

Teacher's Guide



Magnetic Reading[™]

Teacher's Guide GRADE 5

NOT FOR RESALE

ISBN 978-1-7280-4128-5

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North Billerica, MA 01862

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Welcome to Magnetic Reading

Magnetic Reading is built on four key pedagogical pillars that draw students to the center of learning.

Data to Inform Instruction

i-Ready lesson-level data and reporting give teachers valuable strategies for individual students, groups, and impactful pairings.

Knowledge-Rich Learning

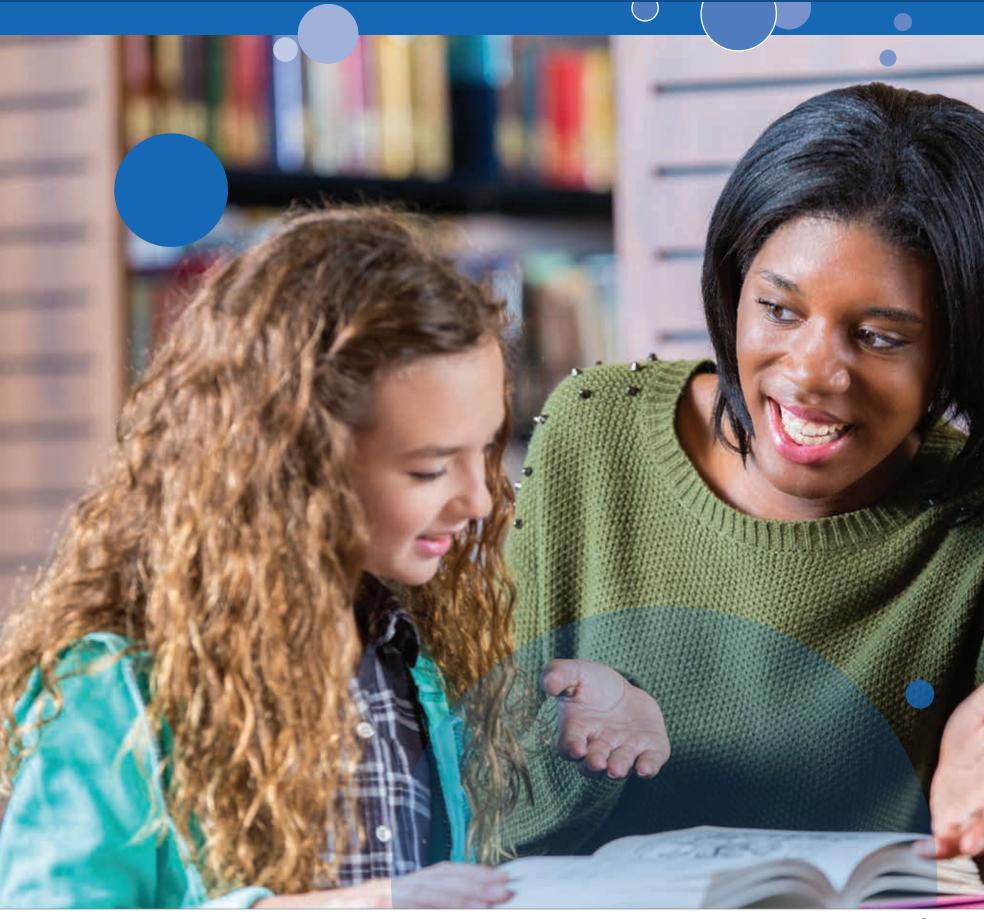
A content-rich curriculum encourages students to build a store of knowledge and vocabulary that they can activate when reading future texts.

Culturally and Linguistically Responsive (CLR) Pedagogy

Culturally and Linguistically Responsive (CLR) teaching and texts validate and affirm diverse backgrounds and perspectives so all students may see themselves as part of a rich, thriving community of cultures and ideas.

Scaffolds to Support Learner Variability

Built on the principles of Universal Design for Learning, *Magnetic Reading* opens access for all students to engage with high-quality, grade-level text.



Authors and **Advisors**

Magnetic Reading provides research-based instruction informed by practical classroom experience. Guidance from our program authors and advisors ensures that the program is rigorous for students and manageable for teachers to implement.

Authors



James W. Cunningham, Ph.D.

Awards and Key Positions

- Reading Hall of Fame
- National Reading Conference Board of Directors
- International Encyclopedia of Education contributor

Advisory Focus

- Text complexity
- Reading comprehension
- Vocabulary
- Writing (K–8)



D. Ray Reutzel, Ph.D.

Awards and Key Positions

- Literacy Researchers Association Board of Directors
- International Reading Association Board of Directors
- John C. Manning Public School Service Award

Advisory Focus

- Informational text
- Reading comprehension
- Reading assessment
- Response to Intervention—at-risk children
- Fluency

Advisors



Culturally Responsive Texts and Instruction Sharroky Hollie, Ph.D.

Dr. Sharroky Hollie is the Executive Director of the National Institute of Culturally Responsive Teaching and Learning. A national educator who provides professional development in cultural responsiveness, Dr. Hollie has trained more than 150,000 educators and worked in nearly 2,000 classrooms since 2005. He has authored several texts and journal articles, including *Strategies for Culturally and Linguistically Responsive Teaching and Learning* (2015) and a chapter in the *Oxford Handbook of African American Language* (2015).



Universal Design for Learning (UDL) David A. Dockterman, Ph.D.

Dr. David Dockterman, a lecturer at the Harvard Graduate School of Education, has more than 35 years of experience translating research into scalable and effective educational programs. He works with publishers and academic and nonprofit organizations, and he teaches courses in evidence-driven innovation and adaptive learning with a focus on responding effectively to multiple dimensions of learner variability.



Cultural Authenticity Odia Wood-Krueger

Odia Wood-Krueger focuses on culturally relevant content, curriculum writing, and community engagement in public education. She worked for nine years in the Indian Education Department at Minneapolis Public Schools. Her projects include the first-of-its-kind Native American Freedom Schools®, sensitivity writing for publishers, and community outreach for *The Bias Inside Us*, a Smithsonian Institution exhibition on implicit bias. Wood-Krueger is a member of the Central Urban Métis Federation, Inc. (CUMFI).

English Learners

English Learner Success Forum

ELSF is a collaboration of researchers, teachers, education leaders, and content creators who are dedicated to improving the quality and accessibility of instructional materials for English learners (ELs). ELSF's experts provide guidance to curriculum developers in addressing the linguistic and cultural assets and needs of ELs. The goal of our collaborative efforts is to provide ELs full access to grade-level content and quality learning.

Knowledge Building Johns Hopkins Institute for

Education Policy

The Johns Hopkins Institute for Education Policy is dedicated to integrating the domains of research, policy, and practice to achieve educational excellence for all of America's students. Experts team up with educational publishers and other organizations to ensure that instructional units are comprised of texts that effectively build knowledge in critical areas.

African American History and Culture Schomburg Center for Research in Black Culture

The Schomburg Center for Research in Black Culture is a world-leading cultural institution devoted to the research, preservation, and exhibition of materials focused on African American, African Diaspora, and African experiences. Through content reviews, the Schomburg Center has provided guidance on the representation of African American history and experience.

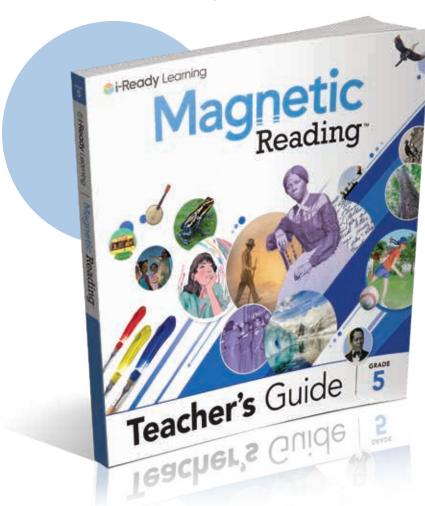
Program Components

Whether using *Magnetic Reading* as a stand-alone program or in conjunction with other ELA components, educators have the resources and flexibility to meet all their instruction and assessment needs.

Essential Components

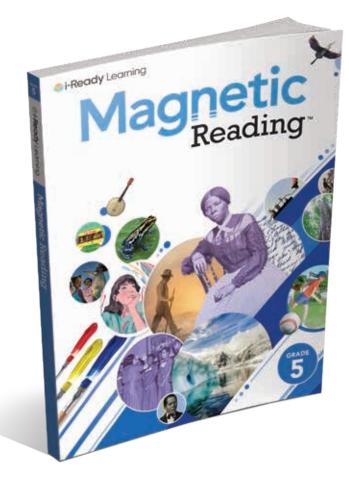
Teacher's Guide

Everything you need in one book, including standards-aligned curriculum, content roadmap, scaffolded activities, and assessments.



Student Book

A powerful resource for students to become better readers. Scaffolded supports throughout help students to build stamina in reading grade-level content.



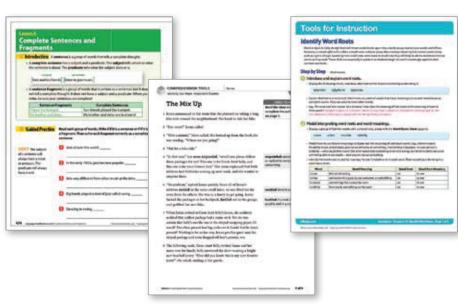
Resources to Optimize Implementation

Teacher Toolbox

- Interactive Tutorials
- Lesson Presentation Slides
- Posters of Routines
- The Language Handbook
- Assessment Resources
- Tools for Scaffolding Comprehension
- Tools for Instruction
- Discourse Cards
- Graphic Organizers
- Writing Rubrics

i-Ready

- Assignable Practice Resources
- i-Ready Assessments & Reports
- i-Ready Grade-Level Scaffolding Report
- i-Ready Personalized Instruction
 - Auto-generated, individual pathway for students
 - —Teacher-assigned practice options





Using Magnetic Reading with i-Ready

Magnetic Reading in the i-Ready Product Suite

Magnetic Reading is situated within the *i-Ready* product suite, giving educators the resources and flexibility to meet their instruction and assessment needs. The *i-Ready* suite has the tools for diagnosing and monitoring progress, providing whole-class instruction, and setting students on a personalized learning path.

Diagnose and Monitor



i-Ready Diagnostic

See a portrait of student growth and a path to proficiency with this adaptive diagnostic assessment.



i-Ready Standards Mastery

Assess mastery of standards and monitor student progress with standards-based digital assessments.



Oral Reading Fluency Assessments

Assess students' reading fluency with benchmark assessments that measure rate, accuracy, prosody, and comprehension.

Teacher-Led Instruction



Magnetic Reading

Inspire students to read engaging, grade-level texts while providing rigorous comprehension instruction.



Phonics for Reading

Prepare students for grade-level reading with age-appropriate phonics instruction.



Ready Writing

Guide students to become effective writers across all modes.

Personalized Learning



i-Ready Personalized Learning

Set students on a personalized pathway with digital instruction.

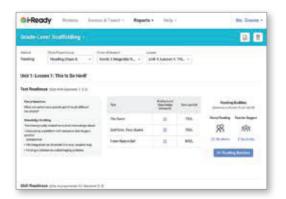
Data-Driven Instruction

i-Ready Assessments and Personalized Instruction strategically address students' individual learning needs and make the best use of educators' time with actionable reports.

The i-Ready
Diagnostic
empowers
Magnetic
teachers to
make datadriven
instructional
decisions.

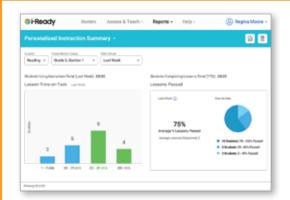


Review *i-Ready* **Diagnostic** results to see comprehensive data about student learning and growth across all K–8 skills.



Consult the **Grade-Level Scaffolding Report** before teaching each *Magnetic Reading* lesson to plan reading and standards-based instructional scaffolds with students' individual needs in mind.

i-Ready
reporting gives
teachers data
to monitor
student
progress and
mastery.



Personalized Instruction uses data from the Diagnostic to generate a tailored pathway of interactive lessons for each student. *i-Ready* reporting allows teachers to regularly track student progress and use that progress to inform classroom instructional decisions.



When given at regular intervals during the school year, **Standards Mastery** provides insight into the skills students struggle with and those they have mastered, providing ongoing data to inform planning for remediation and enrichment.

How Magnetic Reading Units Work

Magnetic Reading includes six units at each grade level. Each unit explores a grade-appropriate science, social studies, or social-emotional theme and includes **Focus Lessons** and a **Connect It Lesson**.



Structure of a Unit

- Three or four conceptually related **Focus Lessons** build knowledge on a focused part of the unit topic and provide rigorous instruction and practice on the focus standard. Focus Lessons can be taught in sequence or in isolation to target particular standards while still building knowledge of the unit topic.
- A **Connect It Lesson** at the end of each unit extends the knowledge build with a longer, culminating text and integrated review and practice of the unit's focus standards.

Each **Focus Lesson** targets a single literary or informational standard and builds knowledge on the lesson topic.



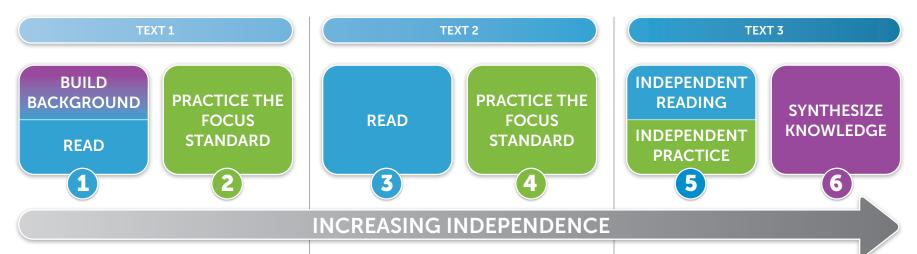
Multiple lessons offer fresh perspectives and opportunities for students to deeply explore the unit topic.

The **Connect It Lesson** synthesizes skills and knowledge from across the unit.

How Magnetic Reading Lessons Work

Focus Lessons

Each **Focus Lesson** provides rigorous instruction on a single standard through authentic reading experiences that build knowledge and comprehension skills across six 30–45-minute sessions. Each session has a primary instructional focus, but knowledge building and the practice of comprehension skills are integrated into authentic reading experiences in all six sessions.



SESSION 1:

- Students build background knowledge and explore conceptual vocabulary.
- They consider a Focus Question that will guide the building of knowledge across lesson texts.
- Students read to understand Text 1.

SESSION 2:

- Students receive explicit instruction on the focus standard.
- They apply the focus standard to analyze Text 1.

SESSION 3:

 Students read to understand Text 2, building knowledge on the lesson topic and practicing comprehension skills.

SESSION 4:

 Students receive additional instruction and practice on the focus standard and apply it to Text 2.

SESSION 5:

- Students read Text 3 independently, applying knowledge and vocabulary gained in the first two texts.
- They work independently to complete a series of rigorous, text-based items that practice the focus standard.

SESSION 6:

 Students synthesize knowledge as they respond to the Focus Question using evidence from all lesson texts.

Connect It Lessons

A **Connect It Lesson** at the end of each unit culminates learning. Students read and analyze a longer text and integrate knowledge and standards practice gained across the unit. Each Connect It Lesson takes place across four 30–45-minute sessions. The Teacher's Guide provides additional resources for reteaching and suggestions for projects to extend learning.



SESSION 1:

- Students discuss what they have learned about the unit topic by sharing details and insights from texts across the unit.
- They explore a network of conceptual vocabulary to build background for reading the culminating text.



SESSION 2:

 Students read to understand a longer, culminating text that builds on the knowledge gained in previous lessons.



SESSION 3:

 Students work independently to complete a series of items about the text that integrate practice of standards taught throughout the unit.



SESSION 4:

 Students "put it all together" in an activity that explores the unit topic and requires students to make connections between the Connect It text and other unit texts, drawing on evidence from multiple unit texts.

Primary Instructional Focus

Although students read, apply standards, and build knowledge in every session, each session is color-coded according to its primary instructional focus.



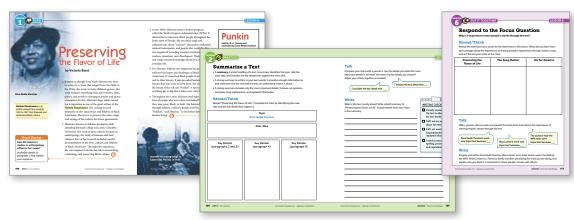
Blue Pages: Reading



Green Pages: Standards Practice



Purple Pages: Knowledge Building



Pacing Guide

Magnetic Reading includes 20 Focus Lessons, 6 Connect It Lessons, and 6 Unit Assessments. Each session is designed to be completed in 30–45 minutes. Sessions allow for a flexible implementation and can be paced out over two days, taught one per day, or combined for a longer block.

MONTHLY PACING BY LESSON

MONTH 1

- *i-Ready* Diagnostic (2 days)
- Lesson 0 (5 days)

Unit 1

- Lesson 1: This Is So Hard! (6 days)
- Lesson 2: Finding Myself (6 days)

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Unit 1 (continued)

- Lesson 3: The New Kid (6 days)
- Lesson 4: Turn It Around (6 days)
- **Unit 1 Connect It:** Finding Confidence (4 days)
- Unit 1 Assessment (1 day)

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Unit 2

- **Lesson 5:** The Harlem Renaissance *(6 days)*
- **Lesson 6:** The Arts of the People (6 days)
- Lesson 7: Dust Bowl (6 days)

MONTH

Unit 2 (continued)

- Lesson 8: Public Works of Art (6 days)
- Unit 2 Connect It: Forgotten Art (4 days)
- Unit 2 Assessment (1 day)

Unit 3

• **Lesson 9:** Water and Humans (6 days)

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Unit 3 (continued)

- Lesson 10: Fresh Water (6 days)
- **Lesson 11:** Water Problems and Solutions *(6 days)*
- Unit 3 Connect It: The Future of Water (4 days)
- Unit 3 Assessment (1 day)

MONTH

Unit 4

- Lesson 12: | Will Survive (6 days)
- **Lesson 13:** Danger on the Mountain (6 days)
- Lesson 14: Lost at Sea (6 days)

MONTH 7

Unit 4 (continued)

- Unit 4 Connect It: Put to the Test (4 days)
- Unit 4 Assessment (1 day)

Unit 5

- **Lesson 15:** Slavery in the United States (6 days)
- **Lesson 16:** The Hard Path to Freedom (6 days)

MONTH 8

Unit 5 (continued)

- **Lesson 17:** Stories of the Underground Railroad (6 days)
- **Unit 5 Connect It:** The Fight for Freedom *(4 days)*
- Unit 5 Assessment (1 day)

Unit 6

• **Lesson 18:** Beyond Spoken Words *(6 days)*

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Unit 6 (continued)

- **Lesson 19:** From Here to There (6 days)
- Lesson 20: How Do YOU Say It? (6 days)
- **Unit 6 Connect It:** Messages in Code (4 days)
- Unit 6 Assessment (1 day)

FOCUS LESSON PACING		Daily Timing
SESSION 1	SCAFFOLD READING	 Notice and Wonder (5 minutes) Essential Concepts (5 minutes) Read (15 minutes) Discuss the Text (5 minutes)
SESSION 2	PRACTICE THE FOCUS STANDARD • Formative Assessment	 Reread/Think (20 minutes) Talk (10 minutes) Write (5 minutes)
SESSION 3	SCAFFOLD READING	 Read (20 minutes) Discuss the Text (5 minutes)
SESSION 4	PRACTICE THE FOCUS STANDARD • Formative Assessment	 Reread/Think (20 minutes) Talk (10 minutes) Write (5 minutes)
SESSION 5	INDEPENDENT READING AND PRACTICE • Formative Assessment	 Read (20 minutes) Reread/Think (10 minutes) Write (10 minutes)
SESSION 6	RESPOND TO THE FOCUS QUESTION	 Reread/Think (20 minutes) Talk (15 minutes) Write (10 minutes)

CONNECT IT LESSON PACING		Daily Timing	
SESSION 1	MAKE CONNECTIONS	 Make Connections (10 minutes) Talk About What You Know (15 minutes) Essential Concepts (10 minutes) 	
SESSION 2	SCAFFOLD READING	 Read (20 minutes) Discuss the Text (10 minutes) 	
SESSION 3	PRACTICE THE FOCUS STANDARDS • Formative Assessment ✓	• Reread/Think (20 minutes) • Write (10 minutes)	
SESSION 4	BUILD KNOWLEDGE	 Make Connections (5 minutes) Reread/Think (15 minutes) Talk (15 minutes) 	

ALTERNATE PACING OPTIONS

Consider alternate pacing to accommodate flexible instructional blocks.

- Combine adjacent sessions for 60-minute sessions.
- Spread sessions over two days for 20-minute sessions.
- Omit Session 6 for a 5-day Focus Lesson pacing plan.
- Omit the Connect It lesson when choosing a custom path through the lessons in this curriculum.

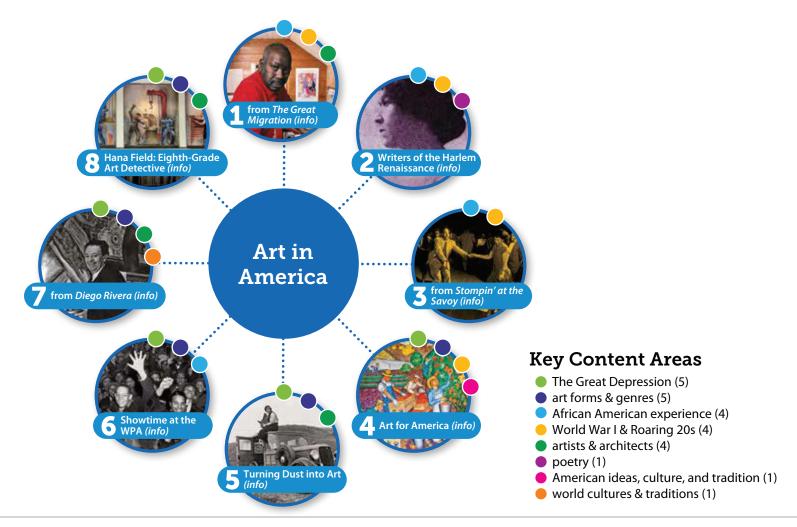


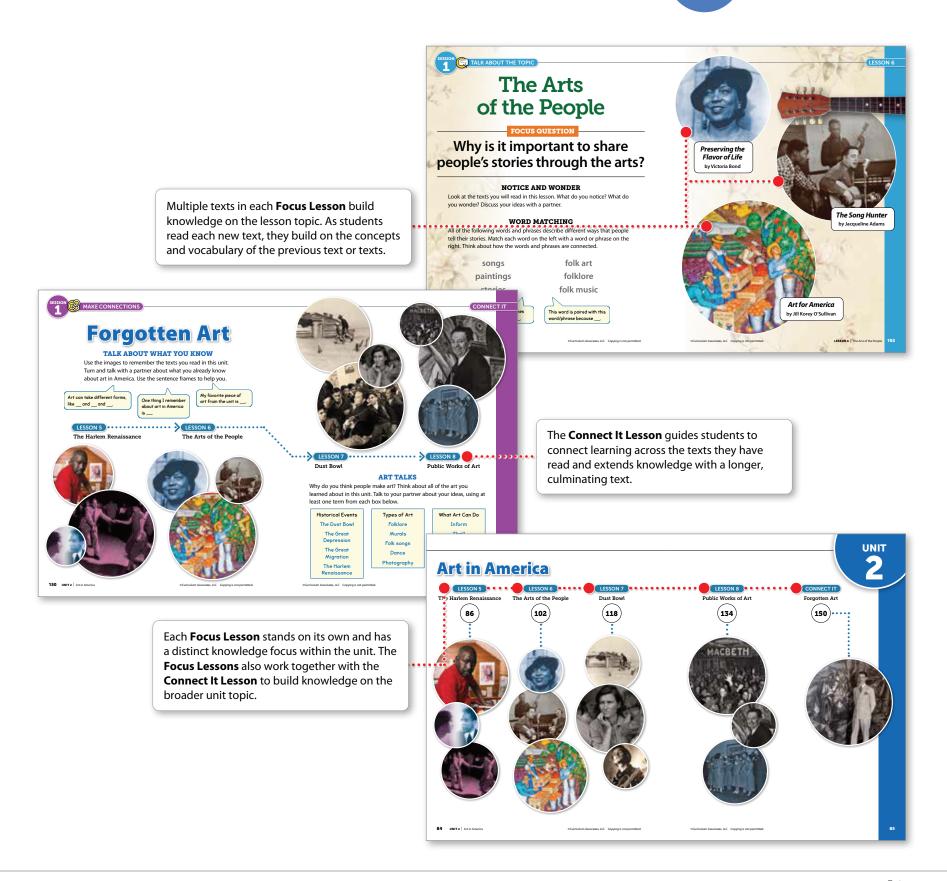
Engaging Texts That **Build Knowledge**

Research suggests that reading proficiency is connected to students' prior knowledge and that a content-rich curriculum can improve student learning.

Magnetic Reading supports students to build knowledge in key content areas and relevant social-emotional themes.

- Literary texts (*Lit*) represent a range of backgrounds, experiences, and text types. They explore social-emotional themes that students will relate to and learn from, such as conflict resolution, building empathy and awareness, and dealing with emotions.
- Informational texts (*Info*) offer fresh perspectives on science, social studies, technology, and the arts
- Rich and varied texts build knowledge in key content areas and act as both windows into new worlds and mirrors in which students see themselves.



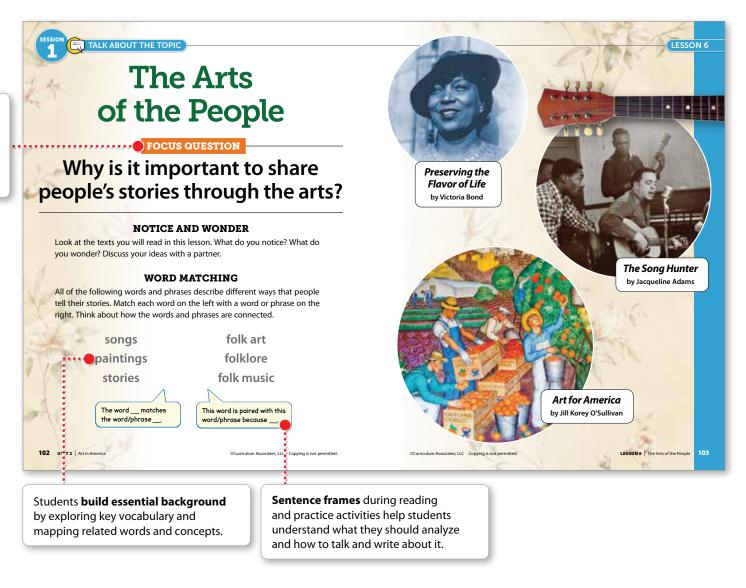


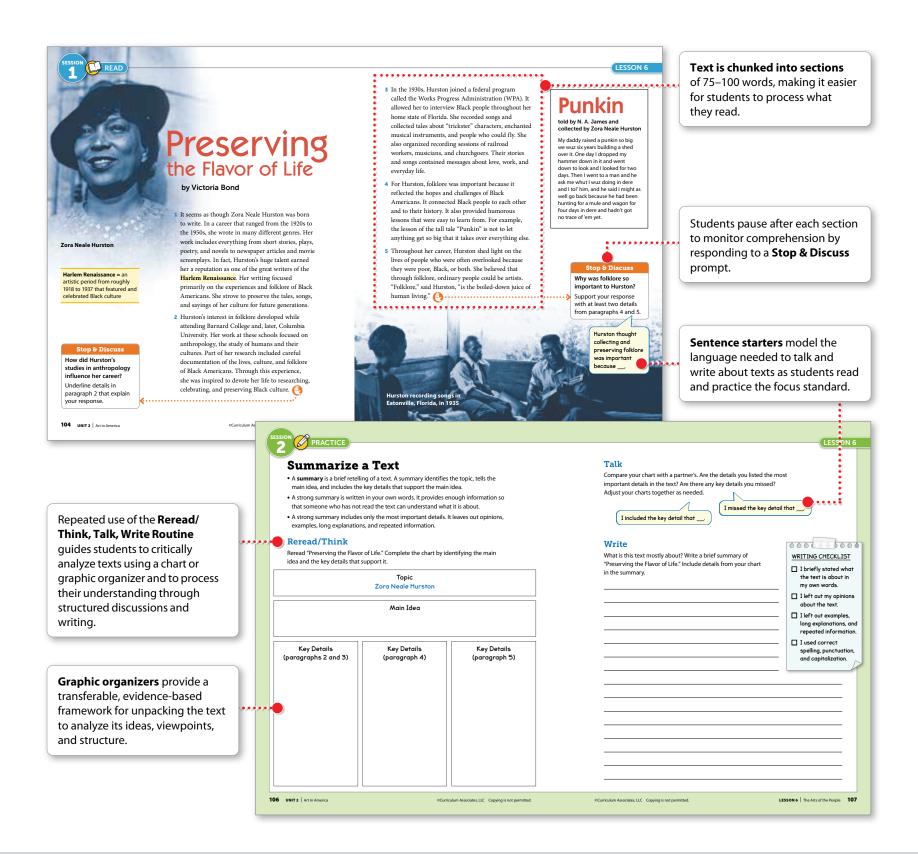
Supporting Students to Read Complex Texts

The ability to read and analyze complex texts is key to students' success in the classroom and beyond. *Magnetic Reading* supports students to read more so they become informed readers capable of recognizing others' perspectives and enriching their own.

- Scaffolds woven throughout reading sessions support students to engage with grade-level texts.
- Scaffolds during practice sessions support students to unpack the text's ideas, structure, and perspectives to arrive at a deeper understanding.

Each lesson starts with a **Focus Question** that gets students thinking and talking about the lesson topic.

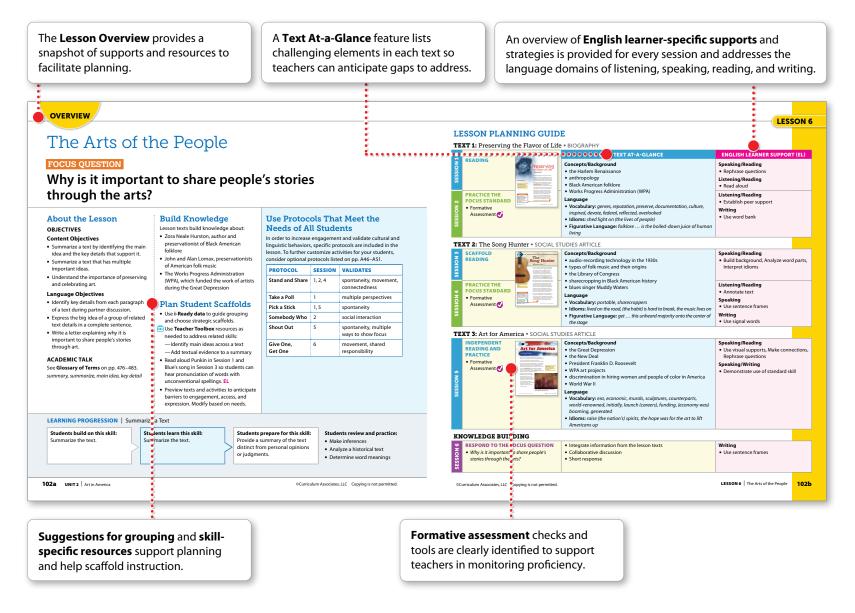


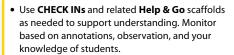


Supporting Students to

Read Complex Texts (continued)

The best support students have is a well-informed teacher who knows what to look for and how to monitor comprehension based on knowledge of students' reading proficiency and experiences. Planning resources and scaffolds support participation in grade-level reading and discourse and provide flexible options for applying scaffolds when needed and removing them as students develop independence.





• **CHECK IN** Students understand the Harlem Renaissance.

HELP & GO: Background

- Ask students to tell what they remember about the Harlem Renaissance from Lesson 5.
- If necessary, remind students that the Harlem Renaissance was a rich cultural period, based in the New York City neighborhood of Harlem, that involved Black writers, singers, and visual artists.

Stop & Discuss

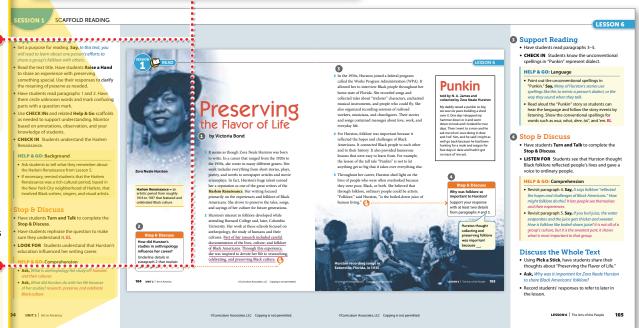
- Have students Turn and Talk to complete the Stop & Discuss.
- Have students rephrase the question to make sure they understand it. EL
- LOOK FOR Students understand that Hurston's education influenced her writing career.

HELP & GO: Compreh insion

- Ask, What is anthropology the study of? humans and their cultures
- Ask, What did Hurston d with her life because of her studies? research, preserve, and celebrate Black culture

Strategic **scaffolds for English learners** are embedded throughout reading.

Help & Go scaffolds are used flexibly and as needed. Each support provides a quick Check In, Look For, or Listen For diagnostic and offers specific remediation strategies.



Each practice session incorporates the use of familiar, often-repeated **protocols to structure activities**, discussions, and writing.

Write

- Have students complete the Write task, using the checklist to check their work.
- You may wish to provide students with a word bank: preserve, folklore, history, connect, messages, recorded, songs, stories. EL
- Have a few volunteers Stand and Share their summaries with the class. Encourage classmates to structure feedback by offering one thing they liked and one thing that could be strengthened.
- Use written responses to determine whether students need additional support.

Detailed teacher modeling is provided for the instruction of reading comprehension standards and skills.

In a text and explain how they are related.

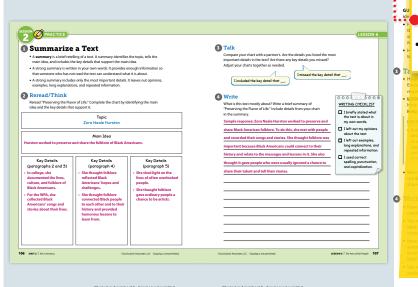
Summaring helps you understand and enameler when you related to the text.

MODEL THE STANDARD Model identifying and organizing the ideas in a text to prepare for writing a summary.

Say, Before you can write a summary, look for the main idea and key details in the text. A chart like this one can help you organize your ideas to prepare for writing.

Let's begin with the main idea: what is the whole text mostly about? Zora Neale Hurston collected Black American folklore; why she thought folklore was important. Let's state those ideas as a sentence: Hurston worked to preserve and share

PRACTICE THE FOCUS STANDARD



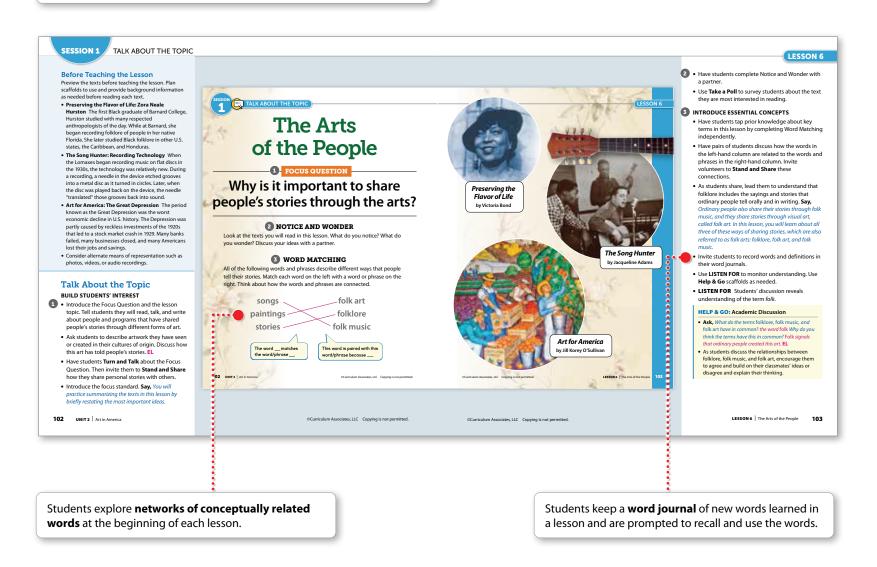
the folklore of Black Americans. We can see that this main idea is captured in paragraph 1. Now let's look for details that support this main idea.

Vocabulary Development

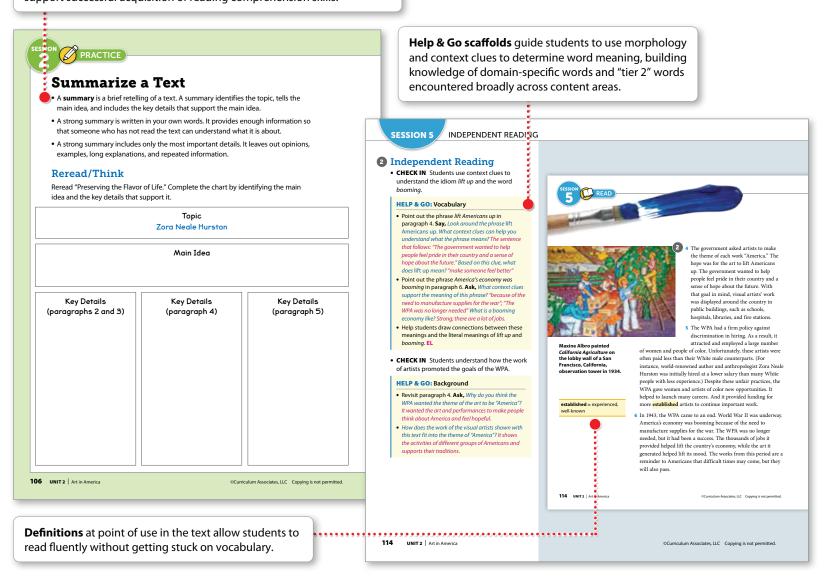
Magnetic Reading integrates word learning into reading, writing, and discussion.

Research shows that a student's knowledge of words and phrases is critical to reading success and that increasing the size and depth of a student's vocabulary can lead to higher levels of reading comprehension. *Magnetic Reading* integrates word learning into reading, writing, and discussion.

Key vocabulary is reinforced across lesson texts as students encounter words in different contexts and use them in academic discussions and writing activities. Word knowledge builds from lesson to lesson as students encounter new words on conceptually related topics within each unit.



Academic Talk words and phrases—the language that supports development of reading comprehension skills as students talk and write about texts— are taught, modeled, and used throughout each lesson to support successful acquisition of reading comprehension skills.



Routines That Structure Learning

Magnetic Reading includes the regular use of research-based routines to support standards instruction, vocabulary acquisition, and good habits of reading, writing, and discussion. Each routine is referenced in the Teacher's Guide at point of use. It is recommended that you familiarize yourself and your students with each routine at the beginning of the year to ensure effective implementation

1 Reread/Think, Talk, Write

What: This tried-and-true routine is used to structure all standards practice and knowledge-building sessions.

Why: The repeated sequence of reading and analyzing text, academic discussion, and writing supports students to develop critical thinking and metacognition as they unlock complex text.

When: During all standards practice and knowledge-building sessions (Sessions 2, 4, 5, and 6)

1. **Reread/Think** After an initial read of the text, students reread to analyze and evaluate it for deeper meaning, using a graphic organizer to analyze the text's structure and evidence.

2. Talk Students make connections with their peers and dig deeper into the texts, gaining new insights and divergent ways of thinking about their reading.

3. Write Through scaffolded writing prompts that extend and solidify their learning, students produce writing that demonstrates their understanding of comprehension skills and pushes them to make authentic connections to the text and expand their knowledge.

How:



2 Word Learning Routine

What: Students are prompted to use morphology (word parts), context clues, and resources such as dictionaries to determine the meaning of unfamiliar words. The routine is referred to at point of use during reading and is provided here in student-facing language that can be copied and displayed for reference.

Why: Students internalize word-learning strategies through repeated use and transfer those skills to other texts.

When: During all reading sessions (Sessions 1, 3, and 5)

How: 1. Say the word or phrase aloud. Circle the word or phrase that you find confusing. Read the sentence aloud.

- **2. Look inside the word or phrase**. Look for familiar word parts, such as prefixes, suffixes, and root words. Try breaking the word into smaller parts. Can you figure out a meaning from the word parts you know?
- **3. Look around the word or phrase**. Look for clues in the words or sentences around the word or phrase you don't know and the context of the paragraph.
- **4. Look beyond the word or phrase**. Look for the meaning of the word or phrase in a dictionary, glossary, or thesaurus.
- **5. Check the meaning**. Ask yourself, "Does this meaning make sense in the sentence?"

Routines That Structure Learning (continued)

3 Compare and Connect

What: Students are prompted to think about texts they have read and to compare and make connections between them.

Why: When students are given the opportunity to reflect on, compare, and make connections between texts, they increase meta-awareness, solidify understandings, and become more skilled at academic discourse.

When: During whole-class discussions after reading or writing about two or more texts (Sessions 3, 5, and 6)

How: 1. Identify two or more previously read texts on the lesson or unit topic that students will review. You may wish to have different students focus on different texts or have all students review all of the identified texts.

2. Ask questions to elicit students' reflections, comparisons, and connections. What are some examples of ___ in the texts? How are those examples alike? How are they different? What connections do you see between ___ and ?

3. Ask other questions specific to the idea or topic to help students see the underlying ideas to formulate important generalizations.



Opinion Lines

What: This routine prompts students to explore statements

by deciding how strongly they agree or disagree with the statements and comparing their opinions

with those of their peers.

Why: When students explore diverse views and relate them to their own views, they gain an understanding of the deeper reasoning underlying those views

and distinguish similarities and differences between them.

When: During whole-class discussions (Sessions 1, 3, 5, and 6)

How: 1. Create a line long enough for students to stand along. You may wish to mark the line with tape or string.

- 2. Mark one end with *Strongly Agree* and the other end with *Strongly Disagree*. Divide the line into regular intervals and label them with degrees of agreement and disagreement such as *agree*, *neither agree nor disagree*, and *disagree*.
- **3.** Write and display a bold statement that relates to what students are learning or discussing in the classroom.
- 4. Allow students time to think about how they feel about the statement and determine where on the scale their own opinion falls. Then ask them to stand on the part of the line that describes how much they agree or disagree with the statement. Have students talk with the people around them to share their reasons for standing where they are. Alternatively, consider having students talk with someone with a very different opinion. Provide sample questions and sentence starters to support discussion as needed: Why do you think that? I feel this way because ____. I agree/disagree because ____.

Stronger and Clearer Each Time

What: Students use this routine to revise and refine their ideas for a written response through structured

conversations.

Why: Students develop precision, reasoning, and communication skills as they work to analyze

complex text.

When: During writing activities (Sessions 2, 4, and 6)

How: 1. Pose a question to the class and allow students time to think independently about their response.

- 2. Students meet with their first partner. Each shares their ideas and gets feedback from their partner about the ideas, evidence, or points. The partners incorporate changes to make their ideas stronger and clearer before moving to the next partner.
- 3. Students meet with up to two more partners, revising their responses to make them "stronger each time" with better and better evidence, examples, and explanations; and to make their ideas "clearer each time" by refining their responses to make sense and by using precise words. At the end, the student should have a strong, clear response to the question to share.

Ongoing Opportunities to **Monitor Comprehension**

Magnetic Reading can be used on its own or with the *i-Ready* Diagnostic and *i-Ready* Standards Mastery as part of a full assessment and progress-monitoring solution.

i-Ready Diagnostic

Magnetic Reading Instruction

Formative Assessment Opportunities

Magnetic Reading provides ongoing opportunities to monitor comprehension and track student progress throughout each lesson.

Tool	What It Does	How to Use It	
STUDENT BOOK			
Reread/Think, Talk	Encourages students to collaborate when applying the lesson standard and sharing ideas about the text		
Write	Provides an opportunity for students to respond independently to a writing prompt about the text	 Observe students as they participate in these activities. Respond to individual needs with targeted strategies using the embedded Help & Go supports. 	
Writing Checklists	Provides students with a concrete way to self-assess		
Independent Practice	Allows students to demonstrate understanding as they apply the lesson standard to a new text		

TEACHER'S GUIDE		
Help & Go Supports	Provides quick Check In, Look For, or Listen For diagnostic and offers specific remediation strategies	Identify individual needs and provide immediate support.
Answer Analysis	Provides a depth-of-knowledge (DOK) level and an explanation of why each answer choice is correct or incorrect	Discuss correct and incorrect answers, helping students understand reasons for their errors.

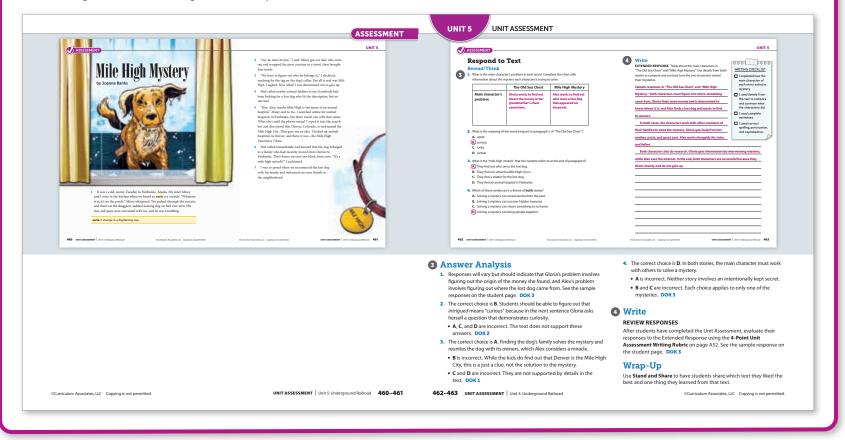
Magnetic Reading Unit Assessments

*i-Ready*Standards Mastery

Summative Assessment Opportunities

Each Unit Assessment targets the standards covered within a Unit and includes:

- A variety of item types
- An extended written response
- An answer analysis and depth-of-knowledge (DOK) level for each item
- A writing rubric for scoring written responses



Our Commitment to **Learner**Variability and Equity

Our Mission

Curriculum Associates believes that all students deserve access to high-quality, anti-biased, equitable educational resources. We strive to ensure that learners from all cultural identities, economic statuses or circumstances, and linguistic backgrounds, as well as those with disabilities, can engage with and see themselves reflected in our materials.

Supporting All Learners in Magnetic Reading

The creators of *Magnetic Reading* were guided by the understanding that there is no such thing as an average learner, and that all students bring their own unique assets, backgrounds, and variables to their learning. Instruction in *Magnetic Reading* reflects the guidelines of Universal Design for Learning (UDL), principles of cultural and linguistic responsiveness (CLR), and best practices for English learners (EL).

UDL, CLR, and EL best practices are not separate or competing approaches to teaching. They are interrelated frameworks, concepts, and practices that teachers draw on strategically to suit the strengths and needs of their students. For example, discussing the setting of a passage before reading provides options for comprehension (UDL), allows students to share relevant personal experiences and connect to learning (UDL, CLR), and supports English language development (EL). Providing regular partner work fosters collaboration and community (UDL, CLR), ensures greater participation by all students (UDL, CLR, EL), and builds language and background knowledge (EL).

UDL

EL

CLR

Magnetic Reading and Universal Design for Learning (UDL)

The UDL guidelines were created to "ensure that all learners can access and participate in meaningful, challenging learning opportunities¹." This means that UDL:

- **IS** about reducing and removing barriers to allow all learners to access and engage with rigorous materials.
- **IS NOT** about reducing expectations or rigor.

Empowering Teachers & Students to Apply UDL

UDL implemented with fidelity ensures that students and teachers recognize and use the unique assets and needs of ALL students as tools for learning. *Magnetic Reading* empowers them with direct and implied opportunities to apply UDL and related frameworks. Teaching suggestions offer direct applications of the UDL guidelines at point of use, and the instructional model offers the flexibility for educators and students to apply relevant guidelines as they identify opportunities to do so.

(UDL) aims to change the design of the environment rather than to change the learner. When environments are intentionally designed to reduce barriers, all learners can engage in rigorous, meaningful learning.²

UDL Guideline Application Type	Examples	Visuals From Magnetic Reading
Direct	Embedded scaffolds such as writing checklists and sentence frames A variety of routines allowing for multiple means of engagement and action and expression	WRITING CHECKLIST I explained how coal has been used over time. I included information from the text, time line, and bar graph.
Flexible	Reminders throughout the teacher materials to look ahead and plan accordingly for scaffolds	Plan Student Scaffolds Use i-Ready data to guide grouping and choose strategic scaffolds. Preview texts and activities to anticipate barriers to engagement, access, and expression. Modify based on needs.

- 1. CAST (2020). UDL Guidelines. Retrieved from https://udlguidelines.cast.org
- **2.** CAST (2020). Frequently Asked Questions. Retrieved from https://udlguidelines.cast.org/more/frequently-asked-questions

Magnetic Reading Helps

English Learners Thrive

Start with an Asset-Based Mindset

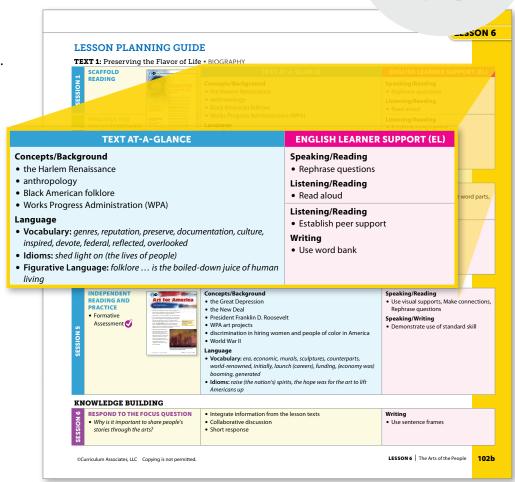
English learners (ELs) represent a broad spectrum of learners with a wide range of backgrounds, experiences, and language and academic proficiencies. We recognize the linguistic and cultural assets ELs bring to the classroom, and ensuring they achieve academic success with rigorous grade-level content is our priority. With high expectations, access to rich and complex, grade-level text, and appropriate scaffolds, ELs will acquire the language and content skills they need to succeed.



Plan for Success

Magnetic Reading incorporates strategic scaffolds for English learners. During planning, teachers have the opportunity to consider the needs of ELs and how best to provide content and language supports.

- Text At-a-Glance provides key background, vocabulary, and other features of language students will need to grapple with as they read complex texts.
- English Learner Support lists the EL-specific strategies and scaffolds in the lesson and identifies tasks students will engage with in the language domains of reading, speaking, listening, and writing.



Magnetic Reading offers scaffolded instruction at point of use, with explicit attention to English learners. Teachers can flexibly and intentionally support both ELs and native English speakers in reading and analyzing the complex language of the text.

Promote Access to Complex Texts

- Texts are chunked into meaningful units and anchored by text-dependent questions.
- Questions are catalysts for partner discussion and allow teachers to check for understanding.
- Discussions allow students to practice text-specific vocabulary and language structures.
- Teachers are encouraged to use students' home language to support them in negotiating texts.

Activate Prior Knowledge and Build Background

- **Before Teaching the Lesson** provides information about the text and background knowledge students need to access it.
- **Focus Questions** set a purpose for reading and support students in synthesizing information across texts.
- **Notice and Wonder** engages students in previewing texts and using what they know to anticipate and predict.

Engage Through Academic Discourse

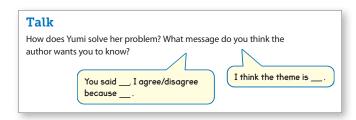
All students are academic English learners. Daily discussion allows students to practice active listening and speaking and to communicate meaningfully in academic English. Sentence starters and frames guide students to:

- Justify ideas.
- Agree and build on to the ideas of others.
- Disagree and explain.

Scaffold Instruction for ELs

Help & Gos include strategies and scaffolds that address specific language needs of ELs such as:

- Interpreting figurative and idiomatic language, differentiating between formal and informal language.
- Understanding shades of meaning.
- Analyzing multiple-meaning words.
- Leveraging cognates.
- Unpacking complex sentences.



• **CHECK IN** Students understand idiomatic expressions in paragraphs 2 and 3.

HELP & GO: Vocabulary

- Clarify the idioms blow them away (amaze and impress them), count on (rely on), and ace that test (get an A or a high score).
- Have students identify Spanish cognates: comedy (comedia), audition (audición). EL

Instruction That

Validates and Affirms

ALL learners deserve equitable opportunities to learn. Culturally and Linguistically Responsive (CLR) teaching gives teachers tools not only to be equitable in instructional practices but also to validate and affirm students' diverse racial and ethnic backgrounds and help students feel comfortable and excited to learn. Dr. Sharroky Hollie defines CLR as validating and affirming cultural and linguistic behaviors of all students and building and bridging those behaviors to lead to success in school (Hollie, 2015).

UDL EL

Validating and Affirming

Cultural and linguistic behaviors that are the norm in many historically marginalized cultures—such as frequent use of movement, socializing while learning, and spontaneity—are often seen as unacceptable in school culture. They are seen through a deficit-based lens and treated as being off-topic, interrupting, or attention-seeking, and students are left feeling misunderstood, unwelcome, isolated, or deflated. CLR teaching allows teachers to:

- Demonstrably acknowledge and value cultural and linguistic backgrounds.
- Look for and build on the ways that students show their brilliance.
- Plan instruction that validates and affirms behaviors that historically have been seen in a negative way.
- Leverage students' cultures and languages as opportunities for cross-cultural experiences and understandings.

When students are validated and affirmed, they are more likely to feel recognized, valued for their contributions, and ready to learn.



Instruction in Magnetic Reading

Magnetic Reading supports culturally and linguistically responsive teaching by suggesting appropriate CLR protocols and activities at point of use.

- Protocols that validate and affirm a variety of cultural behaviors are used to structure reading, writing, and discussion.
- The Teacher's Guide provides guidance for classroom discussion about culturally authentic texts.

Use Protocols That Meet the Needs of All Students

In order to increase engagement and validate cultural and linguistic behaviors, specific protocols are included in the lesson. To further customize activities for your students, consider optional protocols listed on pp. A46–A51.

PROTOCOL	SESSION	VALIDATES
Stand and Share	1	spontaneity, movement, connectedness
Silent Appointment	1	social interaction, nonverbal expression
Somebody Who	1, 2, 4, 5	social interaction
Give One, Get One	2, 4	movement, shared responsibility
Individual Think Time	3	independence
Pass It On	3, 4	spontaneity, connectedness
Shout Out	5	spontaneity, multiple ways to show focus
Merry-Go- Round Share	6	multiple ways to show focus, connectedness

Discuss the Whole Text

- Revisit the Focus Question. Have students Raise a Hand to answer the following questions:
 - **Ask,** What difficult situation does Oren face, and how does he get through it?
 - **Ask,** How does Oren's family or culture help him in this story?
- Ask students to describe artwork they have seen or created in their cultures of origin. Discuss how this art has told people's stories. EL

Discuss the Whole Text

- Revisit the Focus Question. Have students Raise
 a Hand to respond to the following.
 - **Ask,** What difficult situation did Stef face? What helped her get through her problem?
 - Discuss the challenges that Stef and Oren face.
 Note that Oren is proud of his cultural heritage,
 while Stef is initially embarrassed by hers.

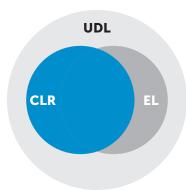
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Magnetic Reading | Program Overview A43

Texts That Reflect the **Diversity** of Our World

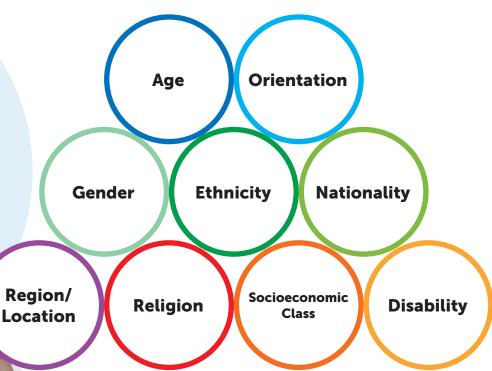
Texts in *Magnetic Reading* provide students with mirrors of their own cultural identities and windows into the world around them and the people in it.

- Informational texts present information about compelling, high-interest topics. They also include background knowledge for or extensions of other passages in a lesson and unit.
- Informational and literary texts mirror many cultural backgrounds and experiences. Students learn more about themselves, their classmates, and people they have yet to meet.
- Some passages give background on the historical roots of social and racial injustice that students may have experienced in their lives or in mainstream and social media.



Rings of Culture

Culture is more than just food and holidays. It shapes our identities and gives us ground rules for interpreting and operating in the world, everything from interactions with elders to understandings of time and personal space. All of us operate from multiple and different cultural identities—what Dr. Sharroky Hollie refers to as "rings of culture."





Texts in *Magnetic Reading* portray different rings of culture so that students see something of themselves and their worlds represented in school. Some texts illuminate the authentic cultural beliefs and experiences of a particular group. These texts may address socioeconomic status, gender, ethnicity, nationality, disability, or geographic location. In other texts, cultural background plays a lesser role. Cultural identities may be shown more through "surface" details such as food and dress than through representation of deeper beliefs and customs.



This mix of cultural representation, from deeper culture to more surface-level culture, gives students the opportunity to:

- Bring themselves to the text culturally and linguistically.
- Connect ideas and information from the texts to what they know and have experienced in their own lives.
- Make personal connections to the lesson topic when they preview lesson texts and explore essential concepts.
- Share their cultures and home languages, providing other students with a window into cultures and experiences that may be unfamiliar.

Protocols for Engagement and Accountability

Magnetic Reading ensures student engagement and accountability through the regular use of protocols that affirm cultural backgrounds and behaviors.

What are protocols? Protocols provide structure for activities so that all students have a chance to think, talk, and participate equally in classroom activities. Each protocol incorporates modes of communication common to one or more cultures (see the Rings of Culture on page A44) and leverages those behaviors for a particular instructional purpose. Thus, cultural behaviors are validated and affirmed (VA) and used to build and bridge (BB) toward academic success.



When are they used? Protocols structure reading, writing, skills practice, and academic discourse. They are embedded throughout each lesson and referenced at point of use in the Teacher's Guide and in the Overview. Protocols can take from less than a minute to five or ten minutes to complete.

How can they be customized? The chart below lists protocols according to how they are typically used: for Reading, to complete Practice Activities or Academic Discourse, or to Share Responses. *Magnetic Reading* suggests protocols to use within each lesson, but as you become familiar with the protocols and the behaviors they validate, you may choose Reading, Activity/Academic Discourse, or Response protocols that take better advantage of your students' cultural assets. Use the Cultural Behaviors chart on pp. A50 and A51 to match cultural behaviors to the protocols that use them.

READING PROTOCOLS

Name	Time	Description	Cultural Behaviors
Buddy Read	text dependent	Students take turns reading a passage together. They may take turns reading sentences or paragraphs.	 VA: collective success, social interaction BB: turn-taking
Jump in Reading	text dependent	Teacher calls on the first student to read aloud. That student reads at least one sentence, no more than a paragraph. When that student pauses, another student may jump in to continue reading. Continue until all paragraphs are complete.	VA: spontaneity, collective success, conversational overlap
Teacher Read-Aloud	text dependent	Teacher reads aloud to students.	VA: oral tradition

VA: behaviors that are validated and affirmed; BB: classroom behaviors that the protocol builds and bridges toward

RESPONSE PROTOCOLS

Name	Time	Description Cultural Behaviors	
VOLUNTARY RESP	VOLUNTARY RESPONSE PROTOCOLS		
Raise a Hand	1–2 mins.	Students raise a hand or fist to volunteer information.	VA: verbal expressiveness BB: turn-taking
Shout Out	< 1 min.	Students softly shout out responses at the same time. This protocol can be used for one-word or very short answers. Posed questions can require either one correct answer or a variety of short answers.	VA: conversational overlap, spontaneity, verbal expressiveness, multiple ways to show focus
Stand and Share	1–2 mins.	When a student wants to share a response, they stand and share it. After sharing, they sit down.	VA: spontaneity, movement, subjectivity, connectedness

NON-VOLUNTARY	RESPONSE PR	OTOCOLS	
Pick a Stick	1–2 mins.	 After asking a question, the teacher picks from a group of class popsicle sticks, each of which has a student's name on it. The chosen student answers the question. Stick selection can continue until a sufficient number of answers are heard. VA: multiple ways to show focus, spontaneity BB: turn-taking 	
Somebody Who	1–2 mins.	The teacher uses a random identifier (such as birthdays in summer, wearing green, or having only one sibling) and invites the identified students to stand. Then the standing students share out their responses to a question.	VA: social interaction, spontaneity
Take a Poll	< 1 min.	Students vote on a question. This can be used with Raise a Hand, Shout Out, or Vote with Your Feet.	VA: multiple perspectives
Thumbs-Up or Thumbs-Down	< 1 min.	The teacher asks students to hold their hand near their chest and give a thumbs-up, thumbs-down, or (if appropriate) thumbs-sideways to show their response to a question.	VA: connectedness, multiple perspectives
Vote with Your Feet	1–2 mins.	The teacher designates a different part of the room for each voting option. Students vote by moving to the place designated for the option they choose.	VA: movement, multiple perspectives, collective success, social interaction

Protocols for

Engagement and Accountability (continued)

ACTIVITY AND ACADEMIC DISCOURSE PROTOCOLS

Name	Time	Description	Behaviors	
3-2-1	5–10 mins.	 Students summarize multiple takeaways from an activity or identify multiple details in a text. The format can vary and is specified at point of use in the Teacher's Guide. Example: Ask students to name 3 things they learned, 2 things they found interesting, and 1 question they still have. VA: multiple perspectives BB: quiet, independent, prompted 		
Give One, Get One	2–5 mins.	Students get up and mingle with their peers. After a few seconds, the teacher calls out "GIVE ONE to a partner." Participants form pairs, and each "gives" a key learning or important idea about the topic to the other so that each person "gives one" and "gets one." This can be repeated multiple times.	VA: social interaction, movement, shared responsibility	
Individual Think Time	10 secs.–2 mins.	Students are given a short time to think about a question before discussing with a partner, a small group, or the whole class. This private processing time gives students time to make sense of the question and begin to gather their thoughts and questions.	• BB: quiet, independent	
Merry-Go- Round Share	2–5 mins.	Students form groups of 3–4 to share their responses. Each student takes a quick turn sharing with the group.	VA: social interaction, multiple ways to show focus, connectedness BB: turn-taking	
Musical Shares	5–10 mins.	Students share a written response to a question or prompt. The teacher directs all students to stand up with their Student Books, then turns on music. Students walk or dance around the room. When the music stops, students stop and share with the closest person to them, and each one takes a turn. This can be repeated 2–3 times.	VA: movement, multiple ways to show focus, musicality, spontaneity, social interaction	

VA: behaviors that are validated and affirmed; BB: classroom behaviors that the protocol builds and bridges toward

Name	Time	Description	Behaviors	
Pass It On	2–5 mins.	 Students call on each other to answer a question or prompt. Students should not raise hands to be called on, and they should be encouraged to call on a variety of people. Students can "pass" on a question by calling on another student. This protocol can also be done with the use of a soft object that students toss to one another to "pass it on." VA: collective success, sponta connectedness 		
Silent Appointment	1–2 mins.	Students look around the room and get the attention of a classmate without talking by using facial expressions or other nonverbal communication. Once they have made eye contact with a classmate, they give some indication that they have a partner: hand over heart or on top of the head, etc. Once everyone has a partner, have them move quietly to their Silent Appointment.		
Snowballs	2–5 mins	To share a short, written response to a question, students ball up their papers and throw their snowballs to a designated part of the room. The teacher then directs groups (each table or section) to take turns picking up a snowball, checking to make sure they don't get their own. Once all students have a snowball, use a non-volunteer protocol to have a few students read out the response on the paper they picked up.		
Synonym Plug-In	< 1 min.	Students brainstorm or identify synonyms for a key word.	VA: shared responsibility	
Team-Pair- Solo-(Team)	5–10 mins.	 Students work in groups of 4 to complete an activity that has multiple parts or steps. Specific directions for what to do at each step are provided at point of use in the Teacher's Guide. Example: Team: Students work together as a group to complete one part of a chart. Pair: Each team breaks into pairs, and the pairs work together to complete another part of the chart. Solo: Students work independently to complete the next part of the chart. Team: Students move back to their original groups to complete the chart and/or discuss details. VA: social interaction, multiple to show focus, shared responsion conversational overlap BB: quiet, independent 		
Turn and Talk	1–2 mins.	Students turn and talk with a partner. • VA: social interaction • BB: turn-taking		

Cultural BehaviorsLeveraged for Learning

Consult this chart to learn more about the cultural behaviors validated and affirmed through the use of responsive protocols.

Cultural Behavior	What It Is	Why It's Important	Protocols That Validate and Affirm It
collective success	working together for a purpose	School culture often emphasizes independent work, while shared work and responsibility is encouraged in many cultures and seen as contributing to overall performance of the group.	Buddy Read, Jump in Reading, Pass It On, Snowballs, Vote with Your Feet
connectedness	taking actions in the moment that communicate warmth, acceptance, closeness, and availability	Connectedness alleviates stress in students who feel a sense of urgency and want to know about things "now."	Merry-Go-Round Share, Pass It On, Snowballs, Stand and Share, Thumbs-Up or Thumbs-Down
conversational overlap	speaking up while someone else is talking	Verbal overlapping shows engagement and focus in some languages and cultures, while not overlapping can show the same levels of engagement in other languages and cultures.	Jump in Reading, Shout Out, Team-Pair-Solo-Team
movement	moving while learning; learning through physical activities	School culture often prioritizes sitting still for much of the day, but some cultures learn better while moving.	Give One, Get One; Musical Shares; Snowballs; Stand and Share; Vote with Your Feet
multiple perspectives	allowing for a number of perspectives that are equally valued	School culture can emphasize a "right" or "wrong" way of looking at or doing something, but the essential understanding of a topic or concept can be arrived at through alternate perspectives and means of expression.	3-2-1, Take a Poll, Vote with Your Feet
multiple ways to show focus	demonstrating varied ways to show focus and approach a task	School culture may prioritize a single way of showing focus (e.g., sitting quietly and watching the teacher intently) while other cultures allow for different ways (e.g., moving around).	Merry-Go-Round Share, Musical Shares, Pick a Stick, Shout Out, Team-Pair-Solo-Team

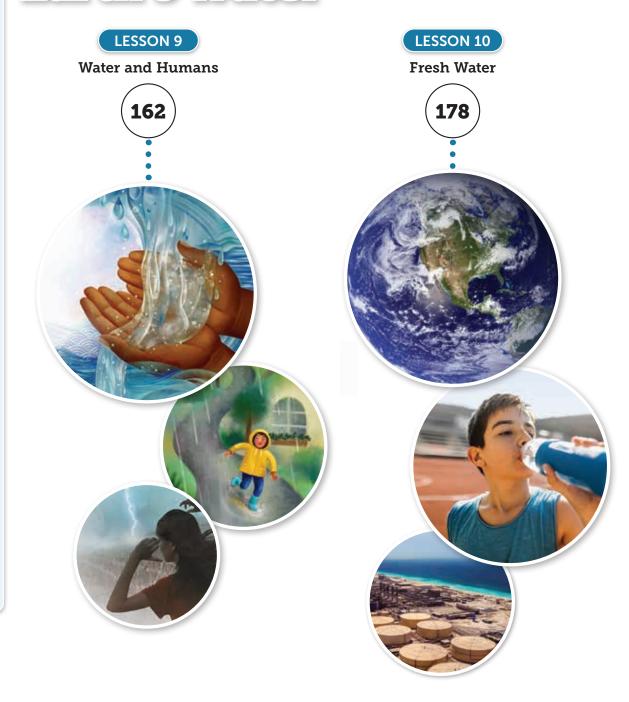
Cultural Behavior	What It is	Why It's Important	Protocols That Validate and Affirm It	
musicality	shared musical experiences that bring people together for a purpose	Music is often not incorporated into school activities, but shared musical experiences are important in many cultures and can engage and invest students in learning.		
nonverbal expression	communicating with the eyes or using gestures	School culture sometimes sees extended eye contact as rude, but in many cultures it is a way of showing respect, attention, and interest.	Silent Appointment	
oral tradition	the practice of using storytelling and oral expressiveness	School culture often prioritizes reading silently to oneself over reading aloud, but many cultures view oral language and storytelling as important norms and traditions.	Teacher Read-Aloud	
shared responsibility	sharing collectively in learning tasks and activities	School culture often emphasizes independent work, but shared work and responsibility is encouraged in many cultures and seen as contributing to overall performance of the group.	Give One, Get One; Synonym Plug-In; Team-Pair-Solo-Team	
social interaction	the use of social interaction to learn	In some cultures, the act of social interaction is valued as much as the content being learned; the interaction contributes to successful learning.	Buddy Read; Give One, Get One; Merry-Go-Round Share; Musical Shares; Silent Appointment; Somebody Who; Team-Pair-Solo- Team; Turn and Talk; Vote with Your Feet	
spontaneity	responding in an immediate and unplanned way	Spontaneity is viewed as natural and appropriate in some cultures, but it is often discouraged in school culture.	Jump in Reading, Musical Shares, Pass It On, Pick a Stick, Shout Snowballs, Somebody Who, Stand and Share	
subjectivity	allowing for the expression of personal perspectives	Inviting students to share personal experiences and opinions can get them more interested and invested in learning.	Stand and Share, Thumbs-Up or Thumbs-Down	
verbal expressiveness	using words combined with gestures and other nonverbal means of expression to communicate ideas and emotions	School culture often values a limited subset of the many ways students can express their ideas. However, alternative ways of sharing and expressing ideas are equally additive to the classroom culture and conversation.	Raise a Hand, Shout Out	

Build Knowledge

The texts in this unit explore water as a powerful life-giving force of nature.

- In Lesson 9, Water and Humans, students read poetry that examines humanity's connection to water.
 - —from Water Rolls, Water Rises, poem
 - "Rain in Summer," "Untitled,"
 "Spring as Adversary," poems
 - —from Out of the Dust, poem
- In Lesson 10, Fresh Water, students read informational texts that show how precious water is to all living things.
 - "Water, the Liquid of Life," science article
 - "Hidden Water," science article
 - "Water, Water Everywhere," technology article
- In Lesson 11, Water Problems and Solutions, students read informational texts about pollutants and other problems facing waterways as well as innovative solutions.
 - "Tackling the Clean Water Crisis," technology article
 - —"Tiny Oysters Do a Big Job," science article
 - "A Winning Idea," "Water Heroes," profiles

Earth's Water



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UNIT 3

LESSON 11

Water Problems and Solutions

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CONNECT IT

The Future of Water

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- The Connect It Lesson, The Future
 of Water, features culminating texts
 about innovative water treatment
 processes to address water-related
 problems.
 - "From Toilet to Tap: A New Way to Save Water," science article
 - "After the Flush," science article

Preview the Unit

- Introduce the unit topic and read aloud the lesson titles.
- **Say,** Look at the lesson titles and images. What questions or predictions do you have about what we will learn?
- Use Stand and Share to have 2-3 students share a question or a prediction.

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Water Problems and Solutions

FOCUS QUESTION

How can we make sure living things get the clean water they need?

About the Lesson

OBJECTIVES

Content Objectives

- Analyze how information is organized in different text structures.
- Compare two text structures and explain the authors' reasons for choosing each.
- Understand how people are working to solve the problem of access to clean water.

Language Objectives

- Describe text structure.
- Discuss ideas about why an author chose a particular text structure.
- Write a persuasive argument about one solution to the clean water problem.

ACADEMIC TALK

See **Glossary of Terms** on pp. 476–483. *text structure, compare-contrast text structure, problem-solution text structure*

Spanish Cognates

estructura del texto, comparar-contrastar, problema-solución

Build Knowledge

Lesson texts build knowledge about:

- Inventions that help people access clean water
- Innovative approaches to cleaning polluted waterways
- Young inventors using creativity to solve problems related to clean water

Plan Student Scaffolds

- Use **i-Ready data** to guide grouping and choose strategic scaffolds.
- Use **Teacher Toolbox** resources as needed to address related skills:
 - Describe problem and solution text structure
 - —Text structure
- Partner students with the same home language to discuss the concepts and inventions in this lesson using the language of their choice. EL
- Preview texts and activities to anticipate barriers to engagement, access, and expression. Modify based on needs.

Use Protocols That Meet the Needs of All Students

In order to increase engagement and validate cultural and linguistic behaviors, specific protocols are included in the lesson. To further customize activities for your students, consider optional protocols listed on pp. A46–A51.

PROTOCOL	SESSION	VALIDATES
Take a Poll	1	multiple perspectives
Silent Appointment	1, 2, 4	social interaction, nonverbal expression
Stand and Share	1, 4, 5, 6	spontaneity, movement, connectedness
Pick a Stick	1, 2, 3, 6	spontaneity
3-2-1	6	multiple perspectives

LEARNING PROGRESSION | Compare Text Structures

Students build on this skill:

Describe the overall structure of events, ideas, concepts, or information in a text or part of a text.

Students learn this skill:

Compare and contrast the overall structure of events, ideas, concepts, or information in two or more texts.

Students prepare for this skill:

Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text.

Students review and practice:

- Make inferences
- Determine main ideas and key details
- Determine word meanings

LESSON PLANNING GUIDE

TEXT 1: Tackling the Clean Water Crisis • TECHNOLOGY ARTICLE

Ħ	SCAFFOLD	To-	TEXT AT-A-GLANCE	ENGLISH LEARNER SUPPORT (EL)
SESSION	READING	Including the CONTROL OF THE CONTROL	 Concepts/Background consequences of water contamination obstacles to accessing clean water evaporation and condensation 	 Speaking/Reading Analyze synonyms, Analyze phrases Reading Use visual support
SESSION 2	PRACTICE THE FOCUS STANDARD • Formative Assessment	CTICE THE US STANDARD rmative	 Vocabulary: crisis, contaminated, variety, low-maintenance, purify, remote, trough, complex, condensed, precise, United Nations 	Speaking/ReadingActivate prior knowledgeWritingUse sentence frames

TEXT 2: Tiny Oysters Do a Big Job • SCIENCE ARTICLE

15	TEXT 2: Tiffy Oysters Do a big Job • Science ARTICLE				
SESSION 3	SCAFFOLD READING	Tiny Ousters Do a Big Job	Concepts/Background • residential and industrial water pollution • oysters as filter feeders • keystone species	Reading • Explore content vocabulary, Interpret idioms Speaking/Reading	
S		3. On a gap, which play [3] in stallife which deathers cand or a present on the between Earn on the Best (All; These vasions for the stalling of the stalli	 Vocabulary: pier, clusters, pollutants, critical, filter, caliper, logs, 	Paraphrase Listening/Reading	
		They because the desired of the second of th	oxygen levels, barnacles	• Read aloud	
4	PRACTICE THE	260 mm s minimum managem man		Speaking/Reading	
Ó	FOCUS STANDARD			Activate prior knowledge	
SSI	• Formative			Speaking/Writing	
SES	Assessment 3			Talk before writing	

INDEPENDENT READING AND	A Winning Idea	Concepts/Background • how plastics get into water	ReadingAnalyze word parts, Interpret idiom
PRACTICE	by Kishryn Hulick	harmful effects of plastics in water	Listening/Writing
• Formative	When high school stadest Flores Person solded the bracker area bits learnes to Will only following the sons	wastewater treatment plants	Read aloud questions and answer
Assessment V	upon by the bury amounts of plants tools for any Time I received Advant are used for any Time I received Advant are used to aggree problems—universplants as in unabstraction or any Managalants are using prices and plants. I have no words from the broaddates at the plants of the state of the	how germs pollute water	choices
	products the every and changen. There is trip you take there into take and channer the intern a claim collect and you for the owners. Tributionate treatment funts, where they was the channel, some entering prome bear an interpolation. A schild have been you produced to the contract of funts consistent. A schild have been proposed and well the.	how problem-solving leads to innovation and invention	Writing
	2 Perceive Judica Marc Life entired that polaries and sell sick inapplies, so have sellered sill consider have seller and grape siller and microplaties on and or section. He because has been song supported and, 3 to model, by the lone has all marchiney positions are noneits at vary in price and cent and all now sectors. Perceives mixed and proposed, which he mappoors, but the and LT. The her was all mapper to a dress which he mappoors, but the and LT. The her was all mapper to a dress	Language	Use word bank
	which is reagents, this the rel. The few read a reagent to show the minimum ent of the waters, bringing the minimplestics with it. **THEOREM TO THE PROPERTY AND THE PROPERTY A	Vocabulary: wastewater, hygiene	
		Informal Language: end up in	

စ	RESPOND TO THE FOCUS QUESTION	• Integrate information from the lesson texts	Speaking/Writing
	 How can we make sure living things get 	Collaborative discussion	Collaborate with a partner, Talk before
SESSI	the clean water they need?	Short response	writing

Before Teaching the Lesson

Preview the texts before teaching the lesson. Plan scaffolds to use and provide background information as needed before reading each text.

- Tackling the Clean Water Crisis: Water Treatment
 The water treatment process takes impurities out
 of water, making it safe for drinking, bathing,
 and farming.
- Tiny Oysters Do a Big Job: Oyster Reefs Oyster reefs help prevent erosion of the shoreline and create a natural barrier against waves, which helps prevent flooding from storms. As an alternate means of representation, consider sharing images or videos that show how oyster reefs protect shorelines.
- A Winning Idea: Microplastics Microplastics are found in nearly all of the world's streams, rivers, lakes, and oceans. Each year, about 1 million tons of tiny plastic fibers are released into wastewater.

Talk About the Topic

BUILD STUDENTS' INTEREST

- Introduce the lesson topic and Focus Question. Tell students that in this lesson they will read, talk, and write about problems and solutions related to getting clean water.
- Have students **Turn and Talk** to briefly discuss the Focus Question. Then invite volunteers to **Raise a Hand** and share what they already know about this topic.
- Invite students to use their home language to talk about the Focus Ouestion. EL
- Introduce the focus standard. **Say**, *As we learn* about clean water, we'll also discuss why the author of each text chose a particular text structure to organize their ideas.
- Ask students to complete Notice and Wonder with a partner.
 - Use **Take a Poll** to have students vote on which text they are most excited to read.



Water Problems and Solutions

focus Question

How can we make sure living things get the clean water they need?

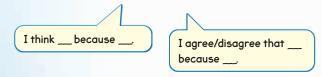
2 NOTICE AND WONDER

Look at the four texts you will read in this lesson. What do you notice? What do you wonder? Discuss your ideas with a partner.

3 THINK AHEAD

Each of the following questions relates to a topic you will read about in this lesson. Discuss each question with your partner, sharing what you know already or making predictions.

- What causes water to become polluted?
- How much water can one oyster clean in a day?
- What supplies might you need to purify water?



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3 INTRODUCE ESSENTIAL CONCEPTS

- Have students use **Silent Appointment** to find a partner and complete Think Ahead.
- **Say,** You may not know the answers to any of these questions, and that is okay. You will learn more as you read the texts in this lesson. But what do you know that might help you make a prediction, or a reasonable guess?
- Encourage students to examine the text images to help them make predictions. EL
- Use LISTEN FORs to monitor understanding. Use
 Help & Go scaffolds as needed.
- **LISTEN FOR** Students understand the terms *polluted, oyster, purify,* and *supplies*.

HELP & GO: Vocabulary

- Provide the following Spanish cognates: polución (pollution), ostra (oyster), purificar (purify). Invite students to share synonyms or explanations for each word to demonstrate understanding. EL
- Use the word *supplies* in a sentence to show its meaning. **Say**, I need the following supplies to paint my bedroom: a paintbrush, paint, and tape. What are supplies? materials, items needed to complete a task
- When partners have finished their discussions, invite volunteers to **Stand and Share** responses to each question. Prompt them to explain their reasoning.
- **LISTEN FOR** Students take turns talking and listening.

HELP & GO: Academic Discussion

- Remind students how to contribute respectfully to a discussion. Say, It's important to share your own ideas, but it's also important to give others a chance to speak. Suggest these sentence frames:
 - —I think that .
 - What do you think about ?
- Give students time to rehearse a response with a partner before sharing with the whole group. EL

Support Reading

- Set a purpose for reading. **Say,** In this text, you will learn about some ways that people can get clean water.
- Have students read paragraphs 1–4. Have them circle unknown words and mark confusing parts with a question mark.
- Use CHECK INs and related Help & Go scaffolds as needed to support understanding of the text. Monitor based on annotations, observation, and your knowledge of students.
- CHECK IN Students understand why it is difficult for some people to get clean water.

HELP & GO: Background

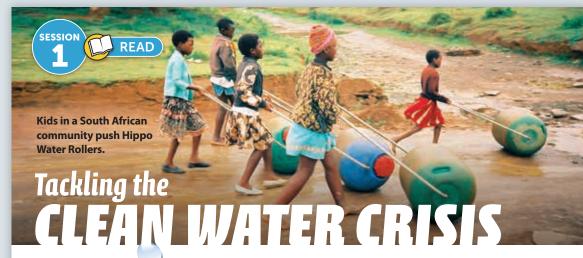
- Explain that many factors can prevent people from accessing clean water, including a lack of government oversight, climate or settlement patterns, poverty, resource depletion, and discrimination.
- Show a gallon of water to demonstrate how heavy it is. Ask students to imagine the weight of 23 gallons and how it might feel to transport that much water over a long distance.

2 Stop & Discuss

- Have students Turn and Talk to complete
 Stop & Discuss with a partner.
- **LOOK FOR** Students understand that contaminated water affects almost 1 billion people and often results in illness.

HELP & GO: Comprehension

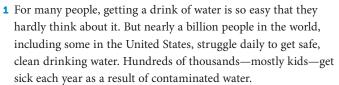
- Revisit paragraph 1. Ask, How many people struggle to get clean water? almost 1 billion What happens if you drink contaminated water? You get sick.
- Point to the word crisis in the text title and note its Spanish cognate crisis. Ask, What is another word with the same meaning? problem, emergency EL

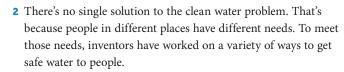












- 3 In some places, people have access to clean drinking water, but the water is far away. They may have to carry it for miles in a heavy water can—a few gallons at a time—to get it home. An invention called the Hippo Water Roller allows a person to haul 23 gallons (87 liters) of water in just one trip. The Hippo is basically a big barrel with a long handle attached. The clever, low-tech design makes the Hippo easy to roll long distances over rough ground.
- 4 In other places, people only have access to contaminated water and they need a way to clean it. The following inventions—the Watercone and the Slingshot—are similar in that both are low-maintenance, portable ways to purify water. Plus, they work well in remote places far from the large water-treatment plants that serve towns and cities.

low-tech = made with simple technology and few materials



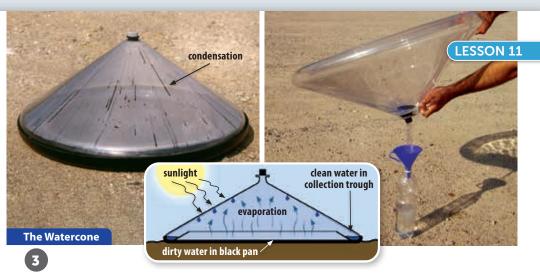
Stop & Discuss

What problem does the author identify in this part of the text?

Explain the problem and why it is a problem.

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- 5 The Watercone is a simple, low-tech device. All it needs to work is direct sunlight. Dirty or salty water is poured into a round black pan. A clear plastic cone is placed on top. As the sun evaporates the water, clean drops form inside the cone and then trickle down into a collection trough. The Watercone can only produce 2 quarts (about 2 liters) of clean water per day, so multiple cones are usually required to meet a group's needs. Still, the Watercone is a good option in places without electricity, and it is inexpensive and easy to transport.
- 6 By contrast, the Slingshot is a complex machine that is smaller than a dishwasher. It runs on electricity, but it uses less power than a microwave. It can clean extremely dirty water, removing dirt, salt, chemicals, viruses, and bacteria. A hose sucks the source water into the machine. The water is boiled, evaporated, and condensed back into liquid, all at very precise temperatures.
- 7 The Slingshot can produce about 200 gallons (757 liters) of clean water per day. The machine's high output and low energy use make it a good solution for towns and villages. The downside is that, unlike the Watercone, the Slingshot is expensive and can be hard to transport to the many remote towns and villages that need it.
- 8 The United Nations has warned that the world's water shortage will get worse. In the years ahead, clean water inventions will become as necessary to life as water itself.

output = amount produced



Stop & Discuss

How do the Watercone and the Slingshot help to solve the clean water crisis?

Use text details to support your response.

Both inventions help people ___

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LESSON 11 | Water Problems and Solutions

Support Reading

- Have students read paragraphs 5–8.
- CHECK IN Students recognize the roles of evaporation and condensation in purifying water.

HELP & GO: Background

- Share a simple diagram of the water cycle to support understanding. EL
- Review how temperature affects water, changing it from a liquid to a gas and back to liquid again.
 Ask, How does understanding the water cycle help inventors come up with ideas like the Slingshot and the Watercone?
- Use the gallon of water again to show that the 2 quarts of water produced each day by the Watercone is equal to half a gallon.

4 Stop & Discuss

- Have students Turn and Talk to complete the Stop & Discuss.
- **LISTEN FOR** Students understand that the Slingshot and Watercone make dirty water drinkable and provide water to remote areas.

HELP & GO: Comprehension

- Have students reread paragraph 5 and explain how the Watercone works in their own words.
 Repeat for the Slingshot in paragraphs 6 and 7.
- Point to the phrase runs on electricity in paragraph 6.
 Guide students to understand that runs on means
 "is powered by." Discuss why a machine that is
 powered by electricity might produce more water
 than a device that uses sunlight for energy. EL

Discuss the Whole Text

Use **Pick a Stick** to have a few students revisit the Focus Question. **Ask**, How can the three inventions you read about help people get the clean water they need? Record student responses for later use.

Reconnect to the Text

Have students **Raise a Hand** to recall "Tackling the Clean Water Crisis." **Ask**, How do these inventions help to solve the problem of access to clean water?

Introduce the Standard

- Review the instruction on the student page.
- **Say,** The text "Tackling the Clean Water Crisis" uses a compare-contrast text structure. What is the author comparing and contrasting? inventions that help people access clean water Signal words and phrases help show how an author is presenting information. What signal words and phrases tell you that the author is comparing and contrasting? paragraph 4: In other places, similar, both; paragraph 6: By contrast; paragraph 7: unlike
- Note the Spanish cognates comparar (compare) and contraste (contrast). Invite students to demonstrate understanding by comparing and contrasting objects in the classroom. EL

2 Reread/Think

MODEL THE STANDARD Model thinking aloud to complete the first row of the chart.

• Say, We'll focus on key features of each invention to compare and contrast them. First, let's look at the main job of each invention. The Hippo Water Roller transports clean water, and the Watercone purifies water. I'll go back to paragraph 6 to find the purpose of the Slingshot. There I see that the Slingshot also cleans, or purifies, water.

GUIDE STANDARDS PRACTICE Have students complete the remaining rows of the chart.

 Once students have completed their charts, ask, What similarities do the inventions have? How are the inventions different? Use Pick a Stick to have students share responses.



Analyze Text Structure

- Text structure refers to the way the information in a text is organized.
- Understanding how the author has organized information helps you find and remember important details.
- A text that uses a compare-contrast structure describes how things are similar to or different from one another.

2 Reread/Think

Reread "Tackling the Clean Water Crisis." Then complete the chart by adding details to compare and contrast the three inventions.

	Hippo	Watercone	Slingshot
Main purpose	transport clean water	purify water	purify water
Level of technology	low-tech	low-tech	complex
Amount of water provided	23 gallons	2 quarts	200 gallons
Energy source	people	sunlight	electricity
Cost	not stated	inexpensive	expensive
Easy to move?	yes	yes	no

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WRITING CHECKLIST

□ I explained why the

author chose a

text structure.

□ I included details

☐ I used complete

sentences.

☐ I used correct

from the text to

support my thinking.

spelling, punctuation,

and capitalization.

compare-contrast

3 Talk

Why did the author organize the information in "Tackling the Clean Water Crisis" in a compare-contrast text structure? How does the structure help you understand the topic?

I think he used a compare-contrast structure because ___.

The compare-contrast structure helps me understand ____.

4 Write

Explain why the author chose a compare-contrast text structure for "Tackling the Clean Water Crisis." What do the similarities and differences in the three inventions help you understand about the clean water crisis?

Sample response: The author chose a compare-contrast text structure for "Tackling the Clean Water Crisis" to show that

getting access to clean water is a difficult problem to solve. For

example, all three inventions improve access to clean water for

people who don't have enough of it. The Hippo does this by making it easier to move water that's already clean. In contrast,

the Slingshot and Watercone improve access by making dirty

water clean enough to drink. All three inventions also have unique designs. The

Slingshot uses complex technology, but the Hippo and Watercone are low-tech

designs. By using a compare-contrast structure, the author helps readers understand

why a big problem like the clean water crisis is going to need more than one solution.

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3 Talk

- Prepare students to complete the Talk activity. **Say,**Authors choose a text structure by thinking about
 what they want readers to understand. What did the
 author want readers to understand in "Tackling the
 Clean Water Crisis"? Different clean water inventions
 work in different ways to help provide clean water to
 people who cannot access it easily.
- **Say,** As you discuss, think about how comparing and contrasting different inventions helps you understand the clean water problem.
- Have students use Silent Appointment to find a partner and complete the Talk activity.
- LISTEN FOR Students understand that the text structure shows the complexity of the clean water problem. Use Help & Go scaffolds as needed.

HELP & GO: Standards Practice

- Have students review their completed charts.
 Ask, What is the goal of all three inventions? to provide access to clean water Are the inventions interchangeable? No. Why not? The Hippo carries water across long distances. The Slingshot and Watercone clean dirty water.
- Discuss the differences between the inventions, focusing on the pros and cons of each for different populations. **Ask**, What point is the author making about the clean water problem? It is complicated and requires many different solutions.

Write

- Have students complete the Write task and use the checklist to check their work.
- As needed, give students a sentence frame to use as their opening or concluding sentence:
 Comparing and contrasting different inventions helps me understand that the water problem
 EL
- Use written responses to determine whether students need additional support.

Support Reading

- Set a purpose for reading. Say, In this text, you
 will read to learn how oysters can help to solve one
 type of clean water problem.
- Have students Raise a Hand to share what they know about oysters. Ask, Where might you see oysters? at the beach, in a restaurant
- Have students read paragraphs 1 and 2. Have them circle unknown words and mark confusing parts with a question mark.
- Use CHECK INs and related Help & Go scaffolds as needed.
- **CHECK IN** Students understand the terms *clusters* and *pollutants*.

HELP & GO: Vocabulary

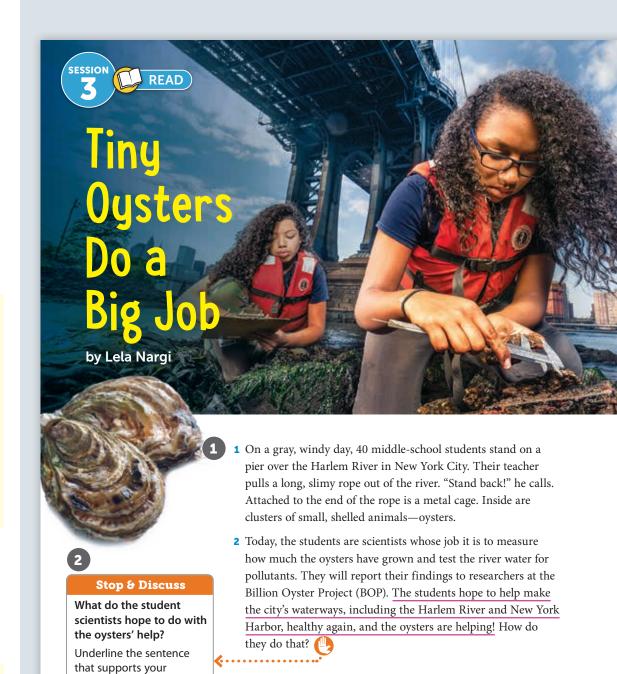
- To clarify the word clusters in paragraph 1, point to the oysters on the page and then sketch oysters growing in a cluster. Ask, How do the oysters grow? close together in a bunch EL
- Have students look inside and around the word pollutants in paragraph 2. **Ask**, What familiar word do you see in this word? pollute The students are testing the water for pollutants. What is the goal of this project? to make the city's waterways healthy again What is a pollutant? something that makes the water polluted, or dirty

2 Stop & Discuss

- Have students complete Stop & Discuss with a partner.
- LOOK FOR Students understand that the scientists want to make the waterways healthy.

HELP & GO: Comprehension

- Encourage students to revisit paragraph 2 and summarize it in their own words. **EL**
- Ask, What are the oysters helping with? making the city's waterways healthy again What are the students testing at the same time they measure the oysters? river pollutants



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response.

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Nature's Water Filters

- **3** Oysters are a critical part of the underwater community they share with plants, fish, and other wildlife. One reason is that oysters are filter feeders; they eat by pumping large amounts of water through their gills and filtering the water to get food. In fact, a single oyster can filter up to 50 gallons (189 liters) of water per day! In addition to tiny living things, oyster gills trap sand, clay, and some **contaminants**. This filtering process cleans the water, making it safe and healthy for aquatic plants and animals to thrive.
- 4 Furthermore, oysters provide a habitat for many kinds of underwater life forms. New oysters attach their shells to older ones to form big reefs, creating many small spaces where other animals can live. Because so many life forms depend on them, oysters are called a keystone species. If a keystone species disappears, other plants and animals may die off with it.

Trouble for Oysters

- 5 That's exactly what happened 100 years ago in New York Harbor. Before then, lots of oysters lived in the harbor. These oysters were delicious—maybe too delicious. By the early 1900s, the oyster population was in danger. People were eating the oysters faster than they could grow back.
- **6** But the oysters were in trouble for another reason, too. Pollution was pouring into the waters of the growing city. Oysters that filter and absorb too many pollutants become sick and unable to **reproduce**, and New York Harbor became so polluted that few animals could live in it. Since the 1970s, new laws have helped reduce pollution in the harbor. Some fish had reappeared, but oysters were still missing—until recently.

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Filter Feeding PARTICLES IN WATER **CLEAN WATER**

LESSON 11

contaminants = substances that make something dirty

reproduce = make offspring

Stop & Discuss

Which statement best explains why scientists who study water pollution are interested in oysters?

- Oysters eat by trapping tiny living things in their gills.
- ✓ Oysters clean water and create homes for other species.
- Oysters have been in danger since the early 1900s.

Support Reading

- Have students read paragraphs 3–6.
- **CHECK IN** Students understand how oysters filter water.

HELP & GO: Comprehension

- Consider reading paragraphs 3 and 4 aloud to provide support with technical details. Ask students to paraphrase the process in their own words. EL
- Show a time-lapse video of oysters filtering water to help students see how the water becomes cleaner after the filter feeding.

4 Stop & Discuss

- Have students complete **Stop & Discuss** with a partner.
- LOOK FOR Students understand that oysters can make water cleaner and restore habitats for other species.

HELP & GO: Comprehension

- Have students revisit paragraph 3. Say, The text states that oysters filter the water in order to eat. Why is that a good thing for polluted waterways? Their gills trap material, so they clean the water as they eat.
- Have students revisit paragraph 4. Say, The text states that oysters provide habitats, or places to live, for other life forms by creating reefs. Where else have you heard of reefs? coral reefs How might an oyster reef be like a coral reef? New oysters attach to old ones and form a big cluster of shells. This gives other species places to live.

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5 Support Reading

- Have students read paragraphs 7–10.
- **CHECK IN** Students understand the terms *caliper, logs,* and *oxygen levels*.

HELP & GO: Vocabulary

- Have students look around the words caliper and logs in paragraph 8 to determine that a caliper is a measurement tool and the verb logs means "records" or "writes down."
- Have them look inside the phrase oxygen levels in paragraph 9. Explain that this phrase refers to the amount of dissolved oxygen in water that is available for life forms to use.

6 Stop & Discuss

- Have students Turn and Talk to complete Stop & Discuss.
- **LISTEN FOR** Students understand that humans and oysters are succeeding in cleaning the water.

HELP & GO: Comprehension

- Explain that people sometimes say "the future looks bright" to mean that they expect something good to happen in the future. EL
- Guide students to make connections between details in the text and the success of the Billion Oyster Project. **Ask,** What happened to the size of the oysters? They got bigger. What does that tell us about the water? It's becoming a healthier environment for them. What does that tell us about the project? The oyster project is working.
- Ask, What other signs show that the project is working? more animals in the oyster cages and clearer water

Discuss the Whole Text

Use **Pick a Stick** to have a few students respond to the Focus Question. **Ask**, How does the Billion Oyster Project help living things get clean water? Record student responses for later use.







Scientists at Work

- 7 The kids on the Harlem River gather around the cage.
 "The oysters definitely look much bigger now," says a student named Kelly.
- 8 Her classmate Bianca picks out a clump of the animals. Karina, Bianca's twin, measures an oyster using a tool called a caliper, and Bianca logs the measurement. The students measure all the oysters and compare notes. The biggest oyster is more than two inches long, a healthy size for its age.
- 9 Lastly, the students pull up buckets of water to check how cloudy it is and measure its oxygen levels. Cloudy water is a problem because too much sediment (bits of sand, clay, and other things) can block sunlight and stop plants from growing. As more oysters are added to the harbor and continue to grow, the water should become clearer and hold more oxygen. Other animals should return too, like the mud crabs and barnacles the students find in the oyster cage. It's a sign the oysters are busy creating a healthier environment in the river.
- 10 In a few months, a new group of students will check the cage again. When these oysters are big enough, they will be moved to a healthy reef in the middle of the harbor. For today, everyone agrees: the future is looking bright for New York Harbor.

6

Stop & Discuss

Why does the future look bright for New York Harbor?

Use at least two details from the text to support your response.

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LESSON 11

Compare Text Structures

- A text that uses a **problem-solution structure** describes a problem and then explains how the problem is solved.
- Comparing texts on the same topic that use different text structures can help you better understand what each author wants to communicate about the topic.

2 Reread/Think

Reread "Tiny Oysters Do a Big Job." Add the major problem and solution to the chart. Then list three reasons that explain why this solution is effective.

Problem

New York City's Harlem River and other waterways became dangerously polluted over time.



Solution

Oysters were added to the waterways to help clean the water.



Reasons This Solution Is Effective

- · Oysters filter contaminants from the water.
- Oysters make the water healthier and safer for plants and animals to live.
- · Oyster reefs provide habitats for underwater life.

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Reconnect to the Text

Have students **Raise a Hand** to recall "Tiny Oysters Do a Big Job." **Ask**, What big job are the oysters doing?

Practice the Standard

- Review text structure. Have students Raise a
 Hand to recall how the compare-contrast text
 structure of "Tackling the Clean Water Crisis"
 helped them understand different inventions.
- Introduce the problem-solution text structure.
- Point out the Spanish cognates for problem (problema) and solution (solución). Invite students to give examples of problems and solutions to demonstrate understanding. EL

2 Reread/Think

MODEL THE STANDARD Think aloud to identify the problem and solution in "Tiny Oysters Do a Big Job."

- **Say,** There are different types of problem-solution texts. Often, a text introduces and explains a problem, and then it introduces and explains a solution. But this author starts by introducing BOTH the problem and the solution, and then explains why the solution is effective.
- **Say,** To identify the problem, think about what the text is about. The title says that oysters "do a big job." That big job is cleaning up the polluted river. Polluted waterways are the problem in this text.
- What solution does this text offer to the problem of the polluted river? Oysters are being used help clean up the river.

GUIDE STANDARDS PRACTICE Guide students to identify reasons why the solution is effective. **Ask,** *In what ways are the oysters helping to improve the water?*

 Have students Stand and Share some of the reasons they listed in the chart.

3 Talk

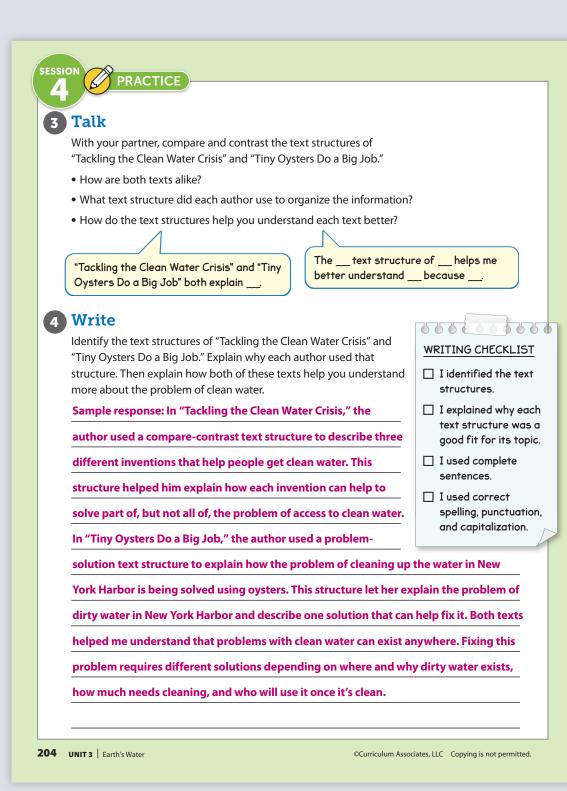
- Have students use Silent Appointment to find a partner and complete the Talk activity.
 Remind them to use their charts to support their thinking.
- Consider having students use a Venn diagram to organize their ideas as they discuss.
- Ask volunteers to Stand and Share their answers to the Talk questions. Use student responses to provide additional support as needed. For instance, ask, What does the author of [text] want you to learn from reading this text? What point is this author making about the clean water crisis?

Write

- Have students complete the Write task.
- Allow students to **Turn and Talk** to share ideas before they begin writing. **EL**
- LOOK FOR Students recognize how the text structures support their understanding of the texts.

HELP & GO: Writing

- Have students refer to the charts completed in Sessions 2 and 4 to identify specific examples to include in their writing.
- Use written responses to determine whether students need additional support.





by Kathryn Hulick



- 1 When high-school student Fionn
 Ferreira visited the beaches near his
 home in West Cork, Ireland, he was
 upset by the huge amounts of plastic trash
 he saw. Then he learned about an even
 bigger problem—microplastics in wastewater.
- 2 Microplastics are tiny pieces of plastic. Some result from the breakdown of larger plastic trash, while others come from products like soap and shampoo. These tiny particles flow into sink and shower drains and eventually end up in the ocean. Wastewater treatment plants, where dirty water is cleaned, can remove germs but not microplastics. And that's a problem because most plastics contain chemicals that are bad for people and wildlife.
- 3 Ferreira had an idea. He noticed that plastic and oil stick together, so he wondered if oil could be used to pull microplastics out of water. He tested his idea using vegetable oil. It worked, but then he had another problem—he needed a way to get the oil out of the water! Ferreira mixed rust powder, which is magnetic, into the oil. Then he used a magnet to draw the mixture out of the water, bringing the microplastics with it.

Microplastics

breakdown = separation into smaller parts

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LESSON 11 | Water Problems and Solutions

Reconnect to the Texts

Display responses to the Focus Question for "Tackling the Clean Water Crisis" and "Tiny Oysters Do a Big Job." Invite students to make connections between the two texts.

Independent Reading

- Set a purpose for learning. **Say,** Today you will read two more texts to learn about methods of cleaning water. As you read, think about the text structure each author has used to organize the information.
- If students need more support, work with them in small groups to guide reading.
- Use **CHECK INs** and related **Help & Go** scaffolds as needed.
- **CHECK IN** Students understand the term *microplastics*.

HELP & GO: Vocabulary

- Guide students to look inside microplastics and identify the base word plastic and prefix micro-.
 Ask, What other words use this prefix? microscope, microchip Based on those examples, what do you think microplastics are? small pieces of plastic EL
- Use the image of microplastics in the text to initiate a class discussion about them. Consider sharing a short video about how microplastics end up in water.
- **CHECK IN** Students understand why Ferreira used rust powder to deal with the microplastics.

HELP & GO: Comprehension

- Reread paragraph 3. Point out that rust powder is made from tiny flakes of rusted metal, which is why it is magnetic. **Ask**, Why did Fionn have to find a way to get the vegetable oil out of the water? because oil is another contaminant
- Clarify understanding of the process described in paragraph 3 by having students retell it or draw a simple diagram of how it works.

2 Independent Reading

• **CHECK IN** Students understand the success of Ferreira's idea.

HELP & GO: Comprehension

- Ask, Why did Ferreira need to know how much microplastic he was removing? Knowing this would show how useful his idea was. If he had only removed a small amount of microplastics, what would that have shown? That his idea wasn't that helpful and maybe needed more work.
- **Ask,** What can you infer about the success of Ferreira's idea from learning that it extracted 87% of the microplastics from the water he tested? His idea was very successful but not perfect.



extracted = removed

- 4 Ferreira's next challenge was to test how much microplastic he was removing. He didn't have a microscope or other tools he needed, so he built his own equipment! After running many tests, he found that the mixture extracted about 87% of the microplastics in the water he tested.
- **5** Ferreira's model won the grand prize of \$50,000 at the 2019 Google Science Fair, a worldwide contest for teens. Now he's working on a way to apply his idea at wastewater treatment plants.

Fionn Ferreira (right) with his high-school principal





LESSON 11

Water Heroes

by Helen Walz

1 Dirty water is one of the world's biggest problems. Two young inventors each found an innovative way to address that problem, but their inventions work very differently.

innovative = using new ideas or methods

2 While in high school, Fionn Ferreira invented a way to remove microplastics, tiny plastics that end up in our water system and oceans. His solution was to add a mixture of oil and magnetic powder to wastewater. Microplastics stick to the mixture, and then a magnet can pull the mixture out of the water. Ferreira won a major science competition for his big idea. Soon his method may be used in wastewater treatment plants and even on ships.

Fionn Ferreira is dedicated to removing plastics from Earth's water sources.

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LESSON 11 | Water Problems and Solutions

Independent Reading

 CHECK IN Students recognize that "Water Heroes" will compare the work of two inventors.

HELP & GO: Comprehension

- Refer students to the title "Water Heroes." Ask, Who is one of the water heroes in this text? Fionn Ferreira
- Invite students to make a prediction about how a second water hero will be similar to or different from Ferreira.
- **CHECK IN** Students understand the relationship between the place where microplastics are cleaned up and the size of the cleanup.

HELP & GO: Background

- Review paragraph 2. Discuss how Ferreira's method for removing microplastics could be applied in wastewater treatment plants to clean the large amount of water that moves through the plant. Guide students to infer how this might work on a ship.
- Point out that wastewater from treatment plants and ships ends up in the ocean, so collecting microplastics while they are still contained in a treatment plant or ship would be easier than trying to collect the microplastics after they're released into the ocean.
- Clarify the meaning of the phrase end up in as another way of saying something came to be in a place that was not planned or expected. EL

4 Independent Reading

• **CHECK IN** Students can compare and contrast the ideas of Ferreira and Dankovich.

HELP & GO: Comprehension

- Ask, How was Dankovich's invention like Ferreira's? Both offered solutions to the problem of contaminated water. How were the two inventions different? Dankovich's invention removed germs from water, while Ferreira's invention removed microplastics from water.
- Prompt students to look for words and phrases that signal compare-contrast. Have them listen for the signal words in the following sample sentences, identify the things being compared, and say whether those two things are being compared because they are alike or different:
 - My dog likes to play in water, but my cat does not. (but, dog/cat, different)
 - While I enjoy getting up early, my neighbor prefers to stay up late at night. (while, I/my neighbor, different)
 - Both my bike and my car have flat tires. (both, bike/car, alike)
- Have students identify the signal words, what's being compared, and whether things are alike or different for the two sentences in paragraph 4.





LESSON 11

Respond to Text

5 Reread/Think

Reread "A Winning Idea" and "Water Heroes." Choose the best response to each question.

1. Determine whether each statement describes "A Winning Idea," "Water Heroes," or both.

explains how Ferreira used magnets to remove microplastics	Both
explains how Dankovich removed germs from water	Water Heroes
tells where Ferreira got his inspiration	A Winning Idea
describes a solution that is used in homes today	Water Heroes

- 2. Which statement would both Ferreira and Dankovich most likely agree with?
 - (A.) There are major problems with water that need to be solved.
 - **B.** The main reason to clean water is to win science competitions.
 - **C.** Microplastics are the largest threat to the drinking water supply.
 - **D.** Cleaning water requires expensive technology that is hard to find.
- 3. Which detail is found only in "Water Heroes"?
 - A. Oil helped remove 87% of microplastics from water.
 - **B.** Microplastics commonly end up in oceans.
 - C. Plastics contain chemicals that are harmful to wildlife.
 - (D.) Silver is a metal that is deadly to germs.

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5 Reread/Think

- Have students complete the Reread/Think items independently.
- Consider reading aloud questions and answer choices. EL

Answer Analysis

Use the answer analysis below to review the practice items with students. Have students **Stand** and **Share** the answer to each question. Review the correct answers.

- See correct responses on the student book page. DOK 2
- 2. The correct choice is **A**. Both Ferreira and Dankovich approached different problems with water and would likely agree that major problems need to be solved. Choice **B** is incorrect because although Ferreira won a competition, it was not a reason to clean water. Choice **C** is incorrect because Dankovich's research focused on germs in water. Choice **D** is incorrect because Ferreira used household items in his research. **DOK 2**
- 3. The correct choice is D. The information about silver affecting germs can only be found in "Water Heroes." Choices A and C are found in "A Winning Idea," and choice B is found in both texts. DOK 1

6 Answer Analysis

- The correct choice is A. The phrase tiny pieces of plastic gives a clue to the meaning of micro-. Choices B, C, and D are not supported by context. DOK 2
- 5. The correct choice is C. The text shares information about each scientist. Choice A is incorrect because the text does not focus on the causes and effects of pollution. Choice B is incorrect because the text does not follow changes in the water supply. Choice D is incorrect because the passage does not present their complete research. DOK 2

Write

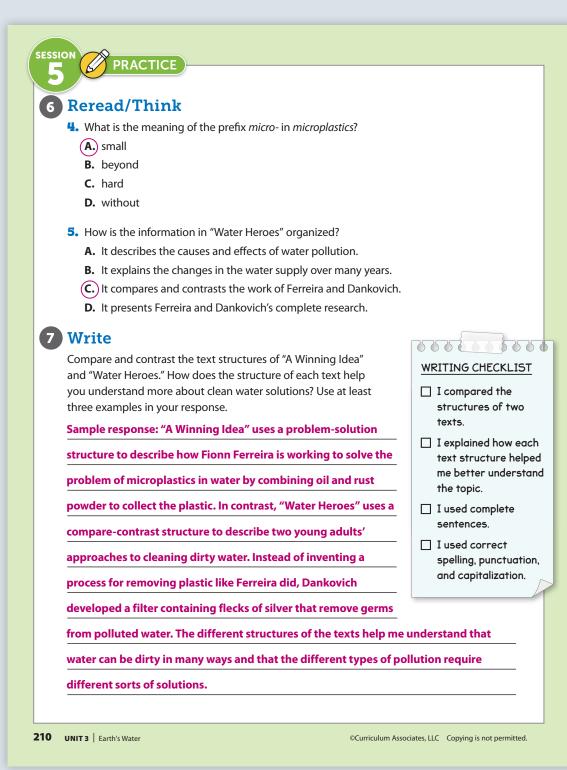
- Have students respond independently to the Write prompt. DOK 3
- If students need more support, work with them in small groups to guide them through writing.
 Use Help & Go scaffolds as needed.
- If needed, provide students with a word bank, such as the following: compare, contrast, problem, solution, microplastics, filter. EL
- LOOK FOR Students recognize how each structure supports their understanding.

HELP & GO: Writing

- Help students break the writing task into smaller chunks. Say, Think about Ferreira's invention in "A Winning Idea." How might you explain it in one sentence? Repeat with "Water Heroes."
- Ask, What is a key similarity between these two texts? What are the main differences? What do these differences help to show about dirty water?

Lesson Wrap-Up

Have students revisit the Focus Question using examples from the text. Record responses. Invite students to make connections between the four texts they have read.





LESSON 11

Respond to the Focus Question

How can we make sure living things get the clean water they need?

1 Reread/Think

Reread your charts and written responses from this lesson. Think about what you've learned about access to clean water. Then complete the chart.

Sample responses shown.

3 Important Details About Clean Water	2 Most Useful Clean Water Inventions	1 Question I Have About Clean Water
Unclean water makes people sick, especially children.	1. Hippo Water Roller	What other animals can be used to help make water cleaner?
2. Oysters can clean water naturally.	2. Dankovich's water filters	
3. Harmful microplastics are in our water system and the ocean.		

2 Talk

Discuss the following question with your group:

What is the most useful solution to the clean water problem and why?

I think the most useful solution is ___ because ___

I agree/disagree with that choice because

3 Write

Choose one invention or process you learned about in this lesson. Explain why it is a more creative solution than the others. Write a persuasive paragraph or create a visual presentation to convince others that your choice shows the most creative problem-solving.

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LESSON 11 | Water Problems and Solutions

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Respond to the Focus Question

Read the Focus Question. Tell students that today they will answer the question using information from all four texts.

1 Reread/Think

- Have students work independently to complete the **3-2-1** chart.
- Consider having students complete the chart with a partner as needed. EL
- Use **Pick a Stick** to have students share details from their chart.
- As students share the questions they still have, encourage classmates to share any information they might have for answers, or discuss action plans for researching the answers later on.

2 Talk

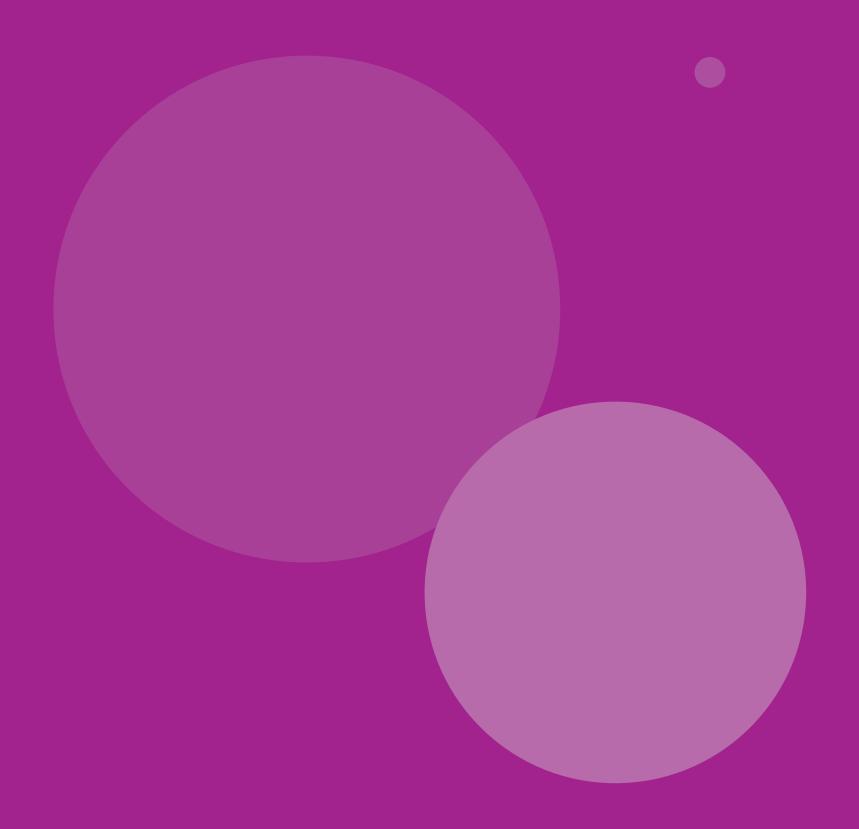
Have students work in small groups to complete the Talk activity. Remind students to use evidence from the texts in this lesson to support their thinking.

3 Write

- Have students complete the Write task.
- As needed, provide time for students to verbally rehearse their responses in pairs before writing. EL
- **LOOK FOR** Students use what they have learned about problems and solutions for Earth's water problems in their response.

HELP & GO: Writing

- Remind students that persuasive writing includes the writer's opinion and facts to support it.
 Prompt students to use facts from the texts to support their choices.
- Invite volunteers to Stand and Share their work.
 Encourage classmates to tell why each argument was convincing.



Unit Assessments

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Read this poem. Then answer the questions that follow.

The Spider and the Fly

- 1 "Will you walk into my parlor?" said the spider to the fly; "Tis the prettiest little parlor that ever you did spy. The way into my parlor is up a winding stair. And I have many pretty things to show when you are there."
- 5 "O no, no," said the little fly, "To ask me is in vain, For who goes up your winding stair can ne'er come down again."
- "I'm sure you must be weary, dear, with soaring up so high; Will you rest upon my little bed?" said the spider to the fly. "There are pretty curtains drawn around, the sheets are fine and thin,
- 10 And if you like to rest awhile, I'll snugly tuck you in." "O no, no," said the little fly, "for I've often heard it said, They never, never wake again, who sleep upon your bed."
 - Said the cunning spider to the fly, "Dear friend, what shall I do, To prove the warm affection I've always felt for you?
- 15 I have within my pantry good store of all that's nice; I'm sure you're very welcome; will you please to take a slice?" "O no, no," said the little fly, "kind sir, that cannot be; I've heard what's in your pantry, and I do not wish to see."
- "Sweet creature!" said the spider, "you're witty and you're wise, 20 How handsome are your gauzy wings, how brilliant are your eyes! I have a little looking-glass upon my parlor shelf, If you'll step in one moment dear, you shall behold yourself."

"I thank you, gentle sir," she said, "for what you're pleased to say, And bidding you good-morning now, I'll call another day."

parlor = living room; room for hosting guests in vain = pointless; not producing the result that is hoped for pantry = a closet or small room where food and other kitchen items are kept

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- 25 The spider turned him round about, and went into his den, For well he knew the silly fly would soon be back again: So he wove a subtle web, in a little corner sly, And set his table ready to dine upon the fly. Then he came out to his door again, and merrily did sing,
- 30 "Come hither, hither, pretty fly, with the pearl and silver wing: Your robes are green and purple; there's a crest upon your head; Your eyes are like the diamond bright, but mine are dull as lead."
 - Alas, alas! how very soon this silly little fly, Hearing his wily flattering words, came slowly flitting by.
- 35 With buzzing wings she hung aloft, then near and nearer drew, Thinking only of her brilliant eyes, and green and purple hue-Thinking only of her crested head-poor foolish thing! At last, Up jumped the cunning spider, and fiercely held her fast. He dragged her up his winding stair, into his dismal den,
- 40 Within his little parlor; but she ne'er came out again! And now, dear little children, who may this story read, To idle, silly, flattering words, I pray you ne'er give heed; Unto an evil counselor close heart, and ear, and eye, And take a lesson from this tale of the Spider and the Fly.

give heed = pay attention

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Get Started

- Set a purpose for the lesson. **Say,** Today you will read a poem and two science articles independently. You will use the skills you have learned in this unit to think and write about what you have read.
- Use Raise a Hand to have students recall the skills they have practiced in the unit, such as determining the meaning of words and phrases (including figurative language), quoting accurately from a text when supporting inferences, and comparing and contrasting the text structures of two texts on the same topic.
- Have students read the passages and complete the assessment. Encourage them to read carefully and to use Academic Talk words and phrases from the unit lessons in their written responses.
 - —Create a word bank of Academic Talk words and phrases that students might use while planning and writing their responses: text evidence, direct quotation, text structure, problem-solution, and compare-contrast. **EL**



Respond to Text

Reread/Think



1. Read line 3 of the poem.

The way into my parlor is up a winding stair.

Which sentence below best describes the meaning of the metaphor in this line?

- A. The poet is comparing the spider's legs to steps on a winding stair.
- **B.** The spider is comparing the way the fly moves to a winding staircase.
- C. The poet is describing the spider as a friendly next-door neighbor to the fly.
- (D.) The spider is describing his web to the fly as if it were a human's house.

Read lines 30-32 of the poem. Underline the two similes. Then circle the word in each one that tells you it is a simile.

"Come hither, hither, pretty fly, with the pearl and silver wing: Your robes are green and purple; there's a crest upon your head; Your eyes are (like) the diamond bright, but mine are dull as lead."

PART B

What is the spider describing when he says "Your robes are green and purple"?

g the outside of	

3	In line 36	why does	the che	akar call	the fly	a "noor	foolish	thing"

- A. because the fly flies by the web slowly
- B. because the fly buzzes her wings loudly
- C. because the fly races up the spider's winding stairs
- (D.) because the fly believes the spider's flattering words
- 4. Throughout "The Spider and the Fly," the poet compares the spider's web to a human house. Reread each stanza listed in the chart. Fill in an example of how the poet builds the metaphor.

Stanza	Example
Stanza 2 (lines 7–12)	The spider describes his bed/curtains.
Stanza 3 (lines 13–18)	The spider offers a snack from his pantry.
Stanza 5 (lines 25–32)	The spider goes into his den/sets his table.

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UNIT 3

Answer Analysis

When students have completed the Unit Assessment, discuss correct and incorrect responses.

- 1. The correct choice is **D**. The spider is trying to lure the fly by describing his web as a beautiful house.
 - A is incorrect because the poet is not talking about the spider's legs.
 - **B** is incorrect because the spider is not talking about the way the fly moves.
 - C is incorrect because the spider is a predator, not a friendly neighbor. DOK 2
- **2. PART A** Students should underline the two similes in the last line. The first simile uses the word like to compare the fly's bright eyes to diamonds; the second simile uses as to compare the spider's dull eyes to lead. Students should circle like and as.

PART B Responses will vary somewhat, but students should indicate that the robes represent the outer covering of the fly's body. **DOK 2**

- 3. The correct choice is **D**. The fly is foolish because she listens to the spider's flattery, which leads to her getting caught by the spider.
 - A is incorrect. While the fly does fly by slowly, this is not why she gets caught.
 - B is incorrect. While the text refers to the fly's buzzing wings, the sound is not what causes the fly to be caught.
 - C is incorrect. The fly does not go up the stairs voluntarily. DOK 2
- 4. Responses will vary, but students should fill in each box with a detail from the relevant stanza that describes a room or feature of a human house. See the sample responses on the student page. DOK 2





Read these science articles. Then answer the questions that follow.

Rescuing the Reefs



old ship to form this artificial

- 1 Their strange shapes and bright colors look like something out of a dream. But coral reefs are very real. And they're full of life. These underwater structures can be found in many parts of the world. They are formed by coral polyps, tiny animals living close together. They grow along the ocean floor, connected by a single skeleton that gets bigger as they reproduce. Holes and tunnels within these structures provide food and hiding places for many fish and other sea creatures. In fact, a quarter of the world's fish depend on coral reefs for survival.
- 2 Human activities and a changing climate have damaged many coral reefs. But scientists are developing ways to build them back up. One method involves using artificial, or human-made, materials to create a new reef. A second method involves regrowing corals on damaged natural reefs. Both methods achieve similar results, but upon comparison, they each have good points and bad points.
- 3 Artificial reefs are created by placing a human-made structure, such as an old ship, on the ocean floor. Coral polyps then attach themselves to the sunken object. One benefit of this method is that an artificial reef can be placed wherever it is needed. An artificial reef can also be larger than many natural reefs. However, an artificial reef may tip over or break apart in ocean waves and currents. It can also pollute. Over time, some of its materials can break down and release chemicals into the water.

- 4 The second method restores the coral on a damaged reef. Scientists grow pieces of healthy coral in an underwater "nursery" and attach them to the reef. This process is called coral gardening. Unlike the artificial reef method, coral gardening involves few human-made materials. As a result, there's less chance of pollution. Also, compared with many artificial reefs, natural reefs are very sturdy. They can withstand powerful ocean turbulence. On the other hand, coral gardening is often more difficult and expensive than creating an artificial reef.
- 5 Restoring natural coral reefs and building artificial ones take time and money. But experts believe the effort is worth it if we want to keep the ocean's underwater dreamworlds alive.

restores = repair or heals something

turbulence = sudden rough or shaky movements in water or air

A scuba diver works in a coral garden.



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UNIT 3

The Race to Save Florida's Coral Reefs

by Alice Cary

- 1 The Great Florida Reef is a national treasure. It is the only living coral reef system in the United States. At about 350 miles (560 kilometers) long, it is the third largest of its kind in the world. It contains more than 6,000 different reefs and over 80 species of coral, which provide shelter for millions of plants and animals. However, Florida's reefs are in serious trouble. Rising temperatures, disease, pollution, and human activity are threatening the corals. In recent decades, Florida has lost about 90 percent of the live corals that form the reefs. Now, the race is on to save the rest.
- 2 Scientists are using several solutions to address the problem of Florida's dying reefs. One solution is to collect broken fragments of coral and grow them into much bigger pieces. This is being done in underwater coral "nurseries" off the coast of the Florida Keys. Once the newly grown pieces are large enough, divers use special glue to attach them to reefs. Since 2007, the Coral Restoration Foundation has added more than 120,000 corals.

species = a class of animals or plants that have certain traits in common Florida Keys = a long chain of islands that begins off the southern tip

- 3 Another solution involves antibiotics—medicines used to treat infections in humans. Antibiotics are helping to treat stony coral, a type of coral that is being attacked by disease. Divers apply the medicine to the coral. So far, these treatments have saved more than 2,000 corals in the Florida Reef.
- 4 One of the biggest efforts to save Florida's reefs is a project called "Mission: Iconic Reefs." Scientists are restoring the corals at seven major reef sites. One part of the work involves removing algae and other invasive life forms. The other part involves planting new corals. Scientists are using species that grow quickly or are resistant to disease. Over the next 20 years, the project hopes to restore nearly three million square feet of the reefs. That's about the size of 52 football fields!
- 5 A combination of these solutions can help save the Great Florida Reef. But there are still the ongoing problems of pollution and other harmful human activities. However, experts are hopeful that if we work together, this underwater treasure can be preserved.

invasive = spreading very quickly and doing harm



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UNIT 3

Respond to Text

Reread/Think



1. PART A

In "Rescuing the Reefs," the author states that scientists are developing ways to build up the world's reefs again. Based on paragraph 1, why are scientists most likely doing this work?

- A. because the reefs have sunk below the ocean floor
- (B.) because animals need the reefs to survive
- C. because tiny creatures have damaged the reefs
- D. because the reefs are filled with mysterious holes

PART B

Which sentence from the text **best** supports the answer to Part A?

- A. "Their strange shapes and bright colors look like something out of a dream."
- B. "These underwater structures can be found in many parts of the world."
- C. "They grow along the ocean floor, connected by a single skeleton that gets bigger as they reproduce."
- (D.) "Holes and tunnels within these structures provide food and hiding places for many fish and other sea creatures."

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your response.

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3 Answer Analysis

- 1. PART A The correct choice is B. Without reefs, many animals would not be able to live, so scientists are trying to save these important habitats.
 - A is incorrect. Reefs grow naturally on the ocean floor, and there is no evidence they have sunk below it.
 - C is incorrect. The text says that the reefs are formed of tiny creatures, not that the reefs have been damaged by them.
 - **D** is incorrect. The reefs are filled with holes, but these holes are neither mysterious nor a problem.

PART B The correct choice is **D**. The quotation provides evidence that the reefs are important to the survival of animals.

• A, B, and C are incorrect because they describe the reefs but do not explain why the reefs need to be saved. DOK 2

2. Responses will vary, but students should infer that larger reefs provide more habitat for fish. See the sample response on the student page. DOK 3

2. SHORT RESPONSE According to the author of "Rescuing the Reefs," a benefit

of artificial reefs is that they can be larger than many natural reefs. Why is being

larger considered a benefit? Use details and quotations from the text to support

Sample response: I think larger reefs are probably good because they provide

shelter for more fish. That is important because fish depend on coral reefs for

food and hiding places. As the author says in paragraph 1, "a quarter of the

3. Read this sentence from paragraph 1 of "The Race to Save Florida's Coral Reefs."

In recent decades, Florida has lost about 90 percent of the live corals that

Why have so many live corals disappeared? Use words or phrases from paragraph 1

The live corals have disappeared because they have been destroyed by

rising temperatures, disease, pollution, and human activity.

world's fish depend on coral reefs for survival."

of the text to complete the sentence.

3. Students should complete the sentence with the list of threats to the reefs given in the sixth sentence of paragraph 1 of "The Race to Save Florida's Coral Reefs." **DOK 1**



4. What is the meaning of the word resistant as it is used in paragraph 4 of "The Race to Save Florida's Coral Reefs"?

(A.) not affected by

- B. likely to become
- C. likely to damage
- D. not produced by
- 5. Read each description in the chart below. Does the description tell about "Rescuing the Reefs " "The Race to Save Florida's Coral Reefs " or both? Complete the chart by writing the name of the correct text or the word Both next to each description.

Description	Text
an article that compares two methods of rebuilding coral reefs	"Rescuing the Reefs"
an article that tells how pieces of healthy corals are grown and attached to damaged reefs	Both
an article that explains the challenges facing some reefs and three solutions scientists are trying	"The Race to Save Florida's Coral Reefs"

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ASSESSMENT

Write

EXTENDED RESPONSE Compare and contrast the text structures used in "Rescuing the Reefs" and "The Race to Save Florida's Coral Reefs." How does the way information is organized in each text help you understand important ideas about coral reefs and how they are being saved? Use details from both texts to support your response. Sample response: Both "Rescuing the Reefs" and "The Race to

Save Florida's Coral Reefs" are about coral reefs and how

scientists are trying to save these important ocean structures. "Rescuing the Reefs" compares two methods being used to

build and restore reefs, while "The Race to Save Florida's Coral

Reefs" tells about several solutions scientists are using to save the Great Florida Reef.

The author of "Rescuing the Reefs" uses a compare-

can also break down and cause pollution

contrast structure to explain the similarities and differences between two methods of

saving the reefs. This organization helps me understand the pros and cons of each way

to rescue reefs. For example, artificial reefs can be bigger than natural reefs, but they

The author of "The Race to Save Florida's Coral Reefs" uses a problem-solution

structure to focus on what is happening to the reefs off the Florida coast. This

organization helps me understand the problems that these reefs face and three ways scientists are fixing the reefs: by attaching regrown coral pieces to them, by treating

sick coral with medicine, and by planting special kinds of corals that grow fast.

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UNIT ASSESSMENT | Unit 3: Earth's Water 439

UNIT 3

WRITING CHECKLIST

structures of both

☐ I explained how each

☐ I used details from

my response. ☐ I used complete

sentences.

☐ I used correct

structure helped me

understand the topic

both texts to support

spelling, punctuation, and capitalization.

☐ I described the

texts.

4. The correct choice is A. Students should be able to figure out the meaning of resistant based on context: it makes sense that scientists would plant coral that fights off disease.

- **B** is incorrect because it would not make sense for scientists to plant coral that changes into disease.
- C is incorrect because coral is damaged by disease, not the other way around.
- **D** is incorrect because it would not make sense for scientists to plant coral that produces disease. **DOK 1**
- 5. Both articles give information about growing healthy corals in coral nurseries, but only "Rescuing the Reefs" compares restoring damaged reefs to building artificial ones, and only "The Race to Save Florida's Coral Reefs" describes different solutions to the problems of Florida's disappearing reefs. **DOK 2**

4 Write

REVIEW RESPONSES

After students have completed the Unit Assessment, evaluate their responses to the Extended Response using the 4-Point Unit Assessment Writing Rubric on page A52. See the sample response on the student page. DOK 3

Wrap-Up

Use **Stand and Share** to have students share which text they liked the best and one thing they learned from that text.

Glossary of Terms

Academic Talk Words and Phrases

A

account a written or spoken retelling of an event or topic

act a main section, or part, of a play

actions things that a person or character does

alliteration repetition of initial consonant sounds to create a special effect

allusion an indirect mention or reference to something

analyze to closely and carefully examine a text or part of a text

B

bar graph a graph that uses two or more bars to show amounts or numbers that are being compared

base word a complete word that has no prefixes or suffixes added to it

C

caption a phrase or sentence next to a picture in a text that explains something about the picture

cast of characters a list of all the characters in a play, usually in order of appearance or importance

cause a reason, event, or action that makes something else happen

cause and effect a relationship between events in which one event—the cause—brings about, or causes, another event—the effect

cause-effect text structure a text organization that describes events, what made them happen, and how they affect other people and events

central message an important lesson about people or life that the author of a story wants to share

challenge a problem or difficulty that needs to be solved

chapter a section, or part, of a story or book

character a person, animal, or made-up creature in a story or play

character trait a quality or characteristic that a character in a story has, such as courage, pride, or honesty

chart an image that shows or organizes information so that it is easier to understand

chronological text structure a text organization in which events are described in the order in which they happen

chronology the order in which events happen

climax the most exciting or important part of a story, which usually comes near the end

compare to describe how two or more things are similar

compare-contrast text structure a text organization that describes the similarities and differences between two or more things

conflict a challenge that a character faces; a disagreement that people, characters, or organizations have with one another

context clues words, phrases, or sentences near an unknown word or phrase in a text that help you determine the meaning of the unknown word or phrase

contrast to describe how two or more things are different

D

describe to tell what something is like; to explain something

details facts, examples, or other pieces of information in a text

determine to find out or figure out something

diagram a drawing or picture that explains what something looks like or how it works

dialogue the words the characters say in a story or play

direct quotation the exact words that an author wrote or a speaker said; these words go inside quotation marks

drama a story that is performed on a stage by actors

Glossary of Terms (continued)

E

effect something that happens as a result of something else

event something that happens in a story or in the natural world

evidence facts, details, quotes, or other pieces of information used to support a point, idea, or reason

example something that shows what other things in a particular group are like **explain** to describe or give details about something so it can be understood

F

figurative language a word or phrase that means something different from its regular or literal meaning and is used to make a comparison or create a certain feeling or mental image

first-person point of view when the narrator of a story is a character in the story who describes events using the pronouns *I*, *me*, or *we*; a first-person narrator can describe their own thoughts and feelings but not what other characters think or feel

firsthand account an informational text about an event written by a person who witnessed the event or took part in it

G

glossary a list at the back of a book of important words from the text and their meaning

Н

heading a word or phrase at the beginning of a section of a text that tells what the section is about

historical fiction a story that takes place in the past

historical text an informational piece of writing that describes people, events, and ideas from the past

idea a thought, opinion, or belief that someone has about something

identify to be able to say who or what a person or thing is

illustration a picture in a text that gives more information about the text

image a drawing, photograph, map, or chart that shows information about something in a text

infer to reach a conclusion about a text based on text clues and background knowledge

inference a conclusion, or an idea you have about a text, based on details in the text and your own background knowledge

information facts and details about someone or something

integrate to put together or combine information on a topic from more than one textinteraction the way people or things act with or affect one another

К

key detail an important fact, example, or other piece of information in a text that helps explain the main idea

key word a word in bold print that calls attention to an important idea or piece of information in a text

label a word or phrase that gives more information about an image

lesson something learned in a text or story or through experience

literal having the usual or most basic meaning of a word's dictionary definition

M

main idea something important that an author wants readers to know about a topic

map a picture or drawing of an area that shows its cities, roads, rivers, mountains, and other features

metaphor a type of figurative language that compares two things without using the word *like* or *as*

Glossary of Terms (continued)

mood the feeling a story creates in the reader; setting, word choice, and tone all contribute to mood

motivations the reasons why characters act, think, or feel the way they do

myth an ancient story told by a people or culture that explains their origin and history

N

narrator the person or character who tells a story

nonliteral describing an unusual or unexpected meaning of a word or phrase

P

paragraph a group of sentences about a particular idea or topic

personification a type of figurative language that gives human qualities or characteristics to animals or objects

perspective (informational texts) what an author thinks or feels about a topic

perspective (literary texts) what a narrator or character thinks or feels about the events in a story

persuade to cause someone to do something or think a certain way about something by giving them good reasons for it

photo or photograph a picture made using a camera

phrase a short group of words that has meaning

play a story that is performed on stage by actors

plot the sequence of events in a story

poem a piece of writing in which the words are chosen for their beauty and sound; the words are often arranged in short lines

point an idea that an author wants readers to remember or believe is true

point of view (informational texts) what an author thinks or feels about a topic

point of view (literary texts) what a narrator or character thinks or feels about the events in a story

predict to say what you think will happen in the future

prefix a word part that comes at the beginning of a word and changes the word's meaning **problem** a challenge that the main character or characters face

problem-solution text structure a text organization that describes one or more problems and solutions

Q

quote the exact words that an author wrote or a speaker said; these words go inside quotation marks

R

reason an explanation why an idea or point is correct or true

recount to retell events and details of a story or text in the order in which they happen using your own words

relationship the way in which two or more people, events, or things are connected

repetition the use of repeated words or sounds to show that something is important or to create a certain effect

research serious study of a topic, or the facts learned during that study

resolution the part of a story when the main conflict or problem is solved or when the main goal is reached; the resolution happens at the end of a story

respond to make a reply; to answer

result something that happens or exists because of something else that happened before

rhyme the repeated use of words that end in the same or similar sounds

rhythm the regular pattern of sounds in a poem or beats in a piece of music

rising action the part of a story when the main conflict or problem builds, creating excitement or suspense

S

scan to look quickly through a text to find a particular word or piece of informationscene a part of a play in which all the action takes place in the same setting; one or more scenes make up each act of a play

Glossary of Terms (continued)

- **scientific text** a piece of writing that gives information about a science topic or about how or why something happens in the natural world
- **secondhand account** an informational text about a topic or event written by someone who did not experience it but instead found information and facts about it
- **section** a particular part of something, such as a paragraph or a chapter of a book
- **sensory details** details that describe the way something looks, sounds, feels, smells, or tastes
- **sequence** the order in which events or steps in a process happen
- **setting** where and when a story or play takes place
- **sidebar** a short text, often boxed, placed near the main text that gives more information about the topic
- signal words words or phrases that show the connection between ideas or events
- simile a type of figurative language that compares two things using the word like or as
- **skim** to read through something quickly to find the main facts or ideas
- **solution** the answer to a problem; the way the main characters resolve the conflict at the center of a story
- **source** a text or image that gives information about a specific subject area or topic; a source may be printed or digital
- **stage directions** instructions in a play that tell what actors should do, how actors should speak, and what should appear or happen on stage
- **stanza** several lines of a poem that are grouped together to form one part of the poem
- **steps in a process** a set of actions or directions to take in order to make or do something
- **story elements** the major parts of a story, including the setting, characters, problem, solution, and theme
- **structure** the particular way an author organizes a text, such as acts for a drama or stanzas for a poem
- **summarize** to briefly retell in your own words the most important ideas, events, and details of a text
- **summary** a short retelling of a text that includes the main idea and key details of a text, or the important events and details of a story
- **support** to help explain or provide evidence for a main idea in a text

T

table of contents a list at the front of a book of the sections or chapters of the book in the order in which they appear

technical text a piece of writing that explains how to make or do something

text evidence a detail, fact, or example in a piece of writing that can be used to support an idea

text features special parts of a text that help you find certain information or learn more about a topic; titles, headings, sidebars, pictures, timelines, and glossaries are examples of text features

text structure the way an author organizes the ideas and information in a piece of writing; text structures include comparison, cause-effect, chronology, and problem-solution

theme an important message or lesson that an author wants to share about people or life

third-person point of view when the narrator of a story is not a character in the story and describes events using pronouns such as *he*, *she*, and *they*; a third-person narrator can describe what different characters think and feel

timeline a chart or image that shows the dates of important events in the order they happened, sometimes with additional details about the events

title the name of a text

tone the general feeling or attitude of a text or story

topic the general subject of a text

trait a quality or characteristic that a person or character in a story has, such as courage, pride, or honesty

V

visual an image or picture that appears with a text; visuals can include illustrations, photos, charts, diagrams, and timelines

visual elements features of an image that an artist can use to show meaning or feeling; shape and color are examples of visual elements

Unit Assessment Writing Rubrics

2-Point Writing Rubric

Use this rubric to evaluate Short Response items. All three criteria must be satisfied in order for a response to gain full points.

Points	Focus	Evidence	Organization
The response demonstrates comprehension and provides accurate analysis.		The response supports the analysis with adequate textual evidence.	Ideas are clear and follow a logical order.
1	The response demonstrates some comprehension and provides minimally accurate analysis.	The response supports the analysis with limited textual evidence.	Some ideas are unclear and out of order.
0	The response demonstrates no comprehension and provides inaccurate or no analysis.	The response provides little or no textual evidence.	Ideas are unclear and not in any order.

4-Point Writing Rubric

Use this rubric to evaluate Extended Response items. All three criteria must be satisfied in order for a response to gain full points.

Points	Focus	Evidence	Organization
4	The response demonstrates a full understanding of the prompt and provides accurate analysis.	The response supports the analysis with generous textual evidence.	Ideas are consistently presented in a purposeful and logical order.
3	The response demonstrates a good understanding of the prompt and provides mostly accurate analysis.	The response supports the analysis with adequate textual evidence.	Ideas are generally presented in a purposeful and logical order, although some ideas may be unclear or out of order.
2	The response demonstrates a general understanding of the prompt and provides some accurate analysis but includes inaccurate descriptions or explanations.	The response supports the analysis with limited textual evidence but does not reference the text explicitly.	Some ideas are presented in a purposeful and logical order, but others are unclear or out of order.
1	The response demonstrates a limited understanding of the prompt and provides limited analysis with significant inaccuracies.	The response may use textual evidence, but it does not support the analysis and does not reference the text explicitly.	Most ideas are not presented in a purposeful and logical order.
0	The response does not demonstrate understanding of the prompt.	Ideas are not supported with reference to textual evidence.	The response does not present ideas in a purposeful or logical order.

Supporting Research

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