriate rate.

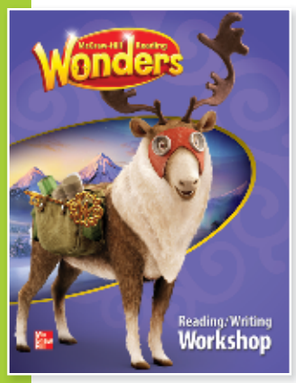
Remind students that you will be listening for accuracy and for their use of an appropriate rate as you monitor their reading during the week.

Practice/Apply Have partners alternate reading paragraphs in the passage, modeling the rate you used. Encourage them to read accurately and at an appropriate rate.

Daily Fluency Practice FLUENCY

Students can practice fluency using **Your Turn Practice Book** passages.

Write to Sources



Reading/Writing Workshop

OBJECTIVES

CCSS Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. **W.5.2b**

CCSS Produce clear and coherent writing (including multiple-paragraph texts) in which the development and organization are appropriate to task, purpose, and audience. **W.5.4**

ACADEMIC LANGUAGE

- *evidence, reasons, facts, details, examples, quotation*
- *Cognates: razones, detalles, ejemplos*

Go Digital

U3W3 Digital Writing Trait Minilesson

DAY 1

Writing Fluency

Write to a Prompt Provide students with the prompt: *Write about the different types of rocks.* Have students share their ideas about the variety of rocks. *How are the rocks similar and different?* When students finish sharing ideas, have them write continuously for nine minutes in their Writer's Notebook. If students stop writing, encourage them to keep going.

COLLABORATE When students finish writing, have them work with a partner to compare ideas and make sure that they both have a clear understanding of the topic.

Writing Process

Genre Writing

Book Review pp. T344–T349

Third Week Focus: Over the course of the week, focus on the following stages of the writing process:

Edit Distribute the Edited Student Model found online in Writer's Workspace and analyze it with students. Then have students use the Revise and Edit Checklist to proofread their own drafts for one error at a time.

Publish Have students choose a format to publish their book reviews: book jacket, class blog, school newspaper, or another option.

Evaluate Distribute the Book Review Rubric found online in Writer's Workspace. Have students set writing goals to prepare for a teacher conference.

DAY 2

Write to the Reading/Writing Workshop Text

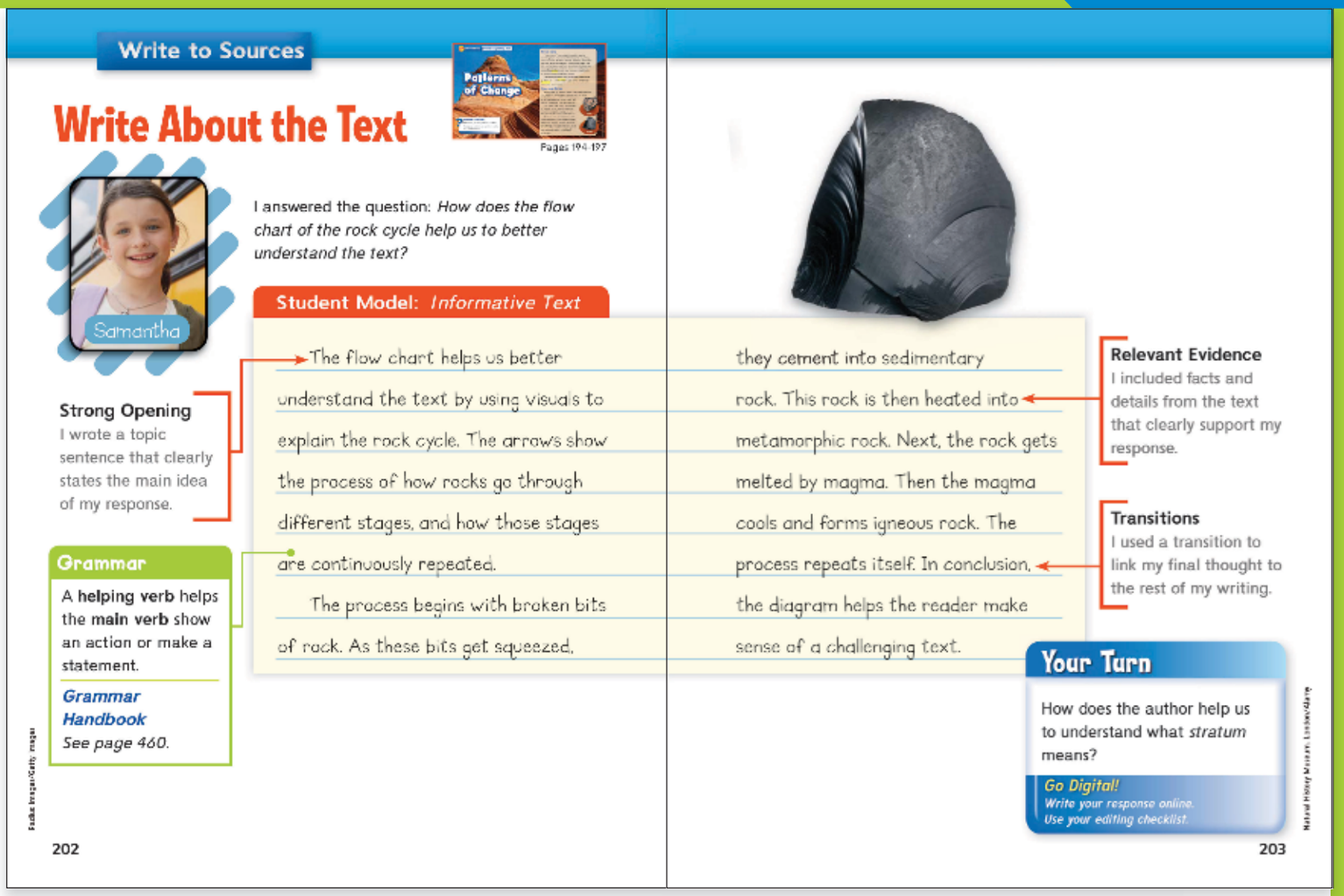
Analyze the Prompt Read aloud the first paragraph on page 202 of the **Reading/Writing Workshop.** Ask: *What is the prompt asking?* (Explain how the flow chart helps readers understand the text.) Say: *Let's reread to see how the chart relates to the text. We can note text evidence as we read.*

Analyze Text Evidence Display online Graphic Organizer 25 in Writer's Workspace. Say: *Let's see how Samantha took notes to answer the prompt. She notes that the author transitions from one topic to another by focusing on a quality that the two topics share.*

Analyze the Student Model Explain how Samantha used text evidence from her notes to write a response to the prompt.

- **Strong Opening** Samantha begins her response with a topic sentence that addresses the main idea. A strong opening provides focus to an informative text, helping readers understand what the author wants to show and how the supporting details are connected. Trait: Organization
- **Relevant Evidence** Samantha used facts about the relationships between types of rock to help explain the processes that the flow chart shows. This helps readers see how the flow chart supports the text. Trait: Ideas
- **Transitions** Samantha transitions to her final thought with the phrase *in conclusion* to summarize her main idea. Trait: Sentence Fluency

For additional practice with relevant evidence, assign **Your Turn Practice Book** page 129.



READING/WRITING WORKSHOP, pp. 202–203

Your Turn Writing Read the Your Turn prompt on page 203 of the Reading/Writing Workshop aloud. Discuss the prompt with students. If necessary, review with students that authors often use diagrams when writing to inform.

Have students take notes as they look for text evidence to answer the prompt. Then remind them to include the following elements as they craft their response from their notes:

- Strong Opening
- Relevant Evidence
- Transitions

Have students use **Grammar Handbook** page 460 in the Reading/Writing Workshop to be sure that they use helping verbs correctly.

EL ENGLISH LEARNERS SCAFFOLD

Emerging

Write Help students complete the sentence frames.
The rock cycle ____ itself over and over.
Rock is melted by ____.

Expanding

Describe Ask students to complete the sentence frames. Encourage students to provide details. *Arrows on the flow chart show ____. The process begins with ____.*

Bridging

Discuss Check for understanding. Ask: *How is rock turned into sedimentary rock? What role does heat play in the rock cycle?*

ELD ELD.PI.5.6a.Em • ELD.PI.5.6a.Ex • ELD.PI.5.6a.Br

Write to Sources

DAY 3

For students who need support to complete the writing assignment for the Literature Anthology, provide the following instructions.

Write to the Literature Anthology Text

Analyze the Prompt Explain that students will write about *The Story of Snow* on **Literature Anthology** pages 216–231. Provide the following prompt: *How does the way Mark Cassino presents information help you understand snow crystals?* Ask: *What is the prompt asking you to do?* (Tell how the author presents the text to make it understandable.)

Analyze Text Evidence Help students note evidence.

Pages 218–219 Look at the diagrams on these pages and ask: *What are these two diagrams showing?*

(One diagram shows that snow needs a tiny particle of dirt, ash, or salt to develop. The other shows how snow crystals are formed from these tiny particles.)

Page 223 Look at the diagram on 223 and state: *Describe the different kinds of snow columns.*

Encourage students to look for more text features and text evidence. Then have them craft a short response.

DAY 4

Write to Two Sources

Analyze the Prompt Explain that students will examine the information found in the text features of *The Story of Snow* and "Fibonacci's Amazing Find." Provide students with the following prompt: *How do the diagrams in* The Story of Snow *and "Fibonacci's Amazing Find" help us better understand certain patterns in nature?* Ask: *What is the prompt asking you to do?* (Tell how text features help us better understand the patterns of nature described in the texts.) Say: *On page 219 in the Literature Anthology, the diagram provides a step-by-step explanation of how a snow crystal forms using pictures. I will write a note summarizing the information in the diagram. On page 234, in* "Fibonacci's Amazing Find," *the series of numbers in the Fibonacci sequence is shown in a visual way. I will add details about these diagrams in my notes and cite each source.*

Teacher Conferences

STEP 1

Talk about the strengths of the writing.

You have a strong opening. Your topic sentence introduces your main idea and clearly explains your reason for writing.

STEP 2

Focus on how the writer uses relevant evidence.

You included some relevant evidence, but I think you could explain your main idea further. It would help to add a fact, detail, example, or quotation that relates.

STEP 3

Make concrete suggestions.

If you use transitions to explain your ideas, I think the writing would connect ____ more logically.

DAY 5

Analyze Text Evidence Display online Graphic Organizer 26 in Writer's Workspace. Say: *Let's look at how one student organized information to answer the prompt. Here are Samantha's notes.* Read through the text evidence for each selection and have students point out how the diagrams from both texts help them better understand the information presented.

Share the Prompt Provide the following prompt to students: *Describe various patterns found in nature. Use text evidence from* The Story of Snow *and "Fibonacci's Amazing Find" to support your response.*

Find Text Evidence Have students take notes and write down important details. Encourage them to make connections between the text, the photographs, and the diagrams. Remind them to include the title of the source and page number when recording information.

Analyze the Student Model Review the first prompt from Day 4 along with Samantha's notes. Display the student model on page 130 of the **Your Turn Practice Book.** Point out that Samantha used her notes as a guide to recall information and craft a response to the prompt. Discuss the page together with students or have them work independently.

Write the Response Review the second prompt from Day 4 with students. Have them use the notes they took to craft a short response. Use the Teacher Conferences routine to provide support. Remind students to include the titles of both sources and the following elements:

- Strong Opening
- Relevant Evidence
- Transitions

Share and Reflect Have students share their responses with a partner. Use the Peer Conferences routine below.

Suggested Revisions

Provide specific direction to help focus young writers.

Focus on a Sentence

Read the draft and target one sentence for revision. *Add the transition _____ to make the connection between these ideas clearer.*

Focus on a Section

Underline a section that needs to be revised. Provide specific suggestions. *Your opening introduces the topic nicely. It would help me understand the main idea if you mentioned _____.*

Focus on a Revision Strategy

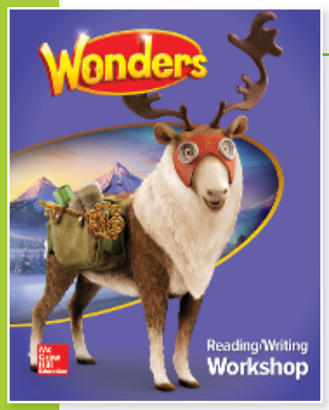
Underline a section. Have students use a specific revision strategy, such as deleting. *You have included some evidence that is not relevant to your main idea. Consider deleting it.*

Peer Conferences

Focus peer response groups on a strong opening, relevant evidence, and transitions. Provide these questions:

- Does the opening clearly state your partner's main idea?
- What transitions could be used to better link ideas?
- Did your partner include relevant evidence from the text?

Grammar: Main and Helping Verbs



Reading/Writing Workshop

OBJECTIVES

CCSS Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. Form and use the perfect (e.g., *I had walked; I have walked; I will have walked*) verb tenses. **L.5.1b**

CCSS Use verb tense to convey various times, sequences, states, and conditions. **L.5.1c**

- Use contractions and apostrophes correctly.
- Proofread sentences.

EL

Display 12 helping verbs. Have students take turns using one of the helping verbs and a main verb of their choice in a sentence. Listeners should check that the speaker uses a helping verb and a main verb correctly.

ELD **ELD.PII.5.3.Em** • **ELD.PII.5.3.Ex** • **ELD.PII.5.3.Br**

DAY 1

DAILY LANGUAGE ACTIVITY

Sit the plates on the table. Dinner isnt ready yet? (1: Set; 2: isn't; 3: yet.)

Introduce Main and Helping Verbs

Present the following:

- The **main verb** shows what the subject does or is.
- A **helping verb** helps the main verb show an action or make a statement. Some helping verbs include *has, had, am, is, are,* and *were*.
- Sentences can be in the active or passive voice. In the active voice, the subject is doing something. In the passive voice, the subject is the object of an action. *Mia bought the book.* (active) *The book was bought by Mia.* (passive)

Refer to Grammar Handbook page 460 for main and helping verbs.

DAY 2

DAILY LANGUAGE ACTIVITY

when can you help me I is waiting for you're answer. (1: When; 2: me?; 3: am; 4: your)

Review Main and Helping Verbs

Ask students to explain the difference between main and helping verbs.

Introduce Participles and Perfect Tense

- The present progressive tense takes a form of the verb *be* and a **present participle**. *I am walking.*
- **Past participles** for regular verbs take the same form as the past tense: *trapped*. Irregular verbs have irregular past participles: *swum, caught*.
- The three **perfect tenses** (present, past, future) show a completed action. *I have walked. I had walked. I will have walked.*

TALK ABOUT IT

COLLABORATE

USE HELPING VERBS

Display 12 helping verbs. Have students take turns using one of the helping verbs and a main verb of their choice in a sentence. Listeners should check that the speaker uses a helping verb and a main verb correctly.

PICK A PAIR

Write helping verbs and action verbs on index cards and organize them into two piles. Have students choose a word from each pile and use them in a sentence. For example: *Nancy and Rita are playing checkers.*

DAY 3

DAILY LANGUAGE ACTIVITY

Dan are trying to fix his car. he is make a lot of noise (1: is; 2: He; 3: making; 4: noise.)

Mechanics and Usage: Special Helping Verbs; Contractions; Troublesome Words

- Special helping verbs express possibility or obligation. They include *can, may,* and *must*.
- A contraction, a shortened form of two words, can be formed from a helping verb and the word *not* or from a pronoun and a verb: *isn't; he's.* An apostrophe (') indicates the missing letter.
- Avoid confusing *its* with *it's* and *your* with *you're*.

As students write, refer them to Grammar Handbook pages 460, 465, 470, and 478.

DAY 4

DAILY LANGUAGE ACTIVITY

We cant have practice if its rainy. It is'nt raining now (1: can't; 2: it's; 3: isn't; 4: now.)

Proofread

Have students correct errors in these sentences:

1. We going to the mall tomorrow. (are)
2. Lin willn't visit Yosemite National Park this year. (won't)
3. You are play that game now. (may)
4. Dexter running very fast today. (is)
5. Your playing well. (You're)

Have students check their work using Grammar Handbook pages 460, 465, 470, and 478.

DAY 5

DAILY LANGUAGE ACTIVITY

listen to that lyon! you hear it's roar? Its pacing back and forth. (1: Listen; 2: lion; 3: Can/Do; 4: its; 5: It's)

Assess

Use the Daily Language Activity and Grammar Practice Reproducibles page 65 for assessment.

Reteach

Use Grammar Practice Reproducibles pages 61–64 and selected pages from the Grammar Handbook for additional practice with perfect verb tenses, helping verbs, and participles. Remind students that it is important to use grammar correctly as they speak and write.

Check students' writing for use of these skills and listen for them in their speaking. Assign Grammar Revision Assignments in their Writer's Notebooks as needed.

See Grammar Practice Reproducibles pp. 61–65.

TWENTY QUESTIONS

Ask each student to think of an object. Have partners ask up to 20 questions using modal verbs to determine the object. For example: *Could you eat it? Can I see it in this room?* Then have partners reverse roles.

WHAT TIME IS IT?

Write a time on the board. Have students describe their actions using present participles as if it were the time on the board. For example: *It's 3:00 P.M., and I am sitting on the bus.*

HAVE YOU?

Display a list of action verbs. Have partners ask and answer questions using *have* and the past participle of one of the verbs. For example: *Have you played soccer? No, I have not played soccer.*

Spelling: Vowel Team Syllables

OBJECTIVES

CCSS Spell grade-appropriate words correctly, consulting references as needed. **L.5.2e**

Spelling Words

footprint	grownup	faucet
fairground	encounter	caution
although	grouchy	boundary
laughter	flawless	doubting
appoint	lawyer	southern
coastal	entertain	roughness
bleachers	applause	

Review poet, radio, fuel
Challenge nowadays, distraught

Differentiated Spelling

Approaching Level

footprint	grownup	faucet
fairground	counter	laundry
although	grouchy	caution
August	flawless	boundary
appoint	lawyer	doubting
coastal	entertain	southern
bleachers	applause	

Beyond Level

footprint	faucet	causeway
fairground	encounter	caution
although	bountiful	boundary
allowance	doubting	applause
appoint	flawlessly	southern
laughter	lawyer	roughness
bleachers	entertainment	

DAY 1

Assess Prior Knowledge

Read the spelling words aloud, drawing out the vowel sound in each syllable.

Point out the two vowels that make one vowel sound in *footprint* and in *coastal*. Draw a line under these vowels as you say the sounds. Explain that in a vowel team syllable, two vowels work together to make one vowel sound.

Demonstrate sorting the spelling words by pattern under the key words *entertain, applause,* and *southern*. Sort a few words. Point out the vowel team syllable in each word as it is sorted.

Use the Dictation Sentences from Day 5 to give the pretest. Say the underlined word, read the sentence, and repeat the word. Have students write the words.

DAY 2

Spiral Review

Review the open syllable (V/V) pattern in *poet, diet,* and *fuel*. Read each sentence below, repeat the review word, and have students write the word.

1. My sister wants to be a poet.
2. I believe in a healthy diet.
3. We need to get fuel for the car.

Have students trade papers and check their spellings.

Challenge Words Review this week's vowel team syllable pattern. Read each sentence below, repeat the challenge word, and have students write the word.

1. Most people use e-mail nowadays.
2. The mother comforted her distraught child.

Have students check their spellings and write the words in their word study notebooks.

WORD SORTS

COLLABORATE

OPEN SORT

Have students cut apart the **Spelling Word Cards** in the Online Resource Book and initial the back of each card. Have them read the words aloud with partners. Then have partners do an **open sort.** Have them record their sorts in their word study notebooks.

PATTERN SORT

Have students complete the **pattern sort** from Day 1 by using the boldfaced key words in the Spelling Word Cards. Point out the vowel team syllables. Partners should compare and check their sorts. Have them record their sorts in their word study notebooks.

DAY 3

Word Meanings

Have students copy the definitions below into their word study notebooks. Say the definitions aloud. Ask students to write the spelling word that matches each definition.

1. an adult person (grownup)
2. perfect; without any faults (flawless)
3. along the seashore (coastal)
4. not happy; grumpy (grouchy)

Challenge students to create definitions for their other spelling, review, or challenge words. Have partners share their definitions and guess the words.

DAY 4

Proofread and Write

Write these sentences on the board. Have students circle and correct each misspelled word. Have students use a print or a digital dictionary to check and correct their spellings of the words.

1. The sound of lafter and applawse filled the air. (laughter, applause)
2. Althow Jed played well, his performance was not flawliss. (Although, flawless)
3. The crowd filled the bleechers at the fareground. (bleachers, fairground)
4. The loyer advised cawtion to his grouchy client. (lawyer, caution)

Error Correction Remind students that two vowels that make one sound have vowel team spellings. Review any vowel team spellings students frequently misspell.

DAY 5

Assess

Use the Dictation Sentences for the posttest. Have students list misspelled words in their word study notebooks. Look for students' use of these words in their writings.

Dictation Sentences

1. I saw a footprint in the sand.
2. The circus is at the fairground.
3. Although I wasn't hungry, I ate.
4. Their laughter was contagious.
5. We must appoint a leader.
6. Mike lives in a coastal town.
7. We sat in the bleachers.
8. My dad is a grownup.
9. That was a close encounter.
10. She was grouchy after a bad day.
11. The diamond was flawless.
12. The lawyer returned from court.
13. My mom loves to entertain.
14. The applause was thunderous.
15. The faucet is leaking.
16. Proceed with caution.
17. The tree marks the boundary.
18. She was doubting what she heard.
19. I always take the southern route.
20. I felt the roughness of the rock.

Have students self-correct their tests.

See Phonics/Spelling Reproducibles pp. 73–78.

SPEED SORT

Have partners do a **speed sort** to see who is fastest. Then have them brainstorm other words with vowel team syllables. Have them record the words in their word study notebooks.

BLIND SORT

Have partners do a **blind sort:** one reads a Spelling Word Card; the other tells under which key word it belongs. Have them take turns until both have sorted all their words. Then have students explain how they sorted the words.

Build Vocabulary

DAY 1

DAY 2

OBJECTIVES

CCSS Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*). **L.5.4b**

Expand vocabulary by adding inflectional endings and suffixes.

Vocabulary Words

contact	particles
erode	repetition
formation	structure
moisture	visible

EL Provide sentence frames to help students practice using the different forms of this week's vocabulary words they generate on Day 2.

ELD **ELD.PII.5.3.Em** • **ELD.PII.5.3.Ex** • **ELD.PII.5.3.Br**

Connect to Words

Practice this week's vocabulary words.

1. What is one thing you should not make **contact** with?
2. How does land look if it starts to **erode**?
3. What is a **formation** you have seen in a cloud?
4. How does **moisture** affect a sponge?
5. What happens if you breathe in dust **particles**?
6. Give me an example of **repetition**.
7. Describe the **structure** of the desks in our classroom.
8. Describe one thing that is not **visible** to the eye.

Expand Vocabulary

Help students generate different forms of this week's words by adding, changing, or removing inflectional endings.

- Draw a T-chart on the board. Write *formation* in the first column. Then write *formations* in the next column. Read aloud the words with students.
- Have students share sentences using each form of *formation*.
- Students can fill in the chart for *particles, structure,* and *repetition,* and then share sentences using the different forms of the words.
- Have students copy the chart in their word study notebooks.

BUILD MORE VOCABULARY

COLLABORATE

ACADEMIC VOCABULARY

Discuss important academic words.

- Display *transform, range,* and *process*. Define the words and discuss their meanings.
- Write *transform* on the board. Have partners write other words with the same root and define them. Then have partners ask and answer questions using the words.
- Repeat with *range* and *process*.

CONTEXT CLUES

Review

Remind students to look for comparisons to help figure out the meanings of unfamiliar words.

- Write: *Water and wind erode the large rocks and carry away small bits of broken rocks.*
- Have partners use the comparison *large rocks* and *small bits of broken rocks* to figure out the meaning of erode.
- Have students write the comparison in their word study notebooks.

DAY 3

Reinforce the Words

Review this week's vocabulary words. Have students orally complete each sentence stem.

1. There were particles floating in the ____.
2. If you make contact with poison ivy, you might ____.
3. I see moisture on the ____.
4. ____ is visible from the classroom window.
5. Because of the rain, the ____ started to erode.
6. We helped design the structure of ____.

Display last week's vocabulary words: *civilization, complex, devise, fashioned, shortage,* and *tormentors*. Have partners ask and answer questions using each of the words.

DAY 4

Connect to Writing

- Have students write sentences in their word study notebooks using this week's vocabulary.
- Tell them to write sentences that provide word information they learned from this week's readings.
- EL Provide the Day 3 sentence stems 1–6 for students needing extra support.

Write About Vocabulary Have students write something they learned from this week's words in their word study notebooks. For example, they might write about the kinds of things that *erode* or describe a *structure* they know about or have seen.

DAY 5

Word Squares

Ask students to create Word Squares for each vocabulary word.

- In the first square, students write the word (e.g., *moisture*).
- In the second square, students write their own definition of the word and any related words (e.g., *water, drops, condensation*).
- In the third square, students draw a simple illustration that will help them remember the word (e.g., a drop of water).
- In the fourth square, students write nonexamples, including antonyms for the word (e.g., *dryness, lack of humidity*).
- Have partners discuss their squares.

GREEK ROOTS

Elicit from students what Greek roots are and how they can be helpful.

- Display **Your Turn Practice Book** pages 123–124. Model using Greek roots to figure out the meaning of *tropical* (paragraph 5).
- Have students complete page 127.
- Partners can confirm meanings in a print or online dictionary.

SHADES OF MEANING

Help students generate words related to *erode*. Draw a T-chart. Head one column "Synonyms" and the other "Antonyms."

- Have partners generate words to add to the T-chart. Ask students to use a thesaurus.
- Add words not included, such as (synonyms) *corrode, wear down, wear away*; (antonyms) *build up, grow*.
- Ask students to copy the words in their word study notebooks.

MORPHOLOGY

Use *visible* as a springboard for students to learn more words.

- Point out the Latin root *vis*, which means "see," and the suffix *-ible*.
- Elicit other words with *vis*. (*invisible, vision, revise, visibility*). Discuss how the suffixes and prefixes change the meaning or part of speech.
- Review the meaning of the new words. Ask partners to do a search for other related words with the same root.

Integrate Ideas

Close Reading Routine

Read **DOK 1–2**

- Identify key ideas and details about patterns in nature.
- Take notes and summarize.
- Use ACT prompts as needed.

Reread **DOK 2–3**

- Analyze the text, craft, and structure.
- Use the **Close Reading Companion**.

Integrate **DOK 4**

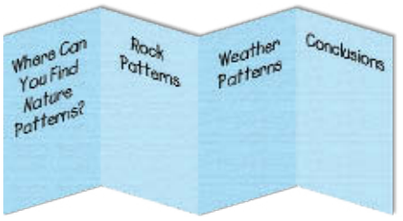
- Integrate knowledge and ideas.
- Make text-to-text connections.
- Use the Integrate lesson.
- Use *Close Reading Companion*, p. 87.

TEXT CONNECTIONS

Connect to the Essential Question

Write the Essential Question on the board: *Where can you find patterns in nature?* Divide the class into small groups. Tell students that each group will compare the information that they have learned about patterns in nature. Model how to make comparisons using examples from this week's **Leveled Readers** and "Patterns of Change" on **Reading/Writing Workshop** pages 194–197.

Evaluate Text Evidence Have students review their class notes and completed graphic organizers before they begin their discussion. Encourage them to compare information from all of this week's reads. Have each group pick one student to take notes. Explain that each group will use an Accordion Foldable® to record their ideas. You may want to model how to use an Accordion Foldable® to record comparisons.



Dinah Zike's FOLDABLES®

Inquiry Space

LEVEL 1 2 **3** 4 5 6

OPINION PERFORMANCE TASK

Take a Stand: Water Conservation

U.S. Fish & Wildlife Service/Stefan Dobert

Take Notes

PREVIEW LEVEL 3 Display Level 3 of the Opinion Performance Task. Tell students that in this level they will use the sources they have chosen to take notes on their topic. Explain that taking notes will make it easier to understand and remember the information they learn about water conservation. Have students go back and review the questions they listed in the "What I Want to Find Out" section of their research plans. Their purpose for reading will come from these questions. Explain to students that they will use the information from their research to support their opinion on the best ways to conserve water.

1 **Paraphrasing** Explain to students that it is important to paraphrase when taking notes. Say: *Paraphrasing means putting what you have read into your own words.* Explain that paraphrasing information

OBJECTIVES

CCSS Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. **RI.5.9**

CCSS Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions. **SL.5.1d**

Text to Fine Art

Remind students to discuss information from all of this week's reads. Tell them to include Vincent van Gogh's painting *Flower Beds in Holland* on **Close Reading Companion** page 87 as part of their discussion. Guide students to see the connections between the art and the texts. Ask: *How does Vincent van Gogh's painting connect to what you read this week?*

Present Ideas and Synthesize Information

When students finish their discussion, ask for a volunteer from each group to read their notes aloud.

OBJECTIVES

CCSS Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. **W.5.8**

NGSS **ESS2.C • 5-ESS3-1 • ESS3.C**

will help them summarize ideas and will also prevent accidental plagiarism of their sources. Share with students the **Paraphrase** animation from the **Toolkit**.

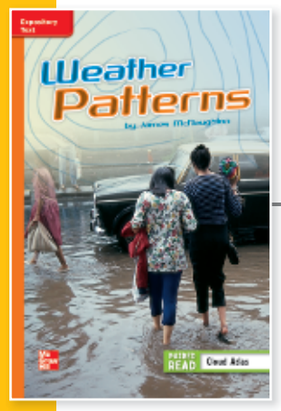
2 **Taking Notes** Tell students to remember these tips when they take notes from a written source:

- Write down the big ideas and key terms.
- Do not use complete sentences.
- Use abbreviations to avoid writing long words.
- Draw a picture or diagram to help you understand complex information.
- Record the source and the page number or URL where you find useful information.

Show students the **Take Notes (Print Sources)** animation from the Toolkit.

ASSIGN LEVEL 3 Instruct students to begin Level 3. As they take notes, remind students to make sure that they record source information. If they need review, invite students to watch the Paraphrase and Take Notes (Print Sources) animations again.

Approaching Level



Lexile 800
TextEvaluator™ 33

OBJECTIVES

CCSS Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. **RI.5.3**

ACADEMIC LANGUAGE

- *expository text, main idea, details, ask and answer questions*
- Cognates: *texto expositivo, detalles*

NGSS **5.ESS2.A**

Leveled Reader: *Weather Patterns*

Before Reading

Preview and Predict

- Read the Essential Question with students.
- Have students preview the title, the table of contents, and the text features in *Weather Patterns*. Then have students predict what they think the text will be about.

Review Genre: Expository Text

Remind students that an expository text supports a topic with reasons and evidence in the form of facts, examples, and concrete details. Point out that expository text may include diagrams, maps, photographs, and captions to help readers visualize and better understand information. Have students identify features of expository text in *Weather Patterns*.

During Reading

Close Reading

Note Taking: Ask students to use their graphic organizer as they read.

Pages 2–5 *Reread the second paragraph on page 4. What do the details in this paragraph have in common, and how do they help you identify the main idea?* (They are all connected to the main idea that the movement of hot and cold air creates wind.) *What text feature on page 5 helps you to understand how the water cycle works?* (the diagram with labels)

Pages 6–8 *What is a prevailing wind?* (the regular wind that blows in a given area) *Captions and sidebars provide additional information. Explain to your partner what the caption on page 7 explains.* (when sea breezes often begin to blow) *What information does the sidebar on page 8 explain?* (when the monsoon season happens, what happens during this season, and why it is important)

Pages 9–11 *Section headings help readers understand what subjects they will learn about in the sections. What subjects will you learn about on pages 9–11, based on the headings?* (North American monsoons, hurricanes, and tornadoes)

Go Digital

Leveled Readers

Use Graphic Organizer

How does the map on page 11 identify Tornado Alley? (The section is shaded.) *Which form over land, hurricanes or tornadoes?* (tornadoes)

Pages 12–13 *What happens when katabatic winds blow through valleys?* (They can become even stronger.)

Pages 14–17 *If a partner asked you a question about what El Niño is, how could you use details in the first paragraph on page 14 to answer?* (It is a large and complicated weather event that changes normal ocean currents.) *Reread the last paragraph on page 15. What is the main idea?* (Ocean temperature affects the impact of an El Niño.)

After Reading

Respond to Reading Revisit the Essential Question and ask students to complete the Text Evidence questions on page 18.

Analytical Writing **Write About Reading** Check that students have correctly identified the main idea using the key details that support it.

Fluency: Rate and Accuracy

Model Model reading aloud page 4 at an appropriate rate and with attention to accuracy. Next read the passage aloud and have students read along with you.

Apply Have students practice reading the passage with a partner.

PAIRED READ

Leveled Reader

"Cloud Atlas"

Make Connections: Write About It

Analytical Writing

Before reading, ask students to note that the genre of this text is also expository text. Then discuss the Essential Question. After reading, ask students to write connections between what they learned from *Weather Patterns* and "Cloud Atlas."

FOCUS ON SCIENCE

Students can extend their knowledge of how warm air affects the weather by completing the science activity on page 24. STEM

Literature Circles

Ask students to conduct a literature circle using the Thinkmark questions to guide the discussion. You may wish to have a whole-class discussion, using information from both selections in the Leveled Reader, about where we can find patterns in nature.

Level Up

IF students read the Approaching Level fluently and answered the questions

THEN pair them with students who have proficiently read the On Level and have students

- echo-read the On Level main selection.
- use self-stick notes to mark two characteristics of expository text.

ACT Access Complex Text

The On Level challenges students by requiring more **prior knowledge** of nature and having a more complicated **purpose**.

Approaching Level

Phonics/Decoding

ELD ELD.PIII.5

REVIEW WORDS WITH LONG *e* VOWEL TEAM SYLLABLES

TIER 2

OBJECTIVES

CCSS Know and apply grade-level phonics and word analysis skills in decoding words. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context. **RF.5.3a**

Decode words with long *e* vowel team syllables.

I Do Remind students that each syllable has only one vowel sound. Explain that sometimes the vowel sound is spelled with more than one letter. This syllable is called a **vowel team syllable**. Write the word *heat* on the board. Underline the letters *ea*. Read the word aloud, emphasizing the vowel sound. Point out that the two vowels, *e* and *a*, form one vowel sound: long *e*.

We Do Write the words *meat* and *indeed* on the board. Model how to decode the word *meat.* Underline the vowel team *ea* and explain that it makes the long *e* sound. Then read the word *indeed* aloud and draw a slash between the *n* and *d* to separate the syllables. Have students identify the vowel team in the second syllable. Explain that both *ea* and *ee* can make the long *e* sound.

You Do Add the following examples to the board: *seat, treat, free, agree*. Have students say each word with you as you point to it. Repeat several times.

ELD ELD.PIII.5

BUILD WORDS WITH VOWEL TEAM SYLLABLES

TIER 2

OBJECTIVES

CCSS Know and apply grade-level phonics and word analysis skills in decoding words. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context. **RF.5.3a**

Build words with vowel team syllables.

I Do Write the following words on the board, underlining the vowel teams: *pay, rain, soap, tow.* Say each word aloud. Identify the long vowel sound made by each vowel team. Discuss how different vowel teams can make the same vowel sound.

We Do Work with students to build words using the **Word-Building Cards** *main, heav, great, tain, y,* and *er*. Write the words *maintain, heavy,* and *greater* on the board. Have students say each word after you and identify the vowel team.

You Do Write the syllables *train, be, lead, light,* and *neath* on the board and display the Word-Building Cards *er* and *low*. Have students build words with vowel team syllables. Ask partners to share their words, and make a class list.

ELD ELD.PIII.5

PRACTICE WORDS WITH VOWEL TEAM SYLLABLES

OBJECTIVES

CCSS Know and apply grade-level phonics and word analysis skills in decoding words. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context. **RF.5.3a**

Practice words with vowel team syllables.

I Do

Write the words *delay* and *neat* on the board. Read the words aloud, running your finger under the letters in the vowel team as you blend them. Identify the vowel teams and the vowel sound each team makes.

We Do

Write the words *glowing* and *drainpipe* on the board. Model how to pronounce the first word, and then guide students as they pronounce the remaining word. As necessary, help them identify the vowel team and the sound it makes in the word.

You Do

To provide additional practice, write these words on the board. Read aloud the first word and identify the vowel team and the vowel sound it makes.

eastern	flowing	painter	heater
midnight	repay	tried	coaches

Then have students read aloud the remaining words. Ask them to identify the vowel team in each word and the vowel sound it makes. Challenge student pairs to find the vowel teams in the words *eighteen, mouthpiece,* and *roadway*.

Afterward, point to the words in the list in random order for students to read chorally.

EL ENGLISH LEARNERS

For students who need **phonics, decoding,** and **fluency** practice, use scaffolding methods as necessary to ensure students understand the meaning of the words. Refer to the **Language Transfers Handbook** for phonics elements that may not transfer in students' native languages.

Approaching Level

Vocabulary

REVIEW HIGH-FREQUENCY WORDS

TIER 2

OBJECTIVES

CCSS Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*). **L.5.6**

Review high-frequency words.

I Do Use **High-Frequency Word Cards** 101–110. Display one word at a time, following the routine.

We Do Display the word. Read the word. Then spell the word. Ask students to state the word and spell the word with you. Model using the word in a sentence and have students repeat after you.

You Do Display the word. Ask students to say the word then spell it. When completed, quickly flip through the word card set as students chorally read the words. Provide opportunities for students to use the words in speaking and writing. For example, provide sentence starters such as *She is* ____. Ask students to write each word in their Writer's Notebook.

REVIEW VOCABULARY WORDS

TIER 2

OBJECTIVES

CCSS Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*). **L.5.6**

I Do Display each **Visual Vocabulary Card** and state the word. Explain how the photograph illustrates the word. State the example sentence and repeat the word.

We Do Point to the word on the card and read the word with students. Ask them to repeat the word. Engage students in structured partner talk about the image as prompted on the back of the vocabulary card.

You Do Display each visual in random order, hiding the word. Have students match the definitions and context sentences of the words to the visuals displayed.

UNDERSTAND VOCABULARY WORDS

OBJECTIVES
CCSS Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*). **L.5.6**

I Do

Display the *contact* **Visual Vocabulary Card** and ask: *Would you want to make* contact *with poison ivy?* Explain that you would probably not want to make contact with, or touch, poison ivy because it causes a rash.

We Do

Ask these questions. Help students explain their answers.

- Do beaches *erode* from sunshine or from rain?
- Would a mountain or a rainbow be considered a land *formation?*
- Which has a lot of *moisture*, a desert or a jungle?

You Do

Have students work in pairs to respond to these questions and explain their answers.

- Would large chunks or small chunks of rock be called *particles?*
- What is a common *structure* in cities, a barn or a skyscraper?
- Would *repetition* help you to learn something or to meet someone?
- Would light clothing or dark clothing make you more *visible* at night?

GREEK ROOTS

OBJECTIVES
CCSS Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 5 reading and content*, choosing flexibly from a range of strategies. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*). **L.5.4b**

I Do

Display the Comprehension and Fluency passage on **Approaching Reproducibles** pages 123–124. Read aloud the first paragraph on page 124. Point to the word *astronomy*. Tell students that they can use Greek roots as well as context clues to figure out its meaning.

Think Aloud I know that the root *astro* means "star." I also see context clues in the surrounding words *studied, sun, moon, stars. Astronomy* must be the study of the stars, or the study of space.

We Do

Discuss how to use the Greek root *bio* as well as context clues to figure out the meaning of *Biologists* in the first paragraph on page 124. Remind students that *bio* means "life," and point out that clues in the text suggest that biologists know a lot about animals.

You Do

Have students use the Greek root *geo* ("earth") and context clues to determine the meaning of *geographic* (page 124, paragraph 1).

Approaching Level

Comprehension

FLUENCY

TIER 2

OBJECTIVES

CCSS Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. **RF.5.4b**

CCSS Use context to confirm of self-correct word recognitiion and understanding, rereading as necessary. **RF.5.4c**

I Do Explain that good readers recognize words and read them accurately, using context to guide them. They also vary their reading rate, slowing down to read important information. Read the first two paragraphs of the Comprehension and Fluency passage on **Approaching Reproducibles** pages 123–124. Tell students to monitor your accuracy and rate.

We Do Read the rest of the page aloud, one sentence at a time. Have students repeat each sentence after you, matching your rate. Explain that you slowed down when you read more difficult text to ensure that you read it accurately, and that you used context clues to correctly identify words.

You Do Have partners take turns reading aloud sentences from the Comprehension and Fluency passage. Remind them to focus on their accuracy and rate. Listen in and provide corrective feedback by modeling proper fluency.

IDENTIFY IMPORTANT DETAILS

TIER 2

OBJECTIVES

CCSS Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text. **RI.5.2**

Identify important details.

I Do Write the topic "migration." Then write "Migration is a round trip made between two areas;" "Some birds migrate between north and south;" and "Mountain quail do not normally fly." Point out that the third detail, "Mountain quail do not normally fly," is not as important to understanding the topic of migration as the first two.

We Do Read the first page of the Comprehension and Fluency passage on **Approaching Reproducibles** pages 123–124. Ask: *So far, what facts does the selection give about the topic of migration?* Explain that these facts are details. Help students identify the most important details in each paragraph.

You Do Have students read the rest of the passage, writing down the details that seem most important in each paragraph. Review their lists with them and help them explain why the details they chose are important.

REVIEW MAIN IDEA AND DETAILS

OBJECTIVES

CCSS Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text. **RI.5.2**

I Do

Remind students that the main idea of a passage is what the author most wants readers to know about the topic. Individual paragraphs may also have main ideas. When the main idea is not directly stated, students can identify it by thinking about what the key details have in common.

We Do

Reread the first paragraph of the Comprehension and Fluency passage on **Approaching Reproducibles** pages 123–124 together. Point out the key details and model connecting them to determine the main idea. Then work with students to identify the main idea in each paragraph.

You Do

Have students use the main ideas of each paragraph to summarize the passage and identify the main idea of the passage as a whole.

SELF-SELECTED READING

OBJECTIVES

CCSS Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text. **RI.5.2**

Ask and answer questions to increase understanding of the text.

Read Independently

Have students choose an expository nonfiction book for sustained silent reading. Remind students that:

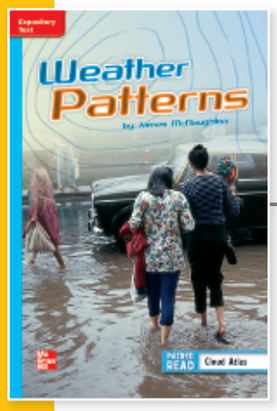
- the main idea is the most important point the author makes about the topic. Key details support the main idea.
- asking and answering questions can help them better understand and remember the main ideas and key details in a text.

Read Purposefully

Have students record the main idea and key details on Graphic Organizer 141 as they read independently. After they finish, they can conduct a Book Talk about what they read.

- Students should share their organizers and answer this question: *What is the most interesting fact you learned from this book?*
- They should also tell the group any questions they asked themselves and how they answered them.

On Level



Lexile 950
TextEvaluator™ 40

Leveled Reader: *Weather Patterns*

Before Reading

Preview and Predict

- Read the Essential Question with students.
- Have students preview the title, the table of contents, and the text features in *Weather Patterns*. Then have students predict what they think the text will be about.

Review Genre: Expository Text

Remind students that an expository text supports a topic with reasons and evidence in the form of facts, examples, and concrete details. Point out that expository text may include diagrams, maps, photographs, and captions to help readers visualize and better understand information. Have students identify features of expository text in *Weather Patterns*.

During Reading

Close Reading

Note Taking: Ask students to use their graphic organizer as they read.

Pages 2–5 *Reread the second paragraph on page 4. How do the key details help to determine the main idea of this paragraph?* (All of the details connect to the main idea that the movement of hot and cold air creates wind.) *Which text feature helps to explain how the water cycle works?* (The diagram with labels on page 5.) *What step in the cycle happens after ocean water evaporates?* (It condenses to form clouds.)

Pages 6–8 *What is a prevailing wind?* (the regular wind of an area that blows in a general direction) *Reread the second paragraph on page 6 and review the text features. What do the text details and diagram help to explain?* (the Coriolis effect) *What does the sidebar at the bottom of page 8 explain?* (when monsoon season occurs, what happens during monsoon season, and why this season is important)

Pages 9–11 *Turn to a partner and read the headings on pages 9–11. What subjects do you learn about on these pages?* (North American monsoons, hurricanes, tornadoes) *Look at the map and key on page 11. What does the red section identify?* (an area known as Tornado Alley)

OBJECTIVES

CCSS Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. **RI.5.3**

ACADEMIC LANGUAGE

- *expository text, main idea, details, ask and answer questions*
- Cognates: *texto expositivo, detalles*

NGSS **5.ESS2.A**

Go Digital

Leveled Readers

Use Graphic Organizer

Pages 12–13 *Reread the details provided on pages 12 and 13 about katabatic winds. What do the katabatic winds in the polar zones and in California have in common?* (Cold air moves downhill.)

Pages 14–17 *What question about the information in the first paragraph on page 14 could you ask a partner?* (What is El Niño?) *Use details in the text to answer.* (It is a large and complicated weather event that changes ocean currents.) *What is the main idea of the last paragraph on page 15?* (The impact of El Niño on the world's weather depends on how much ocean temperature increases.)

After Reading

Respond to Reading Revisit the Essential Question and ask students to complete the Text Evidence questions on page 18.

Analytical Writing **Write About Reading** Check that students have correctly identified the main idea about weather in Chapter 3 using details that support this main idea.

Fluency: Rate and Accuracy

Model Model reading page 4 at an appropriate rate and with attention to accuracy. Next read the passage and have students read along with you.

Apply Have students practice reading with partners.

PAIRED READ

Leveled Reader

"Cloud Atlas"

Make Connections: Write About It Analytical Writing

Before reading, ask students to note that the genre of this text is expository text. Then discuss the Essential Question. After reading, ask students to write connections between what they learned from *Weather Patterns* and "Cloud Atlas."

FOCUS ON SCIENCE

Students can extend their knowledge of how warm air affects the weather by completing the science activity on page 24. STEM

Literature Circles

Ask students to conduct a literature circle using the Thinkmark questions to guide the discussion. You may wish to have a whole-class discussion, using information from both selections in the Leveled Reader, about where we can find patterns in nature.

Level Up

IF students read the On Level fluently and answered the questions

THEN pair them with students who have proficiently read the Beyond Level and have students

- echo-read the Beyond Level main selection.
- identify and list three or four details that support the main idea of the text.

ACT Access Complex Text

The Beyond Level challenges students to make more complicated inferences to **connect ideas** and includes more **complex sentence structures**.

On Level

Vocabulary

REVIEW VOCABULARY WORDS

OBJECTIVES
CCSS Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*). **L.5.6**

I Do Use the **Visual Vocabulary Cards** to review the key selection words *contact, erode, moisture, particles, structure,* and *visible*. Point to each word, read it aloud, and have students repeat.

We Do Ask these questions. Help students explain their answers.

- Which represents *contact,* rain falling or rain hitting the ground?
- If something *erodes*, does it get bigger or smaller?
- Which is *moisture*, dew or dust?

You Do Have students work in pairs to respond to these questions and explain their answers.

- Which is a *particle*, a speck or a chunk?
- Which is a *structure*, a sand castle or a bucket of sand?
- Which is *visible*, a cloud or air?

GREEK ROOTS

OBJECTIVES
CCSS Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*). **L.5.4b**

I Do Remind students they can often figure out the meaning of an unknown word by looking for word parts such as Greek roots. Use the Comprehension and Fluency passage on **Your Turn Practice Book** pages 123–124 to model.

Think Aloud I want to know what the word *astronomy* in paragraph one on page 124 means. I see the Greek root *astro,* which means "star." I also see context clues in the surrounding words *studied, sun, moon,* and *stars. Astronomy* must be the study of the stars, or the study of space.

We Do Have students continue reading paragraph one on page 124. Help students find the meaning of *Biologists* using the Greek root *bio,* meaning "life." Point out context clues that show biologists know a lot about animals.

You Do Have students work in pairs to use Greek roots and context clues to determine the meaning of the word *geographic* (page 124, paragraph 1) as they read the rest of the selection.

Comprehension

REVIEW MAIN IDEA AND DETAILS

OBJECTIVES

CCSS Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text. **RI.5.2**

I Do

Remind students that the main idea of a passage is what the author most wants readers to know about the topic. Individual paragraphs may also have main ideas. When the main idea is not directly stated, students can identify it by thinking about what the key details have in common.

We Do

Have a volunteer read the first paragraph of the Comprehension and Fluency passage on **Your Turn Practice Book** pages 123–124. Have students orally state important details. Model connecting these details to state the main idea. Then work with students to identify the main idea in the next paragraph.

You Do

Have partners identify the main ideas in each paragraph in the rest of the passage. Then have them determine the main idea of the whole passage.

SELF-SELECTED READING

OBJECTIVES

CCSS Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text. **RI.5.2**

Ask and answer questions to increase understanding of the text.

Read Independently

Have students choose an expository nonfiction book for sustained silent reading.

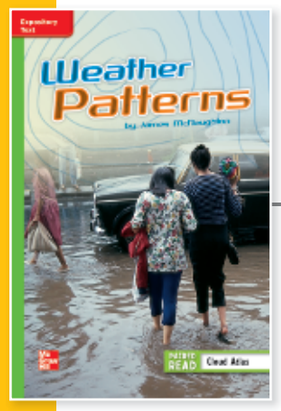
- Before they read, have students preview the book, reading the title and viewing the front and back cover.
- As students read, remind them to ask questions and then answer them, using details in the text.

Read Purposefully

Encourage students to read different books in order to learn about a variety of subjects.

- As students read, have them fill in the key details and main idea on Graphic Organizer 141.
- They can use the organizer to help them write a summary of the book.
- Ask students to share something interesting they learned from the book.

Beyond Level



Lexile 980
TextEvaluator™ 42

Leveled Reader: *Weather Patterns*

Before Reading

Preview and Predict

- Have students read the Essential Question.
- Have students preview the title, the table of contents, and the text features in *Weather Patterns*. Then have students predict what they think the text will be about. Have students discuss and compare their predictions.

Review Genre: Expository Text

Remind students that an expository text supports a topic with reasons and evidence in the form of facts, examples, and concrete details. Point out that expository text may include diagrams, maps, photographs, and captions to help readers visualize and better understand information. Have students identify features of expository text in *Weather Patterns*.

During Reading

Close Reading

Note Taking: Ask students to use their graphic organizer as they read.

Pages 2–5 *Reread pages 4 and 5. What causes the sun's heat to move around the world?* (Wind that results from the movement of hot and cold air and the water cycle are two processes that move the sun's heat around the world.) *Review the diagram and reread the information on page 5. How does the water cycle work?* (Water evaporates and rises into the atmosphere as vapor. As the vapor rises, it cools and forms clouds. Some of the water falls as precipitation, such as rain, back to Earth.)

Pages 6–7 *Turn to a partner and explain the Coriolis effect.* (When warm air spreads north and south away from the tropics, Earth's rotation makes the wind curve. This is the Coriolis effect.) *What does the caption on page 7 explain?* (the difference between sea breezes and land breezes) *What information does the sidebar at the bottom of page 8 explain?* (when monsoon season occurs and why it is so important)

Pages 8–11 *Why is the North American monsoon season important?* (Water from the monsoon is important to the desert ecosystem.)

OBJECTIVES

CCSS Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. **RI.5.3**

ACADEMIC LANGUAGE

- *expository text, main idea, details, ask and answer questions*
- Cognates: *texto expositivo, detalles*

NGSS **5.ESS2.A**

Go Digital

Leveled Readers

Use Graphic Organizer

According to details in the text on page 10 and the map on page 11, where do most tornadoes in the United States occur? (states in Tornado Alley)

Pages 12–13 *The Greek word* katabaino *means "to go down." Explain how this meaning is related to the direction of katabatic winds.* (Katabatic winds travel downhill.)

Pages 14–17 *Ask a partner a question about the information on page 14.* (Why can't scientists predict El Niño?) *Use text details to answer.* (It does not occur in a regular pattern.) *What affects the impact of an El Niño on the world's weather?* (how much ocean temperatures increase)

After Reading

Respond to Reading Revisit the Essential Question and ask students to complete the Text Evidence questions on page 18.

Analytical Writing **Write About Reading** Check that students have correctly identified the main idea about weather in Chapter 3 using details that support this main idea.

Fluency: Rate and Accuracy

Model Model reading aloud pages 2–3 at an appropriate rate and with accuracy. Next read the passage aloud and have students read along with you.

Apply Have students practice reading with partners.

PAIRED READ

Leveled Reader

"Cloud Atlas"

Make Connections: Write About It Analytical Writing

Before reading, ask students to note that the genre of this text is also expository text. Then discuss the Essential Question. After reading, ask students to write connections between what they learned about where to find patterns in nature in *Weather Patterns* and "Cloud Atlas."

FOCUS ON SCIENCE

Students can extend their knowledge of how warmed air affects the weather by completing the science activity on page 24. STEM

Literature Circles

Ask students to conduct a literature circle using the Thinkmark questions to guide the discussion. You may wish to have a whole-class discussion, using information from both selections in the Leveled Reader, about where we can find patterns in nature.

Gifted and Talented

SYNTHESIZE Challenge students to brainstorm as many ideas as possible about where they can find patterns in nature, using their class readings, prior knowledge, and additional research as necessary. Ask small groups to choose one of these patterns, describe it in detail, and explain how knowing about this pattern might help them better understand their world.

Beyond Level

Vocabulary

REVIEW DOMAIN-SPECIFIC WORDS

OBJECTIVES
CCSS Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*). **L.5.6**

Model Use the **Visual Vocabulary Cards** to review the meaning of the words *formation* and *repetition*. Use each word in a science-related sentence.

Write the words *symmetry* and *molecule* on the board and discuss the meanings with students. Then help students write meaningful sentences using these words.

Apply Have students work in pairs to review the meanings of the words *distribution* and *evaporate*. Then have partners write sentences using the words.

GREEK ROOTS

OBJECTIVES
CCSS Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*). **L.5.4b**

Model Read aloud the first paragraph of the Comprehension and Fluency passage on **Beyond Reproducibles** page 124.

Think Aloud I want to know the meaning of *astronomy*. I see the Greek root, *astro*, which means "star." I also see context clues in the surrounding words *studied, sun, moon,* and *stars*. These help me determine that *astronomy* means "the study of stars," or "the study of space."

With students, reread the first paragraph on page 124. Help them use the Greek root *bio* and context clues about what biologists study to figure out the meaning of *Biologists*.

Apply Have pairs of students read the rest of the passage. Ask them to use context clues to determine the meaning of the word *geographic* (page 124, paragraph 1).

Gifted and Talented **Independent Study** Challenge students to think of other words with the Greek root *astro*. Have them choose two of the words and use them in sentences that show their meaning.

Comprehension

REVIEW MAIN IDEA AND DETAILS

OBJECTIVES
CCSS Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text. **RI.5.2**

Model

Remind students that the main idea of a passage is what the author most wants readers to know about the topic. Individual paragraphs may also have main ideas. When the main idea is not directly stated, students can identify it by thinking about what the key details have in common.

Have students read the first paragraph of the Comprehension and Fluency passage on **Beyond Reproducibles** pages 123–124. Ask open-ended questions to facilitate discussion such as *What are some details you learn In this paragraph? What do these details have in common?*

Apply

Have students identify the main ideas in each paragraph in the rest of the passage as they independently fill in Graphic Organizer 141. Then have partners use their work to summarize the passage and determine the main idea of the passage as a whole.

SELF-SELECTED READING

OBJECTIVES
CCSS Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text. **RI.5.2**

Ask and answer questions to increase understanding of the text.

Read Independently

Have students choose an expository nonfiction book for sustained silent reading.

- As students read, have them fill in the key ideas and main idea on Graphic Organizer 141.
- Remind them to ask questions and then answer them, using details in the text.

Read Purposefully

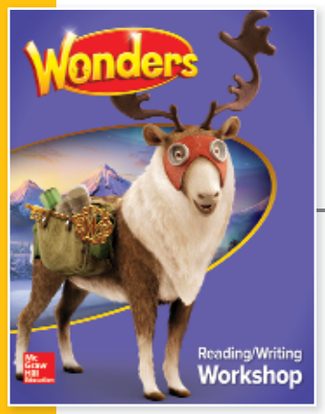
Encourage students to keep a reading journal. Suggest that they read different books in order to learn about a variety of different topics.

- Students can write summaries of the books in their journals.
- Ask students to share what they learned from the books with classmates.

Gifted and Talented

Independent Study Challenge students to discuss how their books relate to the weekly theme of patterns. Have students compare different kinds of patterns discussed in their books. Where can people find patterns in nature?

English Learners



Reading/Writing Workshop

OBJECTIVES

CCSS Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text. **RI.5.2**

LANGUAGE OBJECTIVE

Identify the main idea and key details.

ACADEMIC LANGUAGE

- *main idea, key details, ask and answer questions*
- Cognate: *detalles*

Shared Read

Patterns of Change

Before Reading

Build Background

Read the Essential Question: *Where can you find patterns in nature?*

- Explain the meaning of the Essential Question, including the vocabulary in the question: *A pattern is a repeating arrangement of colors, shapes, or figures. Nature is the world around you that is not made by people. Nature includes plants, animals, the land, the oceans, and the sky.*
- **Model an answer:** *The leaves on a tree form a pattern. They have the same shape, color, and size.*
- Ask students a question that ties the Essential Question to their own background knowledge: *Turn to a partner and think of a pattern in nature that you have noticed. Discuss the pattern and how you learned about it.* Call on several pairs.

During Reading

Interactive Question-Response

- Ask questions that help students understand the meaning of the text after each paragraph.
- Reinforce the meanings of key vocabulary.
- Ask students questions that require them to use key vocabulary.
- Reinforce strategies and skills of the week by modeling.

Go Digital

View "Patterns of Change"

ELD ELD.PI.5.6a.Em • ELD.PI.5.6a.Ex • ELD.PI.5.6a.Br
ELD.PI.5.6b.Em • ELD.PI.5.6b.Ex • ELD.PI.5.6b.Br
ELD.PI.5.I2a.Em • ELD.PI.5.I2a.Ex • ELD.PI.5.I2a.Br

Page 195

Paragraphs 1 and 2

Model Main Idea and Key Details Reread the paragraphs. Explain that the main idea in these paragraphs is that rocks change over time. Explain that the text supports this main idea with key details. Help students locate key details in the first paragraph: *The third sentence in this paragraph tells how water, wind, and temperature slowly transform, or change, rocks.*

Point to the photograph. *How has the rock structure changed over time?* (It is sandstone. It is sand that became rock after millions of years.)

Igneous Rocks

Paragraphs 1–3

Have students echo read the first paragraph.

 *Igneous rocks are formed from magma. What happens to the magma that turns it into rock?* (It rises to the surface of Earth and then slowly cools.)

Point to the photographs. *What type of rock are granite and obsidian?* (igneous) Have students describe granite and obsidian using details from the text and the pictures.

Page 196

Sedimentary Rocks

Paragraphs 1–2

 Have partners take turns describing how igneous rocks break down and become sedimentary rocks. (Wind and water erode the igneous rocks. Particles of broken rock collect in layers. The layers are pressed together and become sedimentary rocks.)

Paragraph 3

Point to the pictures of sandstone and limestone. *From what material is sandstone formed?* (sand) *What about limestone?* (bones and shells)

Rock Formations

Paragraph 1

Model Greek Roots Model using the Greek root *geo* and context clues to figure out the meaning of *geologist*. Geo *means earth. A* geologist *is person who learns about Earth by studying rocks.*

Paragraph 2

Explain and Model the Strategy Remind students that they can ask questions and answer them to make sure they understand what they are reading. Model asking and answering a question: *How are layers of rock arranged?* (The oldest layers are on the bottom, and the youngest are on the top.)

Paragraph 3

Choral read the paragraph. Point to the photograph of the Grand Canyon and have students describe the rock formations and patterns they see.

Page 197

The Rock Cycle

Paragraph 1

What is the third type of rock? (metamorphic rock) *What happens to some metamorphic rock?* (It becomes magma.)

Paragraph 2

Reread the first sentence. *What happens to magma as it cools?* (It turns into igneous rock.)

Review the rock cycle with students. Ask a student to explain how the rock cycle is like a pattern.

After Reading

Make Connections

- Review the Essential Question: *Where can you find patterns in nature?*
- Make text connections.
- Have students complete **EL Reproducibles** pages 123–125.

English Learners

Lexile 830
TextEvaluator™ 30

Leveled Reader: *Weather Patterns*

Before Reading

Preview

- Read the Essential Question: *Where can you find patterns in nature?*
- Refer to Seeing a Pattern: *How is a salt marsh an example of a pattern in nature?*
- Preview *Weather Patterns* and "Cloud Atlas": *Our purpose for reading is to learn about patterns in the weather.*

Vocabulary

Use the **Visual Vocabulary Cards** to pre-teach the EL vocabulary: *significant, combine,* and *drought.* Use the routine found on the cards.

During Reading

Interactive Question-Response

Note Taking: Use the graphic organizer on **EL Reproducibles** page 122 and the prompts below. As you read, use the glossary definitions to define vocabulary in context and visuals to help students understand key words.

Pages 2–3 Choral read page 2. *Turn to a partner and explain the job of a meteorologist.* (They are scientists who study weather.)

Pages 4–5 Reread the first two paragraphs on page 4. *Where are the sun's rays the strongest?* (at the equator) Point out the equator on a globe or map. Point out the tropics. *Is the weather in the tropics warmer or cooler than the weather at the North Pole?* (much warmer) *Diagrams can help us understand what we read. Point to the stages of the water cycle. Turn to a partner. How are clouds formed?* (Water vapor rises from the ocean into the air. As it rises, it cools and forms clouds.)

Pages 6–7 *From which direction does the wind come from in the United States?* (It mainly comes from the west.) *What is this west wind called?* (a prevailing wind)

Pages 8–11 *Point out the chapter title and section titles. What do you think Chapter 2 is about?* (monsoons, hurricanes, tornadoes) *Do hurricanes form over the ocean or over land?* (over the ocean) *Do tornadoes form over the ocean or over land?* (over land)

ELD **ELD.PI.5.6a.Em** • **ELD.PI.5.6a.Ex** • **ELD.PI.5.6a.Br**
ELD.PI.5.10a.Em • **ELD.PI.5.10a.Ex** • **ELD.PI.5.10a.Br**

OBJECTIVES
CCSS Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. **RI.5.3**

ACADEMIC LANGUAGE
- *expository text, main idea, details, ask and answer questions*
- Cognates: *texto expositivo, detalles*

NGSS **5.ESS2.A**

Go Digital

Leveled Readers

Use Graphic Organizer

Pages 12–15 Complete the sentence: *Katabatic winds are caused by _____.* (gravity) Choral read page 14. *Can scientists predict when El Niño will occur?* (no)

Pages 16–17 *Turn to a partner and describe some of the things that scientists know about weather patterns.* (They know that wind is caused by the movement of the sun's heat in the atmosphere. They understand the water cycle.)

After Reading

Respond to Reading Revisit the Essential Question and ask students to complete the Text Evidence questions on page 18.

Analytical Writing **Write About Reading** Check that students have correctly identified the main idea about weather in Chapter 3 using details that support this main idea.

Fluency: Rate and Accuracy

Model Model reading page 17 accurately and at an appropriate rate that makes the meaning clear. Then reread the page aloud and have students read along with you.

Apply Have students practice reading with a partner.

PAIRED READ

Leveled Reader

"Cloud Atlas"

Make Connections: Write About It

Analytical Writing

Before reading, point out that the genre of this text is also expository text and discuss the Essential Question. After reading, ask students to list connections between what they learned about patterns in nature from each selection.

FOCUS ON SCIENCE

Students can extend their knowledge of how warmed air affects the weather by completing the science activity on page 24. STEM

Literature Circles

Ask students to conduct a literature circle using the Thinkmark questions to guide the discussion. You may wish to use both Leveled Reader selections to conduct a whole-class discussion about patterns in nature.

Level Up

IF students read the EL Level fluently and answered the questions

THEN pair them with students who have proficiently read On Level and have EL students work with their partners to

- echo-read the On Level main selection.
- use self-stick notes to mark details they would like to ask questions about.
- discuss and answer these questions.

ACT Access Complex Text

The On Level challenges students by linking more complex information for **connection of ideas** and by including more **complex sentence structures**.

English Learners

Vocabulary

ELD ELD.PI.5.I2a.Em • ELD.PI.5.I2a.Ex • ELD.PI.5.I2a.Br

PRETEACH VOCABULARY WORDS

OBJECTIVES
CCSS Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships. **L.5.6**

LANGUAGE OBJECTIVE
Use vocabulary words.

I Do Preteach vocabulary from "Patterns of Change" following the Vocabulary Routine found on the **Visual Vocabulary Cards** for the words *contact, erode, formation, moisture, particles, repetition, structure,* and *visible*.

We Do After completing the Vocabulary Routine for each word, point to the word on the card and read the word with students. Ask students to repeat the word.

You Do Have students work in pairs to write sentences using at least two vocabulary words. Have each pair read the sentences aloud.

Emerging	Expanding	Bridging
Help students write the sentences and read them aloud.	Ask students to use each of the vocabulary words in a sentence that contains a synonym.	Challenge students to write a simile or metaphor using one of the words.

ELD ELD.PI.5.I2a.Em • ELD.PI.5.I2a.Ex • ELD.PI.5.I2a.Br

REVIEW VOCABULARY WORDS

OBJECTIVES
CCSS Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships. **L.5.6**

LANGUAGE OBJECTIVE
Use vocabulary words.

I Do Review the previous week's vocabulary words over a few days. Read each word aloud, pointing to the word on the **Visual Vocabulary Card**. Have students repeat after you. Then follow the Vocabulary Routine on the back of each card.

We Do Review the words. Choose a word and draw a picture of it. Have students suggest a caption for your picture that uses the vocabulary word.

You Do In pairs, have each student choose a word to illustrate. Have them switch illustrations and write a caption for the illustration they receive. Ask them to read their caption aloud.

Emerging	Expanding	Bridging
Help students write the vocabulary word that describes the picture.	Have students write a short, complete sentence to describe the picture.	Challenge students to write a longer complete sentence to describe the picture.

ELD ELD.PI.5.6b.Em • ELD.PI.5.6b.Ex • ELD.PI.5.6b.Br

GREEK ROOTS

OBJECTIVES
CCSS Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*). **L.5.4b**

LANGUAGE OBJECTIVE
Use Greek roots.

I Do Read aloud the first paragraph of the Comprehension and Fluency passage on **EL Reproducibles** page 124. Summarize the paragraph. Point to the word *astronomy*. Explain that Greek roots can help them figure out the meaning of the word.

Think Aloud I am not sure what *astronomy* means, but I see a Greek root that can help me. The Greek root *astr* means "star." The words *studied, sun, moon,* and *stars* also help me. *Astronomy* must mean "the study of stars, the moon, and the sun."

We Do Have students point to the word *biologists* in the first paragraph on page 124. Help students identify the Greek root *bio*, which means "life." Use the Greek root and context clues to determine the meaning of the word. Write the definition of the word on the board.

You Do In pairs, have students identify the Greek root in *geographic* (page 124, paragraph 1). Guide them to determine the meaning of the word using the root *geo*, which means "earth," and the context clues.

Emerging	Expanding	Bridging
Help students locate the words and Greek roots.	Ask students to identify and define the Greek roots.	Have students explain how they used the Greek root to define the word.

ELD ELD.PI.5.12a.Em • ELD.PI.5.12a.Ex • ELD.PI.5.12a.Br

ADDITIONAL VOCABULARY

OBJECTIVES
CCSS Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships. **L.5.6**

LANGUAGE OBJECTIVE
Use academic vocabulary and high-frequency words.

I Do List some academic vocabulary and high-frequency words from "Patterns of Change": *patterns, type, minerals;* and *Weather Patterns*: *forecast, atmosphere, seasons*. Define each word for students: *Patterns are things that repeat.* Point out the photographs of patterns in "Patterns of Change."

We Do Model using the words for students in a sentence: *My sweaters have patterns of stripes and checks. Rock formations have patterns of lines.* Then provide frames: ____ *have patterns of* ____. Complete them with students

You Do Have pairs make up their own sentences and complete them with the class.

Emerging	Expanding	Bridging
Help students copy the sentence frames correctly.	Provide sentence starters, if necessary.	Have students define the words they used by using a synonym.

English Learners

Writing/Spelling

ELD ELD.PI.5.10a.Em • ELD.PI.5.10a.Ex • ELD.PI.5.10a.Br

WRITING TRAIT: IDEAS

OBJECTIVES
CCSS Write informative/explanatory texts to examine a topic and convey ideas and information clearly. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. **W.5.2b**

LANGUAGE OBJECTIVE
Use relevant evidence to support ideas.

I Do Explain that good writers support their ideas with evidence. Evidence can include facts, details, and examples. Read the Student Model aloud as students follow along and identify the main idea and the evidence that supports it.

We Do Read aloud one passage from "Patterns of Change" as students follow along. Identify the main idea. Then use a word web to generate evidence. Model sentences to describe the main idea and evidence using the word web.

You Do Have pairs use the word web to write their own short paragraph, including a main idea sentence and evidence. Edit each pair's writing. Then have students revise and check for the correct use of main and helping verbs.

Emerging	Expanding	Bridging
Have students copy the edited sentences.	Have students revise, adding evidence to support the main idea and editing for errors.	Have students add more supporting details and explain how those details support the main idea.

ELD ELD.PIII.5

SPELL WORDS WITH VOWEL TEAM SYLLABLES

OBJECTIVES
CCSS Spell grade-appropriate words correctly, consulting references as needed. **L.5.2e**

LANGUAGE OBJECTIVE
Spell words with vowel team syllables.

I Do Read aloud the Spelling Words on page T162, segmenting them into syllables and attaching a spelling to each sound. Point out that when two vowels appear together in the same syllable, they work together to make one vowel sound. Have students repeat the words.

We Do Read aloud the Dictation Sentences on page T163. With each sentence, read the underlined word slowly, segmenting it into syllables. Have students repeat after you and write the word.

You Do Display the words. Have students exchange their list with a partner to check the spelling and write the words correctly.

Emerging	Expanding	Bridging
Help students copy the words with correct spelling and say them aloud.	After students have corrected their words, have pairs quiz each other.	After making corrections, have students explain why those words were difficult.

Grammar

ELD ELD.PII.5.3.Em • ELD.PII.5.3.Ex • ELD.PII.5.3.Br

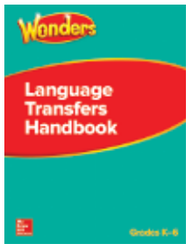
MAIN VERBS AND HELPING VERBS

OBJECTIVES

CCSS Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. **L.5.1**

LANGUAGE OBJECTIVE

Write sentences.



Language Transfers Handbook

Speakers of Cantonese and Vietnamese may omit the helping verb in the passive voice. Reinforce the use of helping verbs by guiding students to correctly form sentences in the passive voice.

I Do

Remind students that the main verb shows what the subject is or does. A helping verb helps the main verb show an action or make a statement. Write: *Kyra walks to school.* Underline the main verb. Write *Kyra is walking to school.* Underline the main verb and the helping verb. Point out that the helping verb comes before the main verb. Some common helping verbs include *has, had, could, can, am, is, are, was, were, will, have,* and *should.*

We Do

Write the sentence frames below on the board. Have students suggest a helping verb to complete each frame. Fill the sentence frames with students' responses. Then read the completed sentences aloud for students to repeat.

Jason ____ going to bed.

I ____ finish my homework.

The dinner ____ made by Carlos.

You Do

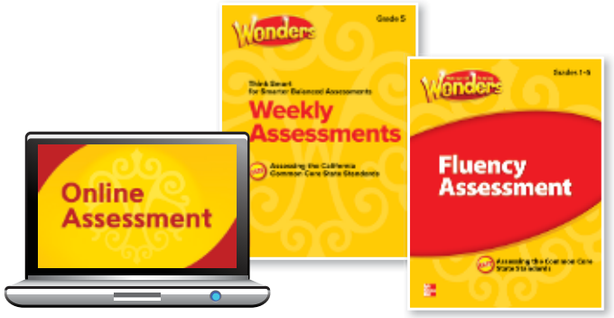
Brainstorm a list of main verbs with students. Have students work in pairs to write two sentences using a main verb and a helping verb.

Emerging	Expanding	Bridging
Help students write their sentences. Read the sentences aloud. Have students repeat.	Ask students to circle the helping verb and underline the main verb.	Have students circle the helping verb, underline the main verb, and explain the difference between main and helping verbs.

For extra support, have students complete the activities in the **Grammar Practice Reproducibles** during the week, using the routine below:

- Explain the grammar skill.
- Model the first activity in the Grammar Practice Reproducibles.
- Have the whole group complete the next couple of activities, then review the rest with a partner.
- Review the activities with correct answers.

PROGRESS MONITORING



Unit 3 Week 3 Formal Assessment	Standards Covered	Component for Assessment	Alignment with California Smarter Balanced Assessment
Text Evidence	RI.5.1	• *Selection Tests* • *Weekly Assessments* • *Approaching-Level Weekly Assessments*	*Claim ①, Target ❽*
Main Idea and Key Details	RI.5.2	• *Weekly Assessments* • *Approaching-Level Weekly Assessments*	*Claim ①, Target ❾*
Greek Roots	L.5.4b	• *Selection Tests* • *Weekly Assessments* • *Approaching-Level Weekly Assessments*	*Claim ①, Target ❿*
Writing About Text	W.5.9b	*Weekly Assessments*	*Claim ②, Target ❸a*
Unit 3 Week 3 Informal Assessment	**Standards Covered**	**Component for Assessment**	**Alignment with California Smarter Balanced Assessment**
Research/Listening/ Collaborating	SL.5.1d, SL.5.2, SL.5.3	• *RWW* • *Teacher's Edition*	*For targets associated w/ Claims ③ and ④*
Oral Reading Fluency (ORF) **Fluency Goal:** 117–137 words correct per minute (WCPM) **Accuracy Rate Goal:** 95% or higher	RF.5.4a, RF.5.4b, RF.5.4c	*Fluency Assessment*	*(not component of End-of-Year test)*

Using Assessment Results

Weekly Assessments Skills and Fluency	If . . .	Then . . .
COMPREHENSION	Students score below 70% . . .	. . . assign Lessons 55–57 on Main Idea and Key Details from the ***Tier 2 Comprehension Intervention online PDFs.***
VOCABULARY	Students score below 70% . . .	. . . assign Lesson 157 on Greek, Latin, and Other Roots from the ***Tier 2 Vocabulary Intervention online PDFs.***
WRITING	Students score below "3" on constructed response item . . .	. . . assign Lessons 55–57 on Main Idea and Key Details and/or Write About Reading Lesson 200 from the ***Tier 2 Comprehension Intervention online PDFs.***
FLUENCY	Students have a WCPM score of 109–116 . . .	. . . assign a lesson from Section 1 or 7–10 of the ***Tier 2 Fluency Intervention online PDFs.***
	Students have a WCPM score of 0–108 . . .	. . . assign a lesson from Sections 2–6 of the ***Tier 2 Fluency Intervention online PDFs.***

Using Weekly Data

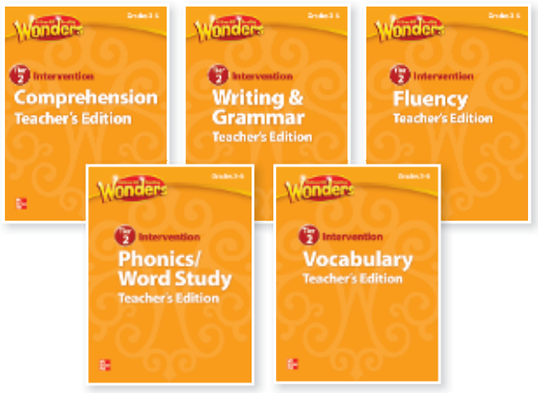
Check your data Dashboard to verify assessment results and guide grouping decisions.

Data-Driven Recommendations

Response to Intervention

Use the appropriate sections of the ***Placement and Diagnostic Assessment*** as well as students' assessment results to designate students requiring:

TIER 2 Intervention Online PDFs



TIER 3 WonderWorks Intervention Program