Informational

Author's Purpose

Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion

Research

This project was developed at the Success for All Foundation under the direction of Robert E. Slavin and Nancy A. Madden to utilize the power of cooperative learning, frequent assessment and feedback, and schoolwide collaboration proven in decades of research to increase student learning.

The Reading Edge Middle Grades 2nd Edition Teacher Edition

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Produced by the Reading Edge Middle Grades 2nd Edition Team

President:	Nancy Madden
Director of Development:	Kate Conway
Rollout Committee:	Kate Conway (Chair), Mia Blom, Wendy Fitchett, Kim Gannon, Claire Krotiuk, Kristal Mallonee-Klier, Terri Morrison, Sheri Mutreja, Kenly Novotny, Peg Weigel
Program Developers:	Wendy Fitchett (Chair), Kate Conway, Victoria Crenson, Ceil Daniels, Terri Morrison
Field Advisory Team:	Kim Gannon (Chair), Jo Duplantis, Kathy McLaughlin
Contributing Developers:	Kathleen Collins, Sarah Eitel, Richard Gifford, Samantha Gussow, Patricia Johnson, Austin Jones, Susan Magri, Kim Sargeant, Becca Slavin
Designers:	Michael Hummel, Austin Jones, Vic Matusak, Susan Perkins, Christian Strama
Illustrators:	Michael Hummel, Susan Perkins
Video Producers:	Jane Strausbaugh (Senior Producer), Angie Hale, Tonia Hawkins
Editors:	Janet Wisner (Supervising Editor), Marti Gastineau, Pam Gray, Jodie Littleton
Publications Coordinator:	Sheri Mutreja
Proofreaders:	Meghan Fay, Susanne Viscarra, Janet Wisner, Michelle Zahler
Production Artists:	Irene Baranyk, Kathy Brune, Wanda Jackson, Cathy Lawrence, Irina Mukhutdinova, Michele Patterson, Karen Poe, Laurie Warner, Tina Widzbor
Online Tools Developers:	Terri Morrison (Chair), Sean Christian, Patrick Coady, Mary Conway Vaughan, Tim D'Adamo, Debi Hammel, Dia Hopp, Mike Knauer, Kristal Mallonee-Klier, Vic Matusak, Christian Strama, Melissa Stroup

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A Nonprofit Education Reform Organization

200 W. Towsontown Blvd., Baltimore, MD 21204
PHONE: (800) 548-4998; FAX: (410) 324-4444
E-MAIL: sfainfo@successforall.org
WEBSITE: www.successforall.org

Author's Purpose

Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion

The Lightning Round

- Random Reporters share team responses; team reps from other teams may agree, disagree, or add on to these responses.
- Use the following rubrics to evaluate responses and give specific feedback.
- Award points to the teams with 100-pt. responses; add the points to the Team Celebration Points poster.
- Celebrate team successes.

Strategy Use **The Random Reporter:**	
100	gives a 90-pt. response **and explains how using the strategy helped in better understanding the text.**
90	gives an 80-pt. response **and describes a problem and a strategy that was used to solve the problem.**
80	**identifies a problem that a team member had understanding the text.**

Team Talk (oral and written) **The Random Reporter:**	
100	gives a 90-pt. response **and connects the answer to the supporting evidence and uses academic language.**
90	gives an 80-pt. response **and includes supporting evidence and examples (from the text or from experience).**
80	**uses full sentences to clearly and correctly answer the question.**

Word Power **The Random Reporter:**	
100	gives a 90-pt. response **and expands on the meaning, for example, identifies** • **related words** • **a second meaning** • **a word connotation** • **an antonym**
90	gives an 80-pt. response **and explains the meaning in a definition and a meaningful sentence.**
80	**tells a word or phrase added to the word power journal and why it was added (what makes it important or interesting).**

Fluency **The Random Reporter:**	
100	gives a 90-pt. response **and reads smoothly and with expression (shows emotion and changes with punctuation and dialogue).**
90	gives an 80-pt. response **and reads at just the right pace to understand the text—not too slow and not too fast.**
80	**reads a short passage and pronounces most of the words correctly.**

Summary **The Random Reporter:**	
100	gives a 90-pt. response **and uses key vocabulary correctly.**
90	gives an 80-pt. response **and clearly connects relevant ideas in a logical order.**
80	**presents main ideas and important details in his or her own words and without personal opinion.**

Graphic Organizer/Notes **The Random Reporter:**	
100	gives a 90-pt. response **and explains how the graphic organizer helped in understanding the text.**
90	gives an 80-pt. response **and includes main points or events and important details.**
80	**selects a graphic organizer that is appropriate for the text.**

Unit Objectives

Reading: Analyze the author's purpose, and define the central question that the author seeks to address.
Writing: Clearly state a position and include good reasons that support that position.

Unit Overview

In this unit, students will learn to identify the author's purpose in providing specific information, explanations, and descriptions of procedures. They will also analyze how an author builds support for the central question or topic in the book. Students will also determine the meanings of symbols, key terms, and domain-specific words and phrases as they are used in scientific or technical context.

Unit Topic/Content

Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion by Loree Griffin Burns describes how floating trash was used to chart ocean currents and the growing problem of marine debris. The oceans make up 71 percent of Earth's surface. For billions of years, the oceans have received all kinds of debris from the land. Until recently, this debris included rocks, sediment (soil), plant and animal materials, and minerals. With the advent of modern technology, new classes of materials have been invented, some of which will seemingly last forever, such as plastic. These new materials impact the oceans in new ways.

Text and Media Selections

Internet/Media Options

To expand your students' background knowledge, consider using Internet/media options with lessons. Always preview sites for availability and suitability. Please make sure you have the correct plug-ins.

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At a Glance

Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion

Cycle 1		
Lesson	**Text**	**Media**
Lesson 1	pages 1–4	(Embedded) "Fluency"
Lesson 2	pages 5–9	(Embedded) "Team Talk Response"
Lesson 3	pages 11–15	(Embedded) Background video: "Adopt a Drifter" (2 min. 8 sec.): http://oceantoday.noaa.gov/adoptadrifter National Oceanic and Atmospheric Administration
Lesson 4	pages 16–18	(Optional) www.pbslearningmedia.org/content/ess05.sci.ess.watcyc.wavemotion (5 sec.)
Lesson 5	writing in response to reading	
Lesson 6	pages 21–23	
Lesson 7	self-selected reading	
Lesson 8	Getting Along Together	

Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion

Cycle 2		
Lesson	**Text**	**Media**
Lesson 1	pages 25–28	
Lesson 2	pages 29–31	
Lesson 3	pages 33–37	(Embedded) Background video: "Marine Debris" (3 min. 17 sec.)
Lesson 4	pages 38–40	
Lesson 5	writing in response to reading	
Lesson 6	pages 43–51	
Lesson 7	self-selected reading	
Lesson 8	Getting Along Together	

Additional Resources:

*Optional world map:
mapsgoogle.com/world map or www.mapsofworld.com/world-continent-map.htm

*Optional latitude and longitude:
www.earthgoogle.com

*National Oceanic and Atmospheric Administration:
www.noaa.gov

*Shows energy movement through water (5 sec.):
www.pbslearningmedia.org/content/ess05.sci.ess.watcyc.wavemotion

*Optional websites of citizen science programs:
www.birds.cornell.edu/citsci/projects

*The California Academy of Sciences also has a variety of citizen science projects:
www.calacademy.org/science/citizen_science

*Project BudBurst at the Chicago Botanic Garden (Citizens send in data on when plants bloom in their area.):
www.chicagobotanic.org/research/plant_conservation/budburst

*Monarch Watch (Citizens help scientists monitor monarch butterflies.):
www.monarchwatch.org/class/studproj/index.htm

*Beach clean ups:
www.oceanconservancy.org/our-work/marine-debris/international-coastal-cleanup-11.html

*Optional websites for the impact of the Japanese tsunami of 2011 on marine debris:
marinedebris.noaa.gov/info/japanfaqs.html#1

*Japanese tsunami debris:

- oceanservice.noaa.gov/news/features/dec11/japan-tsunami-debris.html
- phys.org/news/2011-12-japanese-tsunami-debris-pacific-ocean.html
- www.nwcn.com/home/?fId=153345145&fPath=/news/local&fDomain=10212
- usnews.msnbc.msn.com/_news/2012/05/25/11872317-crews-prepare-to-remove-40-tons-of-japan-tsunami-debris-from-alaska-island

*Optional websites for monitoring marine trash:

- www.marinedebris.engr.uga.edu (Contains information about an app for monitoring marine debris.)
- www.noaa.gov/features/02_monitoring/marinedebris.html (Marine debris tracker)
- marinedebris.noaa.gov (NOAA's website about marine debris)

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Cycle 1:

Author's Purpose

Lesson 1

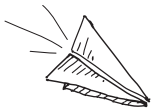
Reading Objective: Analyze the author's purpose, and define the central question that the author seeks to address.

Teacher Background

The book begins with a description of early studies of Atlantic currents by Benjamin Franklin, and it also introduces Dr. Curtis Ebbesmeyer, who researches floating trash in the oceans.

Oceanography is the scientific study and exploration of the oceans.

Obtain a world map and become familiar with the streams and rivers in your location and the major oceans (Atlantic, Pacific, Indian, Arctic, and Southern Oceans [around Antarctica]).



Active Instruction tp

(22 minutes)

Big Question

Post and present this cycle's Big Question. Have students write a response to the question as they arrive for class.

Students write responses to the Big Question.

The Big Question: Imagine walking down a street in your neighborhood. You see a plastic bottle in the gutter. If no one picks it up, what will happen to it?

Set the Stage

Discuss the Big Question. tps

1. Refer students to today's Big Question. Use **Think-Pair-Share** to ask:

   Imagine walking down a street in your neighborhood. You see a plastic bottle in the gutter. If no one picks it up, what will happen to it?

   Students may say that it will get washed down the storm drain.

Teams review their cycle goal.

2. Ask students to review their cycle goal. Remind students how to earn team celebration points. Remind them that team celebration points help them to become super teams. Tell them that they can earn team celebration points during the Lightning Round.

Post and present the reading objective.

3. Introduce the text, author, and reading objective.

Students identify the strategies that they use to prepare to read informational text.

4. Distribute copies of *Tracking Trash*. Have teams discuss the strategies that they use when they first pick up a text. Use **Random Reporter** to share team responses.

   For example, I scan the text to see if it is informational or literature; look for clues to predict the topic and the author's intent; figure out how the text is set up so I can choose a graphic organizer for notes.

T: Trash in the ocean

I: To inform the reader about the problem of trash in the ocean

G: Outline or T-chart

Build background about the topic.

5. Refer students back to the Big Question and ask:

   Where does a storm drain lead?

   Students may or may not know that storm drains often lead to streams.

   Point out that storm drains often lead to local streams and that if there is trash on streets, it will end up in the streams. Explain that streams lead to rivers, and rivers lead to the ocean.

   If possible, use a map to follow a river from your location to the nearest ocean—rivers carry water that runs off the land back to the ocean, and anything that is carried by the runoff goes into the ocean too.

   Point out that the subtitle of the book is *Flotsam, Jetsam, and the Science of Ocean Motion*. Display a world map, and have students identify the oceans (Atlantic, Pacific, Indian, Arctic, and Southern). Remind students that oceans cover 71 percent of Earth's surface and contain 97 percent of the world's water.

Interactive Read Aloud

1. State the reading objective.

   This cycle our reading objective is to analyze the author's purpose, and define the central question that the author seeks to address.

   tps

   Point out that authors often have a broader purpose in writing about a topic besides just imparting information. Have students look at the cover of the book and the picture of the sea lion. Use **Think-Pair-Share** to ask:

   What do you think is the author's opinion about trash in the ocean? How can you tell?

   I think the author thinks that trash in the ocean is a problem. I can tell because she puts a picture of a sea lion entangled in netting. I think this could eventually kill the sea lion.

   Point out that readers should use all resources—text and text features—to determine the author's purpose.

   Tell students that authors often have a major focus or ask a central question that is the big point of a book. Asking why an author includes certain information in a text helps to keep focus on the big point or central question. It helps a reader decide how the information relates to the central question.

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Teacher: Read aloud and think aloud to model the target skill or strategy use within the TIGRRS process.

Students: Actively listen.

2. Read page 1 aloud. A sample Think Aloud follows.

Sample Think Aloud
I see from the cover that one of the author's purposes is to give information about the problem of trash in the ocean. From this paragraph about Benjamin Franklin, I think another purpose is to talk about ocean currents. The author uses the information about Franklin's work to get into a discussion of currents. I think the central question that the author is addressing is: How does trash move in the oceans? As I read the book, I will ask myself questions such as: Why does the author include this information? How does it relate to the central question of how trash moves in the oceans? I think this will help me stay focused on the big point of the book and learn more about the answer to that question.

Teacher: Restate important ideas in the text, and add notes to the graphic organizer.

3. Use **Think-Pair-Share** to ask:

   How did I figure out the author's purpose in this paragraph? What else besides the text helped me know the author's purpose?

   You used the title and pictures on the cover. You looked for the main idea in the paragraph. The author also has a picture of Franklin's map showing the "virtual river in the middle of the sea."

Partner pairs: Read aloud/think aloud with the next passage to practice the skill/strategy.

4. Partner Practice: Student partner pairs use the read-aloud/think-aloud process to practice the skill or strategy with the next passage in the text. Have students read page 2 (paragraph 1), and then have them explain why they think the author includes this information. Use **Think-Pair-Share** to ask:

   How could it relate to the central question of how trash moves in the oceans?

   Use **Random Reporter** to debrief.

   We think the author includes this information about Franklin's study of ocean currents because he published the first map of the Gulf Stream. The author says that this was the first evidence that ocean movement can impact human activities. This relates to the central question of how trash moves in the oceans because trash is the result of human activities.

Partner pairs: Review, reread to clarify, and add to the graphic organizer.

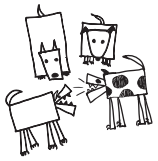
5. Ask partners to review this section of text, check their understanding with each other, reread what they need to clarify, and add notes to their graphic organizers.

   Use **Random Reporter** to debrief. Add student responses to the graphic organizer.

   A sample graphic organizer follows.

Sample Graphic Organizer

Central Question: How does trash move in the oceans?	
Topic/Main idea	**Details**
Ben Franklin studied ocean currents	• He was deputy postmaster general & wanted to make sure mail traveled as quickly as possible. • Talked to sea captains about the fastest way to get across the Atlantic. • From his work, he identified a major current, the Gulf Stream, which flows from America across Atlantic to Europe. • Published his map in 1769—1 of first to show that ocean movement can affect human activities like shipping.



Teamwork tp

(20 minutes)

Partner Prep

Cue students to use their student routines for partner reading, word power, fluency, and the TIGRRS process.

1. Explain, or review if necessary, the student routines for partner reading, word power, fluency, and the TIGRRS process before having students read and restate: sr

   pages 2 (paragraph 2)–4 aloud with partners.

2. Circulate and check for comprehension, evidence of strategy use, and use of the TIGRRS process, for example, restating ideas on the graphic organizer. Give students feedback. Prompt and reinforce their discussions.

3. If some partners finish ahead of their teammates, have them begin looking over the Team Talk questions.

Team Discussion

Cue students to use their student routines for strategy use and Team Talk discussion.

1. Explain, or review if necessary, how to use role cards and the student routines for strategy use and Team Talk discussion. sr

2. Remind students to use the rubrics on their team folders to prepare each team member to discuss the team's strategy use, oral and written Team Talk responses, word power, and fluency. Each team member must be able to summarize the text and discuss the team's graphic organizer/notes during Class Discussion as indicated.

3. Preview the Team Talk questions. If necessary, ask questions to guide students' reflection as they determine the meaning of the "(Write)" question.

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Team Talk Questions

1. What was Franklin's purpose in putting arrows in the Gulf Stream on his map opposite page 1? **[AP]** (Team Talk rubric)

   *100 = Franklin used arrows in the Gulf Stream to show the direction the water moves. The Gulf Stream moves from west to east. Having the arrows makes the map easier to understand. Authors use **symbols** and text to make sure people can understand the point they are trying to make.*

   90 = Franklin used arrows in the Gulf Stream to show the direction the water moves. The Gulf Stream moves from west to east. Having the arrows makes the map easier to understand.

   80 = To show the direction the water moves.

2. Ireland, Scotland, and Northern England are about as far north as the Hudson Bay in Canada. The Hudson Bay freezes during the winter, and polar bears can be found in the area. Why don't Ireland, Scotland, and Northern England have the same kind of winter that the Hudson Bay does? **[MI]** (Team Talk rubric)

   *100 = The Gulf Stream keeps this part of Europe warmer. The Gulf Stream takes warm water from the southern U.S. across the Atlantic to the area near Ireland, Scotland, and Northern England. This warm water keeps the climate warmer in these areas, so there is not the ice, snow, and polar bears that exist in the Hudson Bay. The Gulf Stream has a big **impact** on human activities, such as shipping, and creates a milder climate in Ireland, Scotland, and Northern England.*

   90 = The Gulf Stream keeps this part of Europe warmer. The Gulf Stream takes warm water from the southern U.S. across the Atlantic to the area near Ireland, Scotland, and Northern England.

   80 = The Gulf Stream keeps this part of Europe warmer.

3. What do you think the author's opinion about Curt Ebbesmeyer is? Explain how you know. **[AP]** (Team Talk rubric)

   (Answers may vary.)

   *100 = I think the author's opinion about Curt Ebbesmeyer is that his work is important, but his approach is unusual. The author says that his work is unusual in that he studies flotsam and jetsam like sneakers and rubber ducks. It is also unusual that he has mostly regular people as his "assistants." **Therefore**, I think the author is **inferring** that he has an interesting way to study ocean currents.*

   90 = I think the author's opinion about Curt Ebbesmeyer is that his work is important, but his approach is unusual. The author says that he studies flotsam and jetsam like sneakers and rubber ducks. It is also unusual that he has mostly regular people as his "assistants."

   80 = I think the author's opinion about Curt Ebbesmeyer is that his work is important, but his approach is unusual.

continued

Team Talk Questions *continued*

4. How do you think Curt Ebbesmeyer's work relates to the author's central question in this book? **(Write) [AP]** (Team Talk rubric)

   100 = *Curt Ebbesmeyer's work relates to the central question of how trash moves in the oceans because he is tracking toys and sneakers that are moved by ocean currents. Ebbesmeyer is an* ***oceanographer*** *and expert on* ***flotsam*** *and* ***jetsam****, which is floating trash. Through his work, he hopes to learn more about how currents move trash.*

   90 = *Curt Ebbesmeyer's work relates to the central question of how trash moves in the oceans because he is tracking toys and sneakers that are moved by ocean currents. Ebbesmeyer is an expert on floating trash.*

   80 = *Curt Ebbesmeyer's work relates to the central question of how trash moves in the oceans because he is tracking toys and sneakers that are moved by ocean currents.*

4. Have students thoroughly discuss Team Talk questions before they write individual answers to the skill question marked "(Write)." Allow students to revise their written answers after further discussion if necessary.

Cue students to discuss strategy use, graphic organizers, and word power journals.

5. Prompt teams to discuss comprehension problems and strategy use (their sticky notes), important ideas that they added to their graphic organizers, and words that a team member added to the word power journal.
6. Circulate and give feedback to teams and students. Use rubrics to give specific feedback. Ask questions to encourage further discussion. Record individual scores on the teacher cycle record form.
7. If some teams finish ahead of others, have them practice their fluency.
8. Award team celebration points for good team discussions that demonstrate 100-point responses.

Class Discussion tp

(18 minutes)

Randomly **select team representatives who will share:**

- strategy use
- oral and written Team Talk responses
- word power discussions
- fluency selection

Lightning Round

1. Use **Random Reporter** to have teams share strategy use, oral and written Team Talk responses, word power discussions, and fluency. Ask other teams to agree, disagree, or add on to responses.
2. Use rubrics to evaluate responses and give specific feedback. Award team celebration points for 100-point responses. Record individual scores on the teacher cycle record form.

Show the video.

3. Show the video "Fluency."

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Celebrate

Celebrate team successes!

1. Tally the team scores on the poster, and celebrate teams that are accumulating points. Have teams reflect on the following questions:

   How many points did your team earn today?

   How can your team earn more points?

   Remind students that top-scoring teams will earn bonus points that will be added to their cycle scores.

   The top team chooses a cheer.

   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

Remind students of the Read and Respond homework assignment.

2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

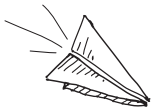
Lesson 2

Reading Objective: Analyze the author's purpose, and define the central question that the author seeks to address.

Teacher Background

Today's reading discusses how Dr. Curt Ebbesmeyer started studying floating sneakers. It follows his work from an initial question from his mother through the process of using the sneaker data to study Pacific Ocean currents.

Part of today's reading is an explanation of longitude and latitude. This grid is like a graph, with latitude similar to the x axis on a graph and longitude similar to the y axis. If you have GPS or a smartphone, check to see how you can access longitude and latitude coordinates. You may also check www.earthgoogle.com. Prior to modern times, ship captains used special equipment and calculations to chart their latitude and longitude. Today, ships use satellite GPS to identify their locations.



Active Instruction tp

(25 minutes)

Students use the vocabulary study routine to rate their knowledge of each vocabulary word:

+ I know this word and can use it.

✓ This word looks familiar; it has something to do with…

? I don't know this word; it's totally new to me.

Partner Vocabulary Study

1. Display the vocabulary words. Have students use the vocabulary study routine as they copy the words in their word power journals and rate their knowledge of each as they arrive for class.
2. Spot check the Read and Respond homework.

Teams discuss their vocabulary ratings.

Vocabulary

1. Have teams discuss their ratings of the words. Ask teams to make a tent with their hands when they are ready to tell a word the entire team rated with a "+" and a word the entire team rated with a "?".
2. Use **Random Reporter** to have the teams share one word that they know and one word that they need to study further. Award team celebration points.

Introduce vocabulary.

3. Introduce the vocabulary for this cycle. Read each word aloud, and model chunking as needed. Then read the meaning of each word.

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Word	Pronunciation	Definition	Sample Sentence
depleted (verb) page 2	de-plet-ed (deh-PLEE-ted)	reduced, decreased	The long drought *depleted* the moisture in the soil, and the plants died.
disintegration (noun) page 4	dis-in-te-gra-tion (dis-in-tuh-GRAY-shun)	breakdown	Because of the *disintegration* of the wooden pillars, the porch roof fell down.
verified (adjective) page 5	ver-i-fied (VER-ih-fied)	proven	When we showed the park ranger the hoof prints, she told us there had been two *verified* sightings of moose in the area.
intact (adjective) page 6	in-tact (in-TAKT)	undamaged	I dropped the glass on the floor, but luckily it remained *intact*.
variability (noun) page 17	var-i-a-bil-i-ty (var-ee-ah-BIL-i-ty)	changeability	The *variability* in rainfall lately has made it difficult to know when to plan a picnic in the park.
consequences (noun) page 17	con-se-quenc-es (KON-seh-kwenc-es)	results, outcomes	The *consequences* of Matt not studying for his test were that he did not get a good score and had extra homework to do.
derived (verb) page 17	de-rived (deh-RYEVD)	got, obtained	Even though Jan was sad, she *derived* some peace when she was in her flower garden.
crucial (adjective) page 18	cru-cial (CREW-shul)	extremely important	Getting enough sleep is *crucial* to your health.

4. Use **Random Reporter** to have teams share a new sentence that uses one of their vocabulary words. Award team celebration points.

Review Vocabulary Vault.

5. Remind teams that if they find a word from the vocabulary list used in another place, such as in a magazine, textbook, TV ad, etc., they can bring in or copy the sentence in which the word was used and put it in the Vocabulary Vault to earn team points.

Set the Stage

Teams review their cycle goal.

1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

Post and present the reading objective.

3. Remind students of the text, author, and reading objective.

Refer students to page 5 in the text.

4. Refer students to today's reading, pages 5–9 in *Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion.*

Build background about tracking trash in the oceans.

Review the problem that Dr. Curtis Ebbesmeyer is working on. Have teams suggest things that Curt would need to know to find out about the sneakers. Use **Random Reporter** to debrief.

(Answers will vary.) You need to figure out where the sneakers come from. You need to be able to find a specific location in the ocean without landmarks. You need to know about how the ocean moves, such as waves.

Refer students to page 9 in the book. Remind students that science has a specific vocabulary and often uses symbols. Read the caption on page 9 aloud. Point out that 48° N and 161° W are symbols used for the longitude and latitude grid system. Tell students to look carefully for specific words and symbols as they read the book.

Have students indicate by a show of hands if they have ever been to an ocean beach. Ask volunteers to describe what they saw on the beach and if they walked along the beach and collected shells or other things.

Interactive Read Aloud

Review the skill as necessary.

1. Refer students to the reading objective. Remind students that authors often have a major focus or ask a central question that is the big point of a book. Asking why an author includes certain information in a text helps to keep focus on the big point or central question. It helps a reader decide how the information relates to the central question.

Teacher: Read aloud and think aloud to model target skill or strategy use within the TIGRRS process.

Students: Actively listen.

2. Read page 5 (paragraph 1) aloud. A sample Think Aloud follows.

Sample Think Aloud
This first paragraph talks about the work that Curt usually does. I think the author's purpose in including this information is to let me know that the floating sneakers study was not part of his usual work, although his usual work does relate to the central question.

Teacher: Restate important ideas in the text, and add notes to the graphic organizer.

3. Use **Think-Pair-Share** to ask:

How does the information about Curt's usual work relate to the central question of how trash moves in the oceans?

Curt's usual work is tracking how sewage and oil slicks move in ocean currents. This is related to the central question because sewage and oil spills are man-made, like trash. Curt studies how they move in oceans.

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Partner pairs: Read aloud/think aloud with the next passage to practice the skill/strategy.

4. Partner Practice: Student partner pairs use the read-aloud/think-aloud process to practice the skill or strategy with the next passage in the text. Have students read page 5 (paragraph 2) and identify the author's purpose in including the information and how it relates to the central question.

   The author includes the information about Curt's mother to show that scientific questions can come from anywhere. It relates to the central question because the sneakers are trash in the ocean, and they end up on the beaches near Seattle. How did they get there?

   Use **Random Reporter** to debrief.

Partner pairs: Review, reread to clarify, and add to the graphic organizer.

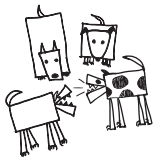
5. Ask partners to review this section of text, check their understanding with each other, reread what they need to clarify, and add notes to their graphic organizers.

   Use **Random Reporter** to debrief. Add student responses to the graphic organizer.

   A sample graphic organizer follows.

Sample Graphic Organizer

Central Question: How does trash move in the oceans?	
Topic/Main idea	**Details**
Curt's usual research	• find the best place for an outflow pipe • how to track an oil slick
Curt's mom's question	• hundreds of sneakers were washing up on beaches • Where did they come from? • thought her son who knew about currents could find out



Teamwork tp

(20 minutes)

Partner Prep

Cue students to use their student routines for partner reading, word power, fluency, and the TIGRRS process.

1. Explain, or review if necessary, the student routines for partner reading, word power, fluency, and the TIGRRS process before having students read and restate: sr

   pages 5 (paragraph 3)–9 aloud with partners.

2. Circulate and check for comprehension, evidence of strategy use, and use of the TIGRRS process, for example, restating ideas on the graphic organizer. Give students feedback. Prompt and reinforce their discussions.

3. If some partners finish ahead of their teammates, have them begin looking over the Team Talk questions.

Cue students to use their student routines for strategy use and Team Talk discussion.

Team Discussion

1. Explain, or review if necessary, how to use role cards and the student routines for strategy use and Team Talk discussion. SR
2. Remind students to use the rubrics on their team folders to prepare each team member to discuss the team's strategy use, oral and written Team Talk responses, word power, and fluency. Each team member must be able to summarize the text and discuss the team's graphic organizer/notes during Class Discussion as indicated.
3. Preview the Team Talk questions. If necessary, ask questions to guide students' reflection as they determine the meaning of the "(Write)" question.

Team Talk Questions

1. What is the author's purpose in using the pictures on page 6? **[AP]** (Team Talk rubric)

   100 = *The author uses the pictures to **illustrate** how big shipping containers are and how they are carried on ships. Containers are very large and can carry a lot of cargo. Ships can carry hundreds of containers, often piled high on top of the decks. Pictures help the reader understand the text.*

   90 = *The author uses the pictures to show how big shipping containers are and how they are carried on ships. Containers are very large and can carry a lot of cargo. Ships can carry hundreds of containers, often piled high on top of the decks.*

   80 = *To show how big shipping containers are and how they are carried on ships.*

2. What is Curt's main question? What did he do to start finding an answer? **[RE]** (Team Talk rubric)

   100 = *Curt wanted to answer his mother's question about how the sneakers came to wash up on the beach. He collected more **data**, noticed a pattern, and thought through the evidence. He talked to beachcombers and noticed that all the sneakers were the same brand. He called the company that makes the sneakers and found out about the spill. **Eventually**, he saw an opportunity to study ocean currents, since the sneakers were carried from the site of the spill to the beaches.*

   90 = *Curt wanted to answer his mother's question about how the sneakers came to wash up on the beach. He collected more information, noticed a pattern, and thought through the evidence. He talked to beachcombers and noticed that all the sneakers were the same brand. He called the company that makes the sneakers and found out about the spill.*

   80 = *He wanted to answer his mother's question He collected more information, noticed a pattern, and thought through the evidence.*

continued

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Team Talk Questions *continued*

3. How did Curt get a lot of his information about where the sneakers were washing ashore? Why do you think the author includes this in the book? How does it relate to the author's main question? **(Write) [AP, RE]** (Team Talk rubric)

   *100 = The author uses the story about the beachcombers to **illustrate** how information from non-scientists can be important. Curt knew he couldn't go to every beach himself every day, but that many beachcombers do walk the beaches every day. They can identify and collect the sneakers for Curt. I think the author uses this story as an example of how scientific questions are everywhere and can be asked by anyone—you just have to be curious. Because beachcombers regularly walk the beaches, their observations became important to Curt.*

   90 = The author uses the story about the beachcombers to show how information from non-scientists can be important. Curt knew he couldn't go to every beach himself every day, but that many beachcombers do walk the beaches every day. They can identify and collect the sneakers for Curt.

   80 = She uses the story about the beachcombers to show how information from non-scientists can be important.

4. What country contains the point at 60°N and 135°W? Explain how you figured it out. **[RE]** (Team Talk rubric)

   *100 = This point is located in Canada. I found the 60°N latitude and followed it to the 135°W longitude. The point where these two lines intersect is in Canada. Using the latitude and longitude **grid**, you can find any point on the globe.*

   90 = This point is located in Canada. I found the 60°N latitude and followed it to the 135°W longitude. The point where these two lines intersect is in Canada.

   80 = Canada.

5. The vocabulary word *depleted* comes from the Latin root *ple-* or *plen-,* meaning fill or full. What do you think the word *plentiful* means? **[CV]**

   Plentiful *means having a lot of something, being full of something.*

4. Have students thoroughly discuss Team Talk questions before they write individual answers to the skill question marked "(Write)." Allow students to revise their answers after further discussion if necessary.

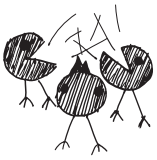
Cue students to discuss strategy use, graphic organizers, and word power journals.

5. Prompt teams to discuss comprehension problems and strategy use (their sticky notes), important ideas that they added to their graphic organizers, and words that a team member added to the word power journal.

6. Circulate and give feedback to teams and students. Use rubrics to give specific feedback. Ask questions to encourage further discussion. Record individual scores on the teacher cycle record form.

7. If some teams finish ahead of others, have them practice their fluency.

8. Award team celebration points for good team discussions that demonstrate 100-point responses.



Class Discussion tp

(15 minutes)

***Randomly* select team representatives who will share:**

- strategy use
- oral and written Team Talk responses
- word power discussions
- fluency selection

Lightning Round

1. Use **Random Reporter** to have teams share strategy use, oral and written Team Talk responses, word power discussions, and fluency. Ask other teams to agree, disagree, or add on to responses.
2. Use rubrics to evaluate responses and give specific feedback. Award team celebration points for 100-point responses. Record individual scores on the teacher cycle record form.

Show the video.

3. Show the video "Team Talk Response."

Celebrate

Celebrate team successes!

1. Tally the team scores on the poster, and celebrate teams that are accumulating points. Have teams reflect on the following questions:

   How many points did your team earn today?

   How can your team earn more points?

   Remind students that top-scoring teams will earn bonus points that will be added to their cycle scores.

   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

The top team chooses a cheer.

Remind students of the Read and Respond homework assignment.

2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

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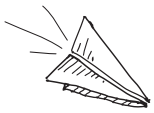
Word	Pronunciation	Definition	Sample Sentence
depleted (verb) page 2	de-plet-ed (deh-PLEE-ted)	reduced, decreased	The long drought *depleted* the moisture in the soil, and the plants died.
disintegration (noun) page 4	dis-in-te-gra-tion (dis-in-tuh-GRAY-shun)	breakdown	Because of the *disintegration* of the wooden pillars, the porch roof fell down.
verified (adjective) page 5	ver-i-fied (VER-ih-fied)	proven	When we showed the park ranger the hoof prints, she told us there had been two *verified* sightings of moose in the area.
intact (adjective) page 6	in-tact (in-TAKT)	undamaged	I dropped the glass on the floor, but luckily it remained *intact*.
variability (noun) page 17	var-i-a-bil-i-ty (var-ee-ah-BIL-i-ty)	changeability	The *variability* in rainfall lately has made it difficult to know when to plan a picnic in the park.
consequences (noun) page 17	con-se-quenc-es (KON-seh-kwenc-es)	results, outcomes	The *consequences* of Matt not studying for his test were that he did not get a good score and had extra homework to do.
derived (verb) page 17	de-rived (deh-RYEVD)	got, obtained	Even though Jan was sad, she *derived* some peace when she was in her flower garden.
crucial (adjective) page 18	cru-cial (CREW-shul)	extremely important	Getting enough sleep is c*rucial* to your health.

Lesson 3

Reading Objective: Analyze the author's purpose, and define the central question that the author seeks to address.

Teacher Background

Today's reading describes how ocean movements have been studied throughout history. Students also will read about the computer model of ocean currents, OSCURS, and how the sneaker data confirmed the model.



Active Instruction tp

(25 minutes)

Students use the vocabulary study routine to rate their knowledge of each vocabulary word:

+ I know this word and can use it.
✓ This word looks familiar; it has something to do with…
? I don't know this word; it's totally new to me.

Partner Vocabulary Study

1. Display the vocabulary words. Have students use the vocabulary study routine as they rerate their knowledge of each vocabulary word as they arrive for class.
2. Spot check the Read and Respond homework.

Vocabulary

Teams discuss their vocabulary ratings.

1. Have teams discuss their ratings of the words. Ask teams to make a tent with their hands when they are ready to tell a word the entire team rated with a "+" and a word the entire team rated with a "?."
2. Use **Random Reporter** to have the teams share one word that they know and one word that they need to study further. Use **Random Reporter** to have teams report on a new sentence using a vocabulary word. Award team celebration points.

Model exploring a word in the word power journal.

3. Choose an important word from the text or class discussion, and model how to explore it in a word power journal entry. A sample Think Aloud and word map follow.

Sample Think Aloud

The word *oceanographer* is an important word. The book gives its definition: a scientist who studies the ocean. (Model looking up the word for its roots.) *Oceanographer* contains the Greek root *graph*, which means to write, draw, or describe. So an oceanographer writes about and describes the oceans. I've seen this root in other words, such as *biography*—writing about someone's life, *geography*—describing Earth, and *photography*—taking photos. What other words use this root?

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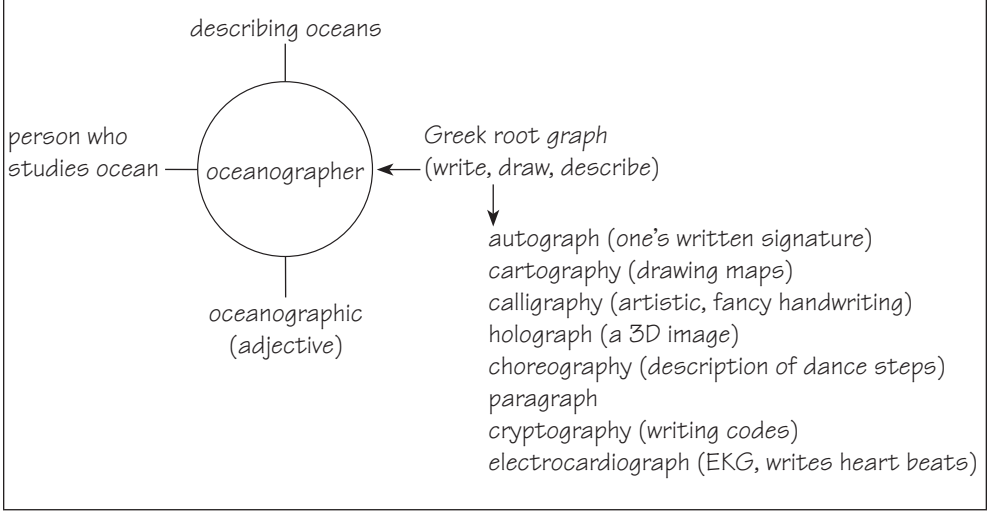
Sample Word Map



Review Vocabulary Vault.

4. Remind teams that if they find a word from the vocabulary list used in another place, such as in a magazine, textbook, TV ad, etc., they can bring in or copy the sentence in which the word was used and put it in the Vocabulary Vault to earn team points.

Set the Stage

Teams review their cycle goal.

1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

Post and present the reading objective.

3. Remind students of the text, author, and reading objective.

Refer students to pages 11–15 in the text.

4. Refer students to today's reading, pages 11–15 in *Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion*.

Build background on NOAA.

Refer students to page 14 in their books. Explain that the National Oceanic and Atmospheric Administration (NOAA) is a federal agency and is part of the Commerce Department. Point out that this agency studies the oceans, climate, and weather. Tell students that the website is www.noaa.gov, and suggest that students log on to the website to find interesting and useful information.

5. Introduce the video "Adopt a Drifter" from NOAA. Explain that the agency has a program to get students involved in tracking ocean currents.

Show the video. Use **Think-Pair-Share** to debrief.

What data does a drifter collect?

Temperature of water and exact location of the drifter. Other sensors may be added.

Teacher: Read aloud.
Students: Practice the skill or strategy.

Interactive Read Aloud

1. Read page 11 aloud. Use **Think-Pair-Share** to prompt use of the skill or strategy.

   Why do you think the author includes this information in the book? Does it relate to the central question? How?

   The author includes this to give a historical background. It creates a context for the central question. People have been studying floating things for a long time. So it is really not so unusual for Curt to study the floating sneakers.

Partner pairs: Read aloud/think aloud with the next passage to practice the skill/strategy.

2. Partner Practice: Student partner pairs use the read-aloud/think-aloud process to practice the skill or strategy with the next passage in the text. Have students read page 12 (paragraph 1) and identify the author's purpose.

   This paragraph explains the limitations of the early drift experiments. It sets up the expectation that there must be better ways to do these experiments. It relates directly to the central question.

   Use **Random Reporter** to debrief.

Partner pairs: Review, reread to clarify, and add to the graphic organizer.

3. Ask partners to review this section of text, check their understanding with each other, reread what they need to clarify, and add notes to their graphic organizers.

   Use **Random Reporter** to debrief. Add student responses to the graphic organizer.

Sample Graphic Organizer

Central Question: How does trash move in the oceans?	
Topic/Main idea	**Details**
Drift bottles	• sealed glass bottles with letters inside asking finders to return it to scientist, giving the location of the find • somewhat helpful, but most bottles not returned so information was limited

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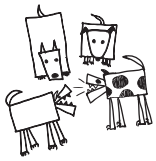

Teamwork tp

(20 minutes)

Partner Prep

Cue students to use their student routines for partner reading, word power, fluency, and the TIGRRS process.

1. Explain, or review if necessary, the student routines for partner reading, word power, fluency, and the TIGRRS process before having students read and restate: sr

   pages 12 (paragraph 2)–15 aloud with partners.

2. Circulate and check for comprehension, evidence of strategy use, and use of the TIGRRS process, for example, restating ideas on the graphic organizer. Give students feedback. Prompt and reinforce their discussions.

3. If some partners finish ahead of their teammates, have them begin looking over the Team Talk questions.

Team Discussion

Cue students to use their student routines for strategy use and Team Talk discussion.

1. Explain, or review if necessary, how to use role cards and the student routines for strategy use and Team Talk discussion. sr

2. Remind students to use the rubrics on their team folders to prepare each team member to discuss the team's strategy use, oral and written Team Talk responses, word power, and fluency. Each team member must be able to summarize the text and discuss the team's graphic organizer/notes during Class Discussion as indicated.

3. Preview the Team Talk questions. If necessary, ask questions to guide students' reflection as they determine the meaning of the "(Write)" question.

Team Talk Questions

1. Why does the author say that satellite-tracked drift experiments were "huge advancements"? Explain the drawbacks of these experiments. **[AP, RE]** (Team Talk rubric)

   100 = *The satellite-tracked drift experiments were huge advancements over drift bottles because the experiments yielded more* ***data*** *in a shorter period of time. By tracking with satellites, scientists know where the floats were every day. The main problem with these experiments is that they are very expensive to run, and often the scientists could only use a small number of floats. Advances in technology made it easier to study ocean currents.*

   90 = *The satellite-tracked drift experiments were huge advancements over drift bottles because the experiments yielded more information in a shorter period of time. By tracking with satellites, scientists know where the floats were every day. The main problem with these experiments is that they are very expensive to run, and often the scientists could only use a small number of floats.*

   80 = *The experiments were huge advancements over drift bottles because they gave more information in a shorter period of time.*

continued

Team Talk Questions *continued*

2. Why did Curt think the sneakers might be important? Explain how the sneakers impact the study of ocean currents. **[RE]** (Team Talk rubric)

   100 = Curt thought that the sneakers might be important because there were thousands of them, and they are free. Because so many sneakers wash up on the beaches, it gives a large amount of ***data****. The sneaker experiment demonstrates that some science can still be done without a lot of expensive technology.*

   90 = Curt thought that the sneakers might be important because there were thousands of them, and they are free. When the sneakers wash up on the beaches, it gives a large amount of information.

   80 = There were thousands of them, and they are free.

3. What is the importance of the sneakers to the OSCURS program? **[RE]** (Team Talk rubric)

   100 = Using the sneaker data, Curt and Jim can check OSCURS ***predictions****. The* ***data*** *will test how* ***accurate*** *the program is at predicting ocean currents. The sneaker experiment connects the predictions of the OSCURS program to real events.*

   90 = Using the sneaker data, Curt and Jim can check OSCURS. The information will test how good the program is at predicting ocean currents.

   80 = They can check OSCURS.

4. Why does the author include the work between Curt and Jim? Explain how this information relates to the author's central question in the book. **(Write) [AP, RE]** (Team Talk rubric)

   100 = The author includes the work between Curt and Jim to tell more about how the sneakers were carried on the current and to show that Jim's computer model, OSCURS, ***accurately predicted*** *how the sneakers would float. This information is important to the author's central question because to study something like ocean currents and trash, it is helpful if scientists talk to each other because they can get a lot more information when they do.*

   90 = The author includes the work between Curt and Jim to tell more about how the sneakers were carried on the current and to show that Jim's computer model, OSCURS, told how the sneakers would float.

   80 = The author includes it to tell more about how the sneakers were carried on the current.

5. Choose a word from the vocabulary list, and write a meaningful sentence using the word correctly. **[CV]**

   Accept a sentence that shows that the student knows the meaning of the word and can use it correctly. For example: The disintegration *of the good weather meant we had to stop playing softball and go inside.*

4. Have students thoroughly discuss Team Talk questions before they write individual answers to the skill question marked "(Write)." Allow students to revise their written answers after further discussion if necessary.

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Cue students to discuss strategy use, graphic organizers, and word power journals.

5. Prompt teams to discuss comprehension problems and strategy use (their sticky notes), important ideas that they added to their graphic organizers, and words that a team member added to the word power journal.
6. Circulate and give feedback to teams and students. Use rubrics to give specific feedback. Ask questions to encourage further discussion. Record individual scores on the teacher cycle record form.
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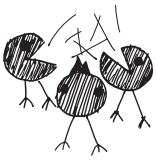


Class Discussion tp

(15 minutes)

***Randomly* select team representatives who will share:**

- strategy use
- oral and written Team Talk responses
- word power discussions
- fluency selection

Lightning Round

1. Use **Random Reporter** to have teams share strategy use, oral and written Team Talk responses, word power discussions, and fluency. Ask other teams to agree, disagree, or add on to responses.
2. Use rubrics to evaluate responses and give specific feedback. Award team celebration points for 100-point responses. Record individual scores on the teacher cycle record form.

Celebrate

Celebrate team successes!

1. Tally the team scores on the poster, and celebrate teams that are accumulating points. Have teams reflect on the following questions:

   How many points did your team earn today?

   How can your team earn more points?

   Remind students that top-scoring teams will earn bonus points that will be added to their cycle scores.

   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

The top team chooses a cheer.

Remind students of the Read and Respond homework assignment.

2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

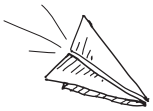
Lesson 4

Reading Objective: Analyze the author's purpose, and define the central question that the author seeks to address.

Teacher Background

Today's reading discusses the significance of the sneaker data to OSCURS and the discovery that ocean currents vary over time and do not always move in exactly the same way. Today's reading also provides background on waves, tides, currents, and gyres—types of ocean motions.

(Optional) To demonstrate the movement of energy through a wave, show the video: www.pbslearningmedia.org/content/ess05.sci.ess.watcyc.wavemotion (5 sec.).



Active Instruction tp

(25 minutes)

Students use the vocabulary study routine to rate their knowledge of each vocabulary word:

+ I know this word and can use it.
✓ This word looks familiar; it has something to do with…
? I don't know this word; it's totally new to me.

Partner Vocabulary Study

1. Display the vocabulary words. Have students use the vocabulary study routine as they rerate their knowledge of each vocabulary word as they arrive for class.
2. Spot check the Read and Respond homework.

Teams discuss their vocabulary ratings.

Vocabulary

1. Have teams discuss their ratings of the words. Ask teams to make a tent with their hands when they are ready to tell a word the entire team rated with a "+" and a word the entire team rated with a "?."
2. Use **Random Reporter** to have the teams share one word that they know and one word that they need to study further. Use **Random Reporter** to have teams report on a new sentence using a vocabulary word. Award team celebration points.

Review Vocabulary Vault.

3. Remind teams that if they find a word from the vocabulary list used in another place, such as in a magazine, textbook, TV ad, etc., they can bring in or copy the sentence in which the word was used and put it in the Vocabulary Vault to earn team points.

Set the Stage

Teams review their cycle goal.

1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

Post and present the reading objective.

3. Remind students of the text, author, and reading objective.

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Interactive Read Aloud

Refer students to page 18 in the text.

Teacher: Read aloud.

Students: Practice the skill or strategy.

1. Read the title and paragraph 1 on page 18 aloud. Use **Think-Pair-Share** to prompt use of the skill or strategy.

   Why do you think the author includes this section? How does it relate to the central question?

   The author includes this to give the reader background information on movements in the ocean. It relates directly to the central question because you have to understand movements in the ocean to understand how floating trash will be moved.

Partner pairs: Read aloud/think aloud with the next passage to practice the skill/strategy.

2. Partner Practice: Student partner pairs use the read-aloud/think-aloud process to practice the skill or strategy with the next passage in the text. Have students read page 16 (paragraph 1) and explain why the author includes information about OSCURS in the book.

   The author includes information about OSCURS because it is another source of information on drifting objects. When several sources are in agreement, it makes the information stronger.

   Use **Random Reporter** to debrief.

Partner pairs: Review, reread to clarify, and add to the graphic organizer.

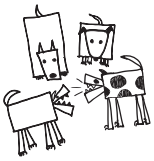
3. Ask partners to review this section of text, check their understanding with each other, reread what they need to clarify, and add notes to their graphic organizers.

   Use **Random Reporter** to debrief. Add student responses to the graphic organizer.

   A sample graphic organizer follows.

Sample Graphic Organizer

Central Question: How does trash move in the oceans?	
Topic/Main idea	**Details**
waves & tides	• are easy to see at the shore • they move up & down the shore & can wash away things like sandcastles



Teamwork tp

(20 minutes)

Partner Prep

Cue students to use their student routines for partner reading, word power, fluency, and the TIGRRS process.

1. Explain, or review if necessary, the student routines for partner reading, word power, fluency, and the TIGRRS process before having students read and restate: sr

   pages 16–18 aloud with partners.

2. Circulate and check for comprehension, evidence of strategy use, and use of the TIGRRS process, for example, restating ideas on the graphic organizer. Give students feedback. Prompt and reinforce their discussions.

3. If some partners finish ahead of their teammates, have them begin looking over the Team Talk questions.

Team Discussion

Cue students to use their student routines for strategy use and Team Talk discussion.

1. Explain, or review if necessary, how to use role cards and the student routines for strategy use and Team Talk discussion. sr

2. Remind students to use the rubrics on their team folders to prepare each team member to discuss the team's strategy use, oral and written Team Talk responses, word power, and fluency. Each team member must be able to summarize the text and discuss the team's graphic organizer/notes during Class Discussion as indicated.

3. Preview the Team Talk questions. If necessary, ask questions to guide students' reflection as they determine the meaning of the "(Write)" question.

Team Talk Questions
1. What section of text did you choose to reread, and why? What new connection did you make by rereading and reviewing your notes? *I chose to reread the section on gyres on pages 18 and 19 because I wanted to clarify the differences between gyres. As I looked at the current map, I noticed that the gyres north of the equator move in one direction and the gyres south of the equator move in the opposite direction.*
2. Write a summary of the section of text you reread. **(Write) [MI]** (summary rubric) *100 = Gyres are large circular patterns of currents. There are five major gyres: two in the Atlantic, two in the Pacific, and one in the Indian Ocean.* *90 = Gyres are large circular patterns of currents. There are five major gyres.* *80 = Gyres are large circular patterns of currents.*

continued

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Team Talk Questions *continued*

3. Why should scientists know about changes in surface currents? Explain why you think the author includes this information. **(Write) [RE, AP]** (Team Talk rubric)

   *100 = Knowing about the **variability** in surface currents is important because it can explain changes in fish populations and patterns of migration in the oceans. I think this would be important for fishermen too; they need to know where to find the fish. I think the author includes this information to **illustrate** how this kind of scientific work is important and has practical applications. Sometimes scientific studies may seem unimportant, but many turn out to be very important.*

   90 = Knowing about changes in surface currents is important because it can explain changes in fish populations and patterns of migration in the oceans. I think this would be important for fishermen too; they need to know where to find the fish. I think the author includes this information to show how this kind of scientific work is important and has practical applications.

   80 = It can explain changes in fish populations and patterns of migration in the oceans.

4. In the Atlantic and Pacific, the main gyres move either clockwise or counterclockwise. Using the map on page 19, which kind of gyre occurs in the Atlantic between the U.S. and Europe (the North Atlantic)—clockwise or counterclockwise? How did you figure it out? If there was a spill of sneakers off the coast of North Africa, where would the sneakers land (besides Africa)? **[RE]** (Team Talk rubric)

   *100 = The gyre in the North Atlantic moves clockwise. If you follow the arrows, they move around in a circle like the hands on a clock. Sneakers that spilled off the coast of Africa would land in northern South America, the Caribbean islands, and maybe Florida. The oceans have main currents that move water in giant circles, **creating** the gyres.*

   90 = The gyre in the North Atlantic moves clockwise. If you follow the arrows, they move around in a circle like the hands on a clock. Sneakers that spilled off the coast of Africa would land in northern South America.

   80 = The gyre in the North Atlantic moves clockwise. I followed the arrows.

5. What is a synonym for the word *intact*? What is an antonym for the word *intact*? (Reminder: an antonym is a word meaning the opposite.) **[CV]**

   (Accept reasonable responses.) The word intact *means undamaged, so a synonym is the word* unbroken. *An antonym for* intact *is* damaged.

4. Have students thoroughly discuss Team Talk questions before they write individual answers to the skill question marked "(Write)." Allow students to revise their written answers after further discussion if necessary.

Cue students to discuss strategy use, graphic organizers, and word power journals.

5. Prompt teams to discuss comprehension problems and strategy use (their sticky notes), important ideas that they added to their graphic organizers, and words that a team member added to the word power journal.

6. Circulate and give feedback to teams and students. Use rubrics to give specific feedback. Ask questions to encourage further discussion. Record individual scores on the teacher cycle record form.
7. If some teams finish ahead of others, have them practice their fluency.
8. Award team celebration points for good team discussions that demonstrate 100-point responses.

Class Discussion tp

(15 minutes)

***Randomly* select team representatives who will share:**

- strategy use
- oral and written Team Talk responses
- word power discussions
- fluency selection

Lightning Round

1. Use **Random Reporter** to have teams share strategy use, oral and written Team Talk responses, word power discussions, and fluency. Ask other teams to agree, disagree, or add on to responses.
2. Use rubrics to evaluate responses and give specific feedback. Award team celebration points for 100-point responses. Record individual scores on the teacher cycle record form.

Celebrate

Celebrate team successes!

1. Tally the team scores on the poster, and celebrate teams that are accumulating points. Have teams reflect on the following questions:

   How many points did your team earn today?

   How can your team earn more points?

   Remind students that top-scoring teams will earn bonus points that will be added to their cycle scores.

   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

The top team chooses a cheer.

Remind students of the Read and Respond homework assignment.

2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

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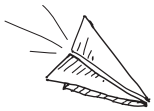
Lesson 5

Writing Objective: Clearly state a position and include good reasons that support that position.

Teacher Background

Supporting claims with good reasons is an important writing skill; students will be required to clearly state claims and support them with good reasons in high school and college. Today's writing activity gives students practice in this skill. Suggest that students use information in the book to help them write their arguments.



Active Instruction tp

(10 minutes)

Students use the vocabulary study routine to rate their knowledge of each vocabulary word:

+ I know this word and can use it.
✓ This word looks familiar; it has something to do with…
? I don't know this word; it's totally new to me.

Partner Vocabulary Study

1. Display the vocabulary words. Have students use the vocabulary study routine as they rerate their knowledge of each vocabulary word as they arrive for class.
2. Spot check the Read and Respond homework.

Vocabulary

Teams discuss their vocabulary ratings.

1. Have teams discuss their ratings of the words. Ask teams to make a tent with their hands when they are ready to tell a word the entire team rated with a "+" and a word the entire team rated with a "?."
2. Use **Random Reporter** to have the teams share one word that they know and one word that they need to study further. Award team celebration points.
3. Use **Random Reporter** to have teams share a new sentence that uses one of their vocabulary words. Award team celebration points.

Review Vocabulary Vault.

4. Remind teams that if they find a word from the vocabulary list used in another place, such as in a magazine, textbook, TV ad, etc., they can bring in or copy the sentence in which the word was used and put it in the Vocabulary Vault to earn team points.

Set the Stage

Teams review their cycle goal.

1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

Post and present the writing objective.

3. Remind students of the text, author, and writing objective.

Introduce the writing project.

4. Explain that today's writing prompt asks students to make a claim and support it. Point out that they have been reading about a claim and its support—movement of drifting objects in the ocean. Tell students that getting people to accept claims often depends on the support for the claims.

5. Refer students to the following writing prompt in their student editions. Read the writing prompt aloud.

Read the prompt aloud.

Writing Prompt
If the amount of shipping around the world increases, what will be the impact on trash in the oceans? Include good reasons that support your position.

tps

Use **Think-Pair-Share** to ask:

Read the prompt. What is it asking you to do: support a claim with reasons, explain ideas or information on a topic, or write a literary response? How do you know?

Students identify the purpose for writing.

The prompt is asking me to support a claim with reasons. I know because the prompt asks my opinion about something and tells me to include good reasons that support it.

6. Refer students to the following writer's guide in their student editions. Point out that the writer's guide for writing to support a claim with reasons is the criteria for writing. Point out that using the writer's guide will help them write a quality response.

Refer students to the appropriate writer's guide in their student editions.

Writing to Support a Claim with Reasons	
Ideas	• Clearly state a position (claim) and include good reasons that support that position.
Organization	• Begin by stating a position (claim). • In the middle, tell supporting reasons. • End with a closing statement.
Style	• Use words and phrases that help the audience see how the reasons are related to the claim.
Mechanics	• Use correct punctuation, capitalization, spelling, and grammar.

Highlight the writing objective.

Briefly review the guide, noting the four aspects of writing: ideas, organization, style, and mechanics.

Use **Think-Pair-Share** to ask:

Which guidelines relate to our writing objective: clearly state a position and include good reasons that support that position?

The guidelines for Ideas and Organization relate to the writing objective.

7. Tell students that this 10-minute writing project is practice to prepare them to write a quality answer for the writing section (part II) of the cycle test. Remind them that this section of the test is worth one third of their test score.

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Model a Skill

1. Display the following blackline master, and review it with students. Note the claim and the list of reasons.

Blackline master provided.

Claim: Banning soft drink machines in schools will result in weight loss among the students.

Reasons:

- Most soft drinks are full of sugar.
- Consuming excess calories (excess sugar) causes students to gain weight.
- Banning soft drink machines will decrease the amount of money the school will have.
- Banning soda machines will reduce students' access to high-calorie drinks.
- Students should lose weight if they take in fewer calories.

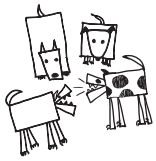
tps

2. Have students evaluate each of the reasons for its connection to the claim. Use **Think-Pair-Share** to ask:

   Do all of these reasons support the claim?

   No, the third reason is unrelated to the claim and should not be included in the writing.

   Point out that in a carefully written argument (claim and support), all the supportive reasons should be clearly connected to the claim. Tell students to look for this as they write their arguments.



Teamwork tp

(20 minutes)

Independent Work

Students write for 10 minutes.

Tell students that they have 10 minutes to plan and write drafts of their responses to the writing prompt. Remind them to write on every other line to leave room for revisions. Suggest that they refer to the writing prompt to be sure that they include all the required elements and to the writer's guide to check the quality of their response.

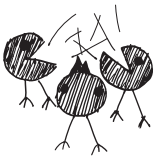
Team Discussion

Monitor discussions as partners and teams give feedback.

Students revise and edit their writing projects.

1. Refer students to the peer feedback checklist in their student editions, and review how to get/give feedback.
2. Have students share their drafts in teams. Allow 5 minutes for students to revise their writing projects based on feedback and to edit them using the editing checklist in their student editions.

3. Have teams put their writing projects in a pile in the middle of their tables so a writing project can be randomly selected.



Class Discussion tp

(30 minutes)

Lightning Round

Display and evaluate randomly selected writing projects using the writer's guide.

Randomly select a writing project from one or two teams' piles without revealing their authors. Display a writing project, and read it aloud.

Refer students to the writer's guide for writing to support a claim with reasons and the writing objective—clearly state a position and include good reasons that support that position.

Using the writer's guide, discuss and evaluate the selected writing project(s) with the class.

For example, ask:

- **Does the writer introduce the topic clearly?**
- **Does the writer include facts and examples to help a reader understand the information?**
- **Does the writer end with a closing statement that supports the information?**
- **Does the writer support the claim with good reasons?**
- **Does the writer use appropriate academic language and full sentences?**

Award points to teams whose writing projects meet the criteria. Record these points on the team poster.

Reflection on Writing

Have students reflect on their use of the writing process. Ask:

How did creating and using a graphic organizer work for you? How did it help you write your draft?

Answers will vary.

What was the most useful feedback that you received? How did it affect your revisions?

Answers will vary.

Was your partner able to see the clear connections between your claim and support?

Answers will vary.

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Celebrate

Celebrate team successes!

1. Tally the team scores on the poster, and celebrate teams that are accumulating points. Have teams reflect on the following questions:

   How many points did your team earn today?

   How can your team earn more points?

   Remind students that top-scoring teams will earn bonus points that will be added to their cycle scores.

   The top team chooses a cheer.

   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

Remind students of the Read and Respond homework assignment.

2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

Writing Prompt

If the amount of shipping around the world increases, what will be the impact on trash in the oceans? Include good reasons that support your position.

Writing to Support a Claim with Reasons	
Ideas	• Clearly state a position (claim) and include good reasons that support that position.
Organization	• Begin by stating a position (claim). • In the middle, tell supporting reasons. • End with a closing statement.
Style	• Use words and phrases that help the audience see how the reasons are related to the claim.
Mechanics	• Use correct punctuation, capitalization, spelling, and grammar.

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Claim: Banning soft drink machines in schools will result in weight loss among the students.

Reasons:

- Most soft drinks are full of sugar.
- Consuming excess calories (excess sugar) causes students to gain weight.
- Banning soft drink machines will decrease the amount of money the school will have.
- Banning soda machines will reduce students' access to high-calorie drinks.
- Students should lose weight if they take in fewer calories.

Lesson 6

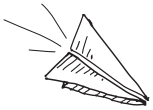
Reading Objective: Analyze the author's purpose, and define the central question that the author seeks to address.

Writing Objective: Clearly state a position and include good reasons that support that position.

Teacher Background

Today's cycle test challenges students to identify the author's purpose in including the topic in the book.

The assessment reading discusses a second accidental drift experiment that Curt and Jim conducted—plastic bathtub toys. In this study, they discover that how an object floats (high in the water or low in the water) affects how quickly the object will drift.



Active Instruction tp

(5 minutes)

Students use the vocabulary study routine to rate their knowledge of each vocabulary word:

+ I know this word and can use it.

✓ This word looks familiar; it has something to do with…

? I don't know this word; it's totally new to me.

Partner Vocabulary Study

1. Display the vocabulary words. Have students use the vocabulary study routine as they rerate their knowledge of each vocabulary word as they arrive for class.
2. Spot check the Read and Respond homework.

Teams review their cycle goal.

Set the Stage

1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

Post and present the reading and writing objectives.

3. Remind students of the text, author, and reading and writing objectives.

Review Vocabulary Vault.

4. Remind teams that if they find a word from the vocabulary list used in another place, such as in a magazine, textbook, TV ad, etc., they can bring in or copy the sentence in which the word was used and put it in the Vocabulary Vault to earn team points.

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Prepare Students for the Test tp

(5 minutes)

tps

Partner Review

1. Remind students that they have been practicing analyzing the author's purpose and defining the central question that the author seeks to address. They have also focused on clearly stating a position and including good reasons that support that position. Use **Think-Pair-Share** to ask:

   Do you think the author is consistent in providing information that is related to the central question? Why?

   Yes, I think the author is consistent. Everything in the book so far relates to floating trash. She provides background information for the reader, but it all relates to the topic. She moves through the information in a logical way so it is easy to understand and follow.

   Tell students that they will use these skills as they take the cycle test.

2. Have partners review their notes and word power journals for this cycle. Allow 2 or 3 minutes for this activity.

Test Directions

1. Remind students that the test is independent work. Students should not ask their partners for help as they read, but they may use sticky notes if they would like.
2. Distribute the test so students can preview the questions. Point out that some of the test questions are multiple choice for which they will choose the best answer. Other questions require them to write a short answer or create a graphic organizer. Part II of the cycle test requires them to write a long answer. Remind them that their writing project was practice for writing the long answer for part II of the test.
3. Point out that questions #2 and #4 ask about the author's purpose and central question.
4. Ask students to identify key words or phrases in question #4.

   > 4. What is the author's purpose in including the toy incident? How does this relate to her central question? **[AP, RE]**

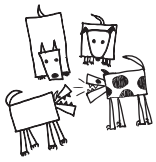
5. Introduce the text that students will read. Tell what it is about, but do not give additional information or details.

   Today you will read about bathtub toys.

Test tp

(30 minutes)

Tell students that they have 30 minutes for the test and that they may begin. Give students a 5-minute warning before the end of the test.



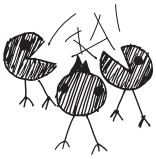
Teamwork tp

(10 minutes)

Team Discussion

Teams discuss the answers to the test questions.

1. Pass out a colored pen to each student.
2. Explain or review, if necessary, the student routine for team discussions after the test.
3. Have teams discuss their answers to the test questions. As you monitor team discussions, ask additional questions to prompt their thinking about the important ideas in the reading and about the skills and strategies that they have been using.



Class Discussion tp

(10 minutes)

Lightning Round

Random Reporters share team discussion of a test question.

1. Use **Random Reporter** to have teams share team discussions of the test questions and explain their thinking.

   What was the value of the tub toy experiment?

   The tub toy experiment was valuable because it was an additional test of OSCURS predictive ability. It also pointed out another factor involved in floating and drifting—the effect of wind on objects that float high in the water like the tub toys did. The windage property makes floating objects move faster in the currents.

2. Award team celebration points.
3. Collect test answers. Score original answers, and add extra points for improved answers.

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Celebrate

Celebrate team successes!

1. Tally the team scores on the poster, and celebrate teams that are accumulating points. Have teams reflect on the following questions:

   How many points did your team earn today?

   How can your team earn more points?

The top team chooses a cheer.

   Remind students that top-scoring teams will earn bonus points that will be added to their cycle scores.

   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

Remind students of the Read and Respond homework assignment.

2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

Cycle 1 Test

Author's Purpose

Directions: Read *Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion*, pages 21–23. Use the TIGRRS process, and answer the following questions on a separate piece of paper.

Some of the questions are based on today's reading, and other questions are about the text that you read in previous lessons. You may refer to your notes from this cycle.

Part I. Comprehension (100 points)

1. What is the topic?

   5 points = An accidental spill of thousands of plastic bathtub toys that became another "drift experiment."

   What is the author's intent?

   5 points = The author's intent is to provide additional information about floating trash and ocean currents.

   Write a short summary of the text. Include the graphic organizer or notes that you used to organize the information and your thoughts. **[MI, AP]**

   10 points = More than 28,000 plastic bathtub toys were lost at sea. Curt got the details of the spill and tested the effect of sea water on the toys' boxes (the boxes broke apart within a day). Curt collected data from the beachcombers, and Jim used OSCURS to predict where and when the toys would reach land, but the toys were faster than the predicted path because they floated high in the water. When OSCURS was adjusted for windage, its predictions were accurate.

2. What is the author's central question in this book? Explain how she supports her purpose. **[AP, RE, SA]**

   20 points = The central question in the book is how trash gets carried in the oceans. The author supports her purpose by giving the history of studying floating objects and by using examples of two scientific studies—a sneaker spill and a toy spill. ***Also****, she* ***explains*** *how to locate points in the ocean (longitude and latitude) and general ocean movements (waves, tides, currents, and gyres). She describes how incidental observations can raise questions (why so many sneakers are washing up on beaches) and how scientists work together to answer a question. The author discusses a problem that turns out to be a scientific problem and* ***supports*** *her purpose with a variety of information.*

   15 points = The central question in the book is how trash gets carried in the oceans. The author supports her purpose by giving the history of studying floating objects and by using examples of two scientific studies—a sneaker spill and a toy spill. She tells how to locate points in the ocean (longitude and latitude) and general ocean

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movements (waves, tides, currents, and gyres). She describes how incidental observations can raise questions (why so many sneakers are washing up on beaches) and how scientists work together to answer a question.

10 points = The central question in the book is how trash gets carried in the oceans.

3. What role do Mrs. Ebbesmeyer and Jim Ingraham play in Curt's study? Why does the author include this information? **[RE, AP]**

*20 points = Both Mrs. Ebbesmeyer and Jim help Curt in his study. His mother asked the original question that got Curt started in the study. Curt worked with Jim and his OSCURS model to confirm the model's predictions and reveal the model's usefulness. The OSCURS model allowed Curt to **predict** where the sneakers (or other floating objects) would end up. The author includes this information to **illustrate** that scientific questions can come from anywhere and that you can learn more when you work with other scientists. Following natural curiosity and working with others can lead to interesting and important things.*

15 points = Both Mrs. Ebbesmeyer and Jim help Curt in his study. His mother asked the original question that got Curt started in the study. Curt worked with Jim and his OSCURS model to confirm the model's predictions and reveal the model's usefulness. The OSCURS model allowed Curt to tell where the sneakers (or other floating objects) would end up. The author uses this information to show that scientific questions can come from anywhere and that you can learn more when you work with other scientists.

10 points = They help Curt in his study. The author uses this information to show that scientific questions can come from anywhere and that you can learn more when you work with other scientists.

4. What is the author's purpose in including the toy incident? How does this relate to her central question? **[AP, RE]**

*20 points = The author uses the toy example as another step in Curt's work to answer his mother's original question. More examples **provide** additional support. Jim had to adjust OSCURS to account for the fact that the toys floated higher in the water and therefore moved faster. When he adjusted OSCURS to account for windage, the program **predicted accurately**. The toy example also points out that sometimes you have to adjust your models and **predictions** when there are other **factors**, such as how high or low in the water something floats.*

15 points = The author uses the toy example as another step in Curt's work to answer his mother's original question. More examples give additional support. Jim had to adjust OSCURS to account for the fact that the toys floated higher in the water and therefore moved faster. When he adjusted OSCURS to account for windage, the program was right.

10 points = It is another step in Curt's work to answer his mother's original question.

5. How does Curt collect information on where the tub toys are found? Explain the value of this method. **[RE]**

   *20 points = Curt collected **data** on where the tub toys were found by putting an ad in newspapers to ask beachcombers to let him know if, where, and when they found tub toys on the beaches. By asking beachcombers to **notify** him, he didn't have to check the whole coast all by himself. This saved time and money. Many people walk the beaches looking for things of interest. An unusual scientific study often uses unusual techniques.*

   15 points = Curt collected information on where the tub toys were found by putting an ad in newspapers to ask beachcombers to let him know if, where, and when they found tub toys on the beaches. By asking beachcombers to tell him, he didn't have to check the whole coast all by himself. This saved time and money.

   10 points = He put an ad in newspapers to ask beachcombers to let him know if and where they found tub toys on the beaches.

Part II. Writing (100 points)

Write at least one paragraph to answer the following question:

Based on what you have read so far, what is the impact of floating trash on Pacific coast beaches (California, Oregon, Washington, Canada, and Alaska)? Include good reasons that support your position.

Pacific beaches will be negatively affected by floating trash. According to the map on page 19, the North Pacific Current flows toward the Pacific coast of North America. Any floating trash caught in this current will collect on the beaches. In addition, two studies done by Dr. Curtis Ebbesmeyer and Jim Ingraham show that sneakers and tub toys (both of which float) were carried from the site of an ocean spill to the Pacific coast. Beachcombers found thousands of sneakers and tub toys on the beaches. All of these could be traced back to a spill that occurred in the Pacific Ocean. There is a lot of evidence to show that trash can be carried to the shore by ocean currents like the North Pacific Current.

The following guide is used to score part II of the cycle test.

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Writing to Support a Claim with Reasons		
Ideas	• Clearly states a position (claim) and includes good reasons that support that position	**0–25 pts.**
Organization	• Begins by stating a position (claim) • In the middle, tells supporting reasons • Ends with a closing statement	**0–25 pts.**
Style	• Uses words and phrases that help the audience see how the reasons are related to the claim	**0–25 pts.**
Mechanics	• Uses correct punctuation, capitalization, spelling, and grammar	**0–10 pts.**
Writing Objective	• Clearly state a position and include good reasons that support that position.	**0–15 pts.**

Part III. Vocabulary (100 points)

1. The vocabulary word *variability* comes from the Latin root *vari-*, meaning different. How does the meaning of *vari-* relate to the meaning of *variability*? **[CV]**

   If something is different, then it can be changed, which is the meaning of variability*.*

2. Write a meaningful sentence using the word *verified*. **[CV]**

   Accept reasonable responses that show that the student knows the meaning of the word and can use it correctly. For example: When Diego got a verified *notice that the tickets were available, he called to tell me when to meet him at the main gate.*

3. What is a synonym for the word *depleted*? What is an antonym for the word *depleted*? **[CV]**

   (Accept reasonable responses.) A synonym for depleted *is the word* empty*. An antonym for* depleted *is the word* full*.*

4. "Curt says, 'We can see the movement of trash by the great ocean currents and we can see the disintegration of the trash over time…and we can learn from it.'" In this sentence, the word *disintegration* most nearly means— **[CV]**

   A. movement.
   B. circulation.
   C. crumbling.
   D. sinking.

5. What is a synonym for the word *crucial*? What is an antonym for the word *crucial*? **[CV]**

   (Accept reasonable responses.) A synonym for crucial *is the word* vital*. An antonym for* crucial *is the word* unimportant*.*

6. The vocabulary word *consequences* comes from the Latin root *seq-*, meaning follow. How does the meaning of *seq-* relate to the meaning of *consequences*? **[CV]**

   Consequences *means results or outcomes. Consequences follow some action or event. The word relates directly to the Latin root.*

7. "Curt and Jim had taken advantage of a man-made disaster and from it derived solid scientific observations." In this sentence, the word *derived* most nearly means— **[CV]**

   A. collected.
   B. disbelieved.
   C. lost.
   D. drifted.

8. Write a meaningful sentence using the word *intact*. **[CV]**

   Accept reasonable responses that show that the student knows the meaning of the word and can use it correctly. For example: After the windstorm, we checked the roof to see if it was still intact*.*

9. What is one word that you or your teammates explored in your word power journal this cycle? Give the meaning of this word, and then use it in a meaningful sentence. **[CV]**

   (Answers will vary.) We clarified the word stemmed*, which means originated or started from. My love of all animals* stemmed *from my love of my first pet, Toby.*

10. As used in the sentence "Since waters from the deep ocean are rich in the nutrients required to feed the animals and plants that live at the ocean's surface, deep sea currents are crucial to the maintenance of a vigorous and healthy sea," *nutrients* most nearly means— **[CV]**

    A. tides.
    B. waves.
    C. drift.
    D. food.

    Explain how you figured out the meaning of *nutrients*.

    Students will explain their thinking. For example, I used the context. The passage talks about feeding animals, and food is involved with feeding.

Question Codes			
[DC]	Make inferences; interpret data; draw conclusions.	**[AA]**	Analyze an argument.
[SA]	Support an answer; cite supporting evidence.	**[AP]**	Identify author's intent or purpose.
[MI]	Identify the main idea that is stated or implied.	**[RE]**	Analyze relationships (ideas, story elements, text structures).
[CV]	Clarify vocabulary.	**[AC]**	Author's craft; literary devices

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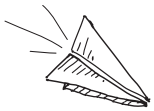
Lesson 7

Reading Objective: Analyze the author's purpose, and define the central question that the author seeks to address.

Teacher Background

During Class Discussion, students orally present evaluations of their homework reading selections. During Teamwork, students use their Read and Respond notes and answers to the homework questions to make final preparations for these presentations. Team members share their responses and give one another feedback. During the oral presentations, students use their revised responses to the questions to describe the kind of texts they read, the strategies that helped them understand the text, and whether they will recommend their reading selections to others.



Active Instruction tp

(20 minutes)

Two-Minute Edit

Two-Minute Edit

1. Display and have students complete the Two-Minute Edit as they arrive for class.
2. Use **Random Reporter** to check corrections. Award team celebration points.

Vocabulary

Vocabulary Vault

Ask teams if they have a Vocabulary Vault word that they would like to share. Award team celebration points.

Set the Stage

Teams review their cycle goal.

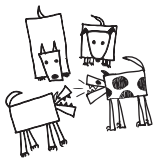
1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

Connect the cycle objective to students' homework reading selections.

3. Have students get out their reading selections and Read and Respond forms. Remind them that today, with the help of their teams, they will each prepare a presentation about their individual reading selections.

   Challenge students to think about the strategies and skills that they used to read their self-selected texts, share their answers to the Read and Respond questions, discuss their thinking, and prepare evaluations of their selections.

4. Remind students to add to the notes on their Read and Respond forms as they discuss their selections and prepare oral presentations about their selections. Students will use their answers to the questions on the Read and Respond form as the basis for their presentations.



Teamwork tp

(25 minutes)

Team Discussion

Students prepare, share, and revise presentations about their reading selections.

1. Tell students that they will use the Read and Respond questions as a guide as they discuss their homework reading and prepare evaluations of their reading selections to share with their teams.
2. As students prepare their answers, check in with those students for whom you do not have individual scores for graphic organizer/notes, written Team Talk responses, word power journal, and/or a fluency score. Have them show you examples from the cycle. Point out areas of success, and give feedback to improve student performance.

Give students feedback on classwork.

3. As you visit teams, take this opportunity to check students' homework for completion (Read and Respond forms). Enter the information on your teacher cycle record form.

Teacher's Note:

Have students who are ready for a new selection take turns choosing reading material from the classroom library. Make sure that every student has a Read and Respond form for next cycle.

Read and Respond Questions	
1.	Is your selection informational or literature? Summarize your reading. (summary rubric)
2.	Why did you choose this reading? What is your purpose for reading? (Team Talk rubric)
3.	Choose a word, phrase, or passage that you did not understand at first. How did you figure it out? (strategy-use rubric)
4.	Write down a question that you had or a prediction that you made as you read. Were you able to answer or confirm it? Explain. (strategy-use rubric)
5.	Would you recommend this selection to others to read? State your opinion, and support it with reasons. (Team Talk rubric)
6.	Choose a short section of the text that you think is important or especially interesting. Tell your teammates why you chose it. Read it aloud smoothly and with expression. (fluency rubric)

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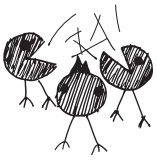


Class Discussion tp

(15 minutes)

Team responses and feedback

Teams report on their review of the texts and Read and Respond discussions.

Lightning Round

Use **Random Reporter** to have students present their evaluations of their homework reading selections (responses to the Read and Respond questions). Use rubrics to evaluate responses, give specific feedback, and award points.

Celebrate team successes!

Final tally for this cycle

Celebrate

1. Tally up this cycle's points on the poster.
2. Tell students that their scored tests will be returned at the beginning of the next lesson. Poster points and the teams' test scores will determine which teams earn the status of super team, great team, or good team for the cycle.

Record team celebration points on the teacher cycle record form.

3. Be sure to record each team's total celebration points from the poster into the teacher cycle record form. Remind students that team celebration points and team test averages are used to determine team scores.

Collect Read and Respond forms for this cycle.

4. Collect students' Read and Respond forms, and pass out new forms.
5. Tally up the number of Read and Respond signatures on students' forms, and record the number on the teacher cycle record form after class.

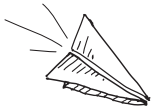
Lesson 8

Objectives: Celebrate successes, and set new goals. Hold a Class Council meeting.

Teacher Background

In the first part of this lesson, students review their test results and their final scores for the cycle and compare them with their goals. They celebrate success and set new objectives for further improvement.

In the second part of the lesson, students participate in Class Council.



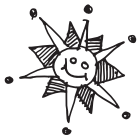
Active Instruction tp

(2 minutes)

Two-Minute Edit

Two-Minute Edit

1. Display and have students complete the Two-Minute Edit as they arrive for class.
2. Use **Random Reporter** to check corrections. Award team celebration points.



Celebrate/Set Goals

(20 minutes)

Distribute scored cycle tests.

1. Distribute students' scored cycle tests. Allow a few moments for students to review them.

Distribute team score sheets and celebration certificates.

2. Distribute team score sheets to teams and celebration certificates to students. Remind students that the cycle's top-scoring teams are determined by their points on the poster and their test scores.

Class celebration! Celebrate team successes with a class cheer.

3. Recognize and celebrate the super, great, and good teams. Remind the teams of the impact of bonus points that are added to team members' cycle scores.

Each team sets a team goal for the next cycle.

4. Have each team discuss and set a goal for the next cycle and record it on their team score sheet. Use the questions below to analyze and discuss the students' scores.

   What was your team's highest score?

   What score do you want to improve?

   What can the team do to improve that score?

   Use **Random Reporter** to ask:

   What is your team's goal for the next cycle? Why did you choose that goal?

   Accept supported answers.

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5. Use the poster to award team celebration points for responses that include the team's reasons for choosing the goal, thus beginning the accumulation of points for the next cycle.
6. Have students record their cycle test scores and their areas of greatest strength and improvement on their progress charts.

Class Council

(30 minutes)

1. Share class compliments.
2. Review the class goal that was set at the last Class Council. Using the agreed-upon measure of progress, was the goal met? Why or why not?
3. Discuss a class concern, or use the scenario and discussion hints provided.
4. Have teams discuss and then use **Random Reporter** to share responses.
5. After debriefing how they resolved the problem, help students set a goal and a measure of progress that they can use at the next Class Council.

Brain Game

(5 minutes)

1. Choose a brain game from the card set, and then play the game.
2. Use the following questions to debrief and remind students of self-regulatory strategies:

   What did this game require your brain to do?

   How will use of this skill improve your success in other classes?

Cycle 2:

Author's Purpose

Lesson 1

Reading Objective: Analyze the author's purpose, and define the central question that the author seeks to address.

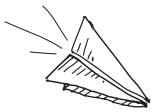
Teacher Background

Today's reading discusses the results of the tub toy study. There seems to be no end to accidental shipping spills.

Today's Big Question deals with "citizen science," opportunities for non-scientists to participate in scientific studies. Following are some examples of citizen science projects to share with your students.

- The Cornell Lab of Ornithology (study of birds) has a variety of projects, such as eBird, in which people can record bird observations. See www.birds.cornell.edu/citsci/projects for more information.
- The California Academy of Sciences also has a variety of citizen science projects. See www.calacademy.org/science/citizen_science.
- Project BudBurst at the Chicago Botanic Garden: www.chicagobotanic.org/research/plant_conservation/budburst. Citizens can send in data on when plants bloom in their area.
- Monarch Watch: www.monarchwatch.org/class/studproj/index.htm. Citizens can help scientists monitor monarch butterflies.
- Beach cleanups: www.oceanconservancy.org/our-work/marine-debris/international-coastal-cleanup-11.html.

If students are interested, suggest that they contact local museums, zoos, colleges, universities, state and local agencies (such as departments of natural resources), or environmental groups for other possible projects. Many states have citizen stream-monitoring groups.



Active Instruction tp

(22 minutes)

Big Question

Post and present this cycle's Big Question. Have students write a response to the question as they arrive for class.

Students write responses to the Big Question.

The Big Question: Dr. Curt Ebbesmeyer has enlisted beachcombers in his study to tell him when and where they find sneakers and tub toys on beaches. These beachcombers are not necessarily scientists; they are regular people who have an interesting hobby. Would you like to be involved in a scientific study? Why? What kind of study do you think you could help with?

Set the Stage tp

Discuss the Big Question.

1. The purpose of today's Big Question is to present the possibility of being a young person and still being able to help a scientific study.

   Refer students to today's Big Question. Use **Think-Pair-Share** to ask:

   Dr. Curt Ebbesmeyer has enlisted beachcombers in his study to tell him when and where they find sneakers and tub toys on beaches. These beachcombers are not necessarily scientists; they are regular people who have an interesting hobby. Would you like to be involved in a scientific study? Why? What kind of study do you think you could help with?

   (Answers will vary.) Yes, I would like to be involved in a scientific study. I would like to help someone find the answers to their questions. I know that monarch butterflies migrate. I could make note of when they come to my yard and how many come. This information might be interesting to someone studying these butterflies.

   Point out that when non-scientists are involved in gathering data, it is called "citizen science." Provide some other examples from the Teacher Background section.

Teams review their cycle goal.

2. Ask students to review their cycle goal. Remind students how to earn team celebration points. Remind them that team celebration points help them to become super teams. Tell them that they can earn team celebration points during the Lightning Round.

Post and present the reading objective.

3. Remind students of the text, author, and reading objective.

Interactive Read Aloud

1. Refer to the reading objective, and review the skill if necessary.

Teacher: Read aloud.
Students: Practice the skill or strategy.

2. Read page 25 (paragraph 1) aloud. Use **Think-Pair-Share** to prompt use of the skill or strategy.

   Why do you think the author includes Curt's predictions about where the tub toys might be in the year 2000?

   I think the author includes this information to show how widespread the problem of floating trash can be. Things that spilled in the Pacific can end up in the Atlantic.

Partner pairs: Read aloud/think aloud with the next passage to practice the skill/strategy.

3. Partner Practice: Student partner pairs use the read-aloud/think-aloud process to practice the skill or strategy with the next passage in the text. Have students read pages 25 (paragraph 2) and 26 (stopping at paragraph 1). Have students explain why they think the author says in the last sentence, "…Curt's unique brand of oceanography."

   Use **Random Reporter** to debrief.

   I think the author feels that what Curt is doing is not like most oceanographers' work. He studies floating trash, and he gets his data mostly from non-scientists.

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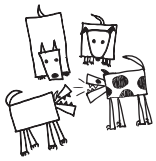
Use **Random Reporter** to debrief. Add student responses to the graphic organizer.

A sample graphic organizer follows.

Sample Graphic Organizer

Central Question: How does trash move in the oceans?	
Topic/Main idea	**Details**
Tub toys floating great distances	probably 8 years to go from Pacific through the Arctic Ocean into the North Atlantic
Beachcombers' and Oceanographers' International Association	to help track tub toys & prepare for future spills by enlisting more beachcombers
Curt goes to beachcomber fairs	he gets more information by talking to more beachcombers



Teamwork tp

(20 minutes)

Partner Prep

Cue students to use their student routines for partner reading, word power, fluency, and the TIGRRS process.

1. Explain, or review if necessary, the student routines for partner reading, word power, fluency, and the TIGRRS process before having students read and restate: sr

   pages 26 (paragraph 1)–28 aloud with partners.

2. Circulate and check for comprehension, evidence of strategy use, and use of the TIGRRS process, for example, restating ideas on the graphic organizer. Give students feedback. Prompt and reinforce their discussions.
3. If some partners finish ahead of their teammates, have them begin looking over the Team Talk questions.

Team Discussion

Cue students to use their student routines for strategy use and Team Talk discussion.

1. Explain, or review if necessary, how to use role cards and the student routines for strategy use and Team Talk discussion. sr
2. Remind students to use the rubrics on their team folders to prepare each team member to discuss the team's strategy use, oral and written Team Talk responses, word power, and fluency. Each team member must be able to summarize the text and discuss the team's graphic organizer/notes during Class Discussion as indicated.
3. Preview the Team Talk questions. If necessary, ask questions to guide students' reflection as they determine the meaning of the "(Write)" question.

Team Talk Questions

1. Why does the author refer to the Orbison find as a "gold mine"? How did Curt figure out the significance? **[AP, RE]** (Team Talk rubric)

   100 = The significance of the Orbison find is that in some years they found more toys than in other years, even though the amount of time they combed the beaches was about the same every year. The Orbisons kept track of when and where they found the toys. It was a gold mine of information because there was so much information. When Curt looked at their ***data****, he saw a pattern. Carefully recording data is important in science.*

   90 = The significance of the Orbison find is that in some years they found more toys than in other years, even though the amount of time they combed the beaches was about the same. The Orbisons kept track of when and where they found the toys. It was a gold mine of information. When Curt looked at their information, he saw a pattern.

   80 = The significance of the Orbison find is that in some years they found more toys than in other years. When Curt looked at their information, he saw a pattern.

2. Why does the author include the test that Curt did on the tub toys? How does this relate to the central question? **(Write) [AP, DC]** (Team Talk rubric)

   100 = The author includes the test that Curt did on the tub toys to show that he does a variety of things to find answers. This experiment relates directly to the central question because it tries to find out if toys with holes in them still float. He tested his idea that toys with holes in them will still float by drilling holes into toys and floating them in a bucket of sea water. The results of the experiment gave Curt another idea—toys filled with water may float more slowly because they float differently than whole toys. The author continues to build ***support*** *with information directly related to the central question, "How does trash move in the ocean?"*

   90 = The author includes the test that Curt did on the tub toys to show that he does a variety of things to find answers. This experiment relates directly to the central question because it tries to find out if toys with holes in them still float. He tested his idea that toys with holes in them will still float by drilling holes into toys and floating them in a bucket of sea water. The results of the experiment gave Curt another idea—toys filled with water may float more slowly because they float differently than whole toys.

   80 = The author includes it to show that he does a variety of things. It relates directly to the central question because it tries to find out if toys with holes in them still float.

continued

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Team Talk Questions *continued*

3. Why was 2003 important to Curt and Jim? **[RE]** (Team Talk rubric)

   100 = *In 2003, two of the tub toys were found at a great distance from the **initial** spill in 1992. One was found on the east coast of the U.S., and one was found in Scotland. These two findings **confirmed** the **predictions** of OSCURS that at least some toys would drift across the Arctic and into the Atlantic, even though it took eleven years. Things can float for a long time and can move between the oceans.*

   90 = *In 2003, two of the tub toys were found at a great distance from the spill in 1992. One was found on the east coast of the U.S., and one was found in Scotland. These two findings supported OSCURS' idea that at least some toys would drift across the Arctic and into the Atlantic even though it took eleven years.*

   80 = *In 2003, two of the tub toys were found at a great distance from the spill in 1992.*

4. Why does the author include the chart on page 28? **[AP]** (Team Talk rubric)

   100 = *The author uses the chart to show what Curt is tracking and to give an **indication** of the number of floating items in the oceans. It also **illustrates** the variety of floating items: from tub toys to logs. A chart can **summarize** a lot of information with few words.*

   90 = *The author uses the chart to show what Curt is tracking and to show the number of floating items in the oceans. It also shows the variety of floating items: from tub toys to logs.*

   80 = *To show what Curt is tracking and to show the number of floating items in the oceans.*

4. Have students thoroughly discuss Team Talk questions before they write individual answers to the skill question marked "(Write)." Allow students to revise their written answers after further discussion if necessary.

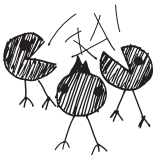
Cue students to discuss strategy use, graphic organizers, and word power journals.

5. Prompt teams to discuss comprehension problems and strategy use (their sticky notes), important ideas that they added to their graphic organizers, and words that a team member added to the word power journal.

6. Circulate and give feedback to teams and students. Use rubrics to give specific feedback. Ask questions to encourage further discussion. Record individual scores on the teacher cycle record form.

7. If some teams finish ahead of others, have them practice their fluency.

8. Award team celebration points for good team discussions that demonstrate 100-point responses.



Class Discussion tp

(18 minutes)

***Randomly* select team representatives who will share:**

- strategy use
- oral and written Team Talk responses
- word power discussions
- fluency selection

Lightning Round

1. Use **Random Reporter** to have teams share strategy use, oral and written Team Talk responses, word power discussions, and fluency. Ask other teams to agree, disagree, or add on to responses.
2. Use rubrics to evaluate responses and give specific feedback. Award team celebration points for 100-point responses. Record individual scores on the teacher cycle record form.

Celebrate

Celebrate team successes!

1. Tally the team scores on the poster, and celebrate teams that are accumulating points. Have teams reflect on the following questions:

   How many points did your team earn today?

   How can your team earn more points?

   The top team chooses a cheer.

   Remind students that top-scoring teams will earn bonus points that will be added to their cycle scores.

   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

Remind students of the Read and Respond homework assignment.

2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

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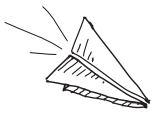
Lesson 2

Reading Objective: Analyze the author's purpose, and define the central question that the author seeks to address.

Teacher Background

Today's reading discusses natural "floaters" in the ocean—plankton. Most plankton organisms are tiny. Plankton organisms have very poor swimming motion and so are carried in surface currents. Plankton forms the base of the food web in aquatic systems. Phytoplankton (plant plankton) also produce a large portion of the oxygen in our atmosphere.



Active Instruction tp

(25 minutes)

Students use the vocabulary study routine to rate their knowledge of each vocabulary word:

+ I know this word and can use it.
✓ This word looks familiar; it has something to do with…
? I don't know this word; it's totally new to me.

Partner Vocabulary Study

1. Display the vocabulary words. Have students use the vocabulary study routine as they copy the words in their word power journals and rate their knowledge of each as they arrive for class.
2. Spot check the Read and Respond homework.

Vocabulary

Teams discuss their vocabulary ratings.

1. Have teams discuss their ratings of the words. Ask teams to make a tent with their hands when they are ready to tell a word the entire team rated with a "+" and a word the entire team rated with a "?."
2. Use **Random Reporter** to have the teams share one word that they know and one word that they need to study further. Award team celebration points.

Introduce vocabulary.

3. Introduce the vocabulary for this cycle. Read each word aloud, and model chunking as needed. Then read the meaning of each word.

Word	Pronunciation	Definition	Sample Sentence
dispersed (verb) page 25	dis-persed (dih-SPURSED)	scattered, spread around	To help her teacher, Jenna *dispersed* the papers to all the students.
substantial (adjective) page 25	sub-stan-tial (sub-STAN-shul)	significant, large	The wind caused *substantial* damage to the garage, so it collapsed.

continued

Word	Pronunciation	Definition	Sample Sentence
intervening (adjective) page 26	in-ter-ven-ing (in-ter-VEEN-ing)	middle, between things	The *intervening* weeds ruin the look of the garden.
simulations (noun) page 27	sim-u-la-tions (sim-yoo-LAY-shuns)	representations of the features of one thing through the use of another; copy	The computer *simulations* of baseball teach people how to play the game.
scrutiny (noun) page 27	scru-ti-ny (SCREW-tih-nee)	close examination or study	Under the *scrutiny* of my mother, I made sure I cleaned the sink just like she wanted.
correlate (verb) page 31	cor-re-late (KOR-reh-layt)	connect, compare	If you *correlate* the amount of rainfall with how high the grass grows, you will see that the grass grows higher with more rain.
hypothetical (adjective) page 32	hy-po-thet-i-cal (hi-puh-THET-ih-kal)	supposed, possible	His idea was only *hypothetical*, so he had to test it to make sure he was correct.
convergence (noun) page 34	con-ver-gence (kon-VUR-jence)	meeting, coming together	The Ohio River forms at the *convergence* of the Allegheny and Monongahela rivers.

4. Use **Random Reporter** to have teams share a new sentence that uses one of their vocabulary words. Award team celebration points.

Review Vocabulary Vault.

5. Remind teams that if they find a word from the vocabulary list used in another place, such as in a magazine, textbook, TV ad, etc., they can bring in or copy the sentence in which the word was used and put it in the Vocabulary Vault to earn team points.

Set the Stage

Teams review their cycle goal.

1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

Post and present the reading objective.

3. Remind students of the text, author, and reading objective.

Build background about the topic.

4. Have students discuss what kinds of marine organisms they know about. Use **Random Reporter** to have teams report.

   Some students may mention fish, sharks, or whales.

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As necessary, provide the following information about marine life.

- There are many kinds of marine organisms—some actively swim (fish, whales), some are attached to a hard surface (coral), some crawl (sea stars, lobsters), and some float (jellyfish).
- A short list of groups of marine organisms includes: fish, sharks and stingrays, marine mammals (whales, dolphins, seals, and sea lions), reptiles (sea turtles and sea snakes), mollusks (clams and oysters), sea stars, worms, crustaceans (crabs and lobsters), and sea weeds (algae).
- Some marine organisms make their own food (algae), and some have to eat something—animals.

Tell students that today they will read about one important group of marine organisms that have one thing in common with floating trash.

Interactive Read Aloud

Teacher: Read aloud.
Students: Practice the skill or strategy.

1. Read page 29 (stopping after "Phytoplankton use the energy…") aloud. Use **Think-Pair-Share** to prompt use of the skill or strategy.

   How does the author help you clarify the scientific words in this passage: *plankton*, *holoplankton*, *and meroplankton*?

   The author includes the definition of the terms in the passage. Once you understand the base word (plankton), *the prefix describes the kind of plankton.*

Partner pairs: Read aloud/think aloud with the next passage to practice the skill/strategy.

2. Partner Practice: Student partner pairs use the read-aloud/think-aloud process to practice the skill or strategy with the next passage in the text. Have students read the caption on page 29 and identify the author's purpose for including the pictures.

   The author includes the pictures so you can see what the plankton looks like and that it is made up of different kinds of creatures.

   Use **Think-Pair-Share** to have students identify the copepods and algae in the bottom picture and tell how they clarified these words.

   The copepods are the three large oblong shapes in the picture, and the algae are the two long structures. I used the description in the caption to help me figure out which were which.

   Point out that the diatoms in the top picture are phytoplankton. They are a type of algae and they photosynthesize. The copepods in the bottom picture are zooplankton that eat the diatoms.

   Use **Random Reporter** to debrief.

Partner pairs: Review, reread to clarify, and add to the graphic organizer.

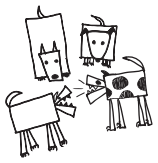
3. Ask partners to review this section of text, check their understanding with each other, reread what they need to clarify, and add notes to their graphic organizers.

   Use **Random Reporter** to debrief. Add student responses to the graphic organizer.

   A sample graphic organizer follows.

Sample Graphic Organizer

Central Question: How does trash move in the oceans?	
Topic/Main idea	**Details**
Many marine creatures float & are carried in the currents, just as trash is carried	Plankton = wanderers • holoplankton = float all of their lives • meroplankton = spend only a part of their lives floating as plankton



Teamwork tp

(20 minutes)

Partner Prep

Cue students to use their student routines for partner reading, word power, fluency, and the TIGRRS process.

1. Explain, or review if necessary, the student routines for partner reading, word power, fluency, and the TIGRRS process before having students read and restate: sr

   pages 29–31 aloud with partners.

2. Circulate and check for comprehension, evidence of strategy use, and use of the TIGRRS process, for example, restating ideas on the graphic organizer. Give students feedback. Prompt and reinforce their discussions.

3. If some partners finish ahead of their teammates, have them begin looking over the Team Talk questions.

Team Discussion

Cue students to use their student routines for strategy use and Team Talk discussion.

1. Explain, or review if necessary, how to use role cards and the student routines for strategy use and Team Talk discussion. sr

2. Remind students to use the rubrics on their team folders to prepare each team member to discuss the team's strategy use, oral and written Team Talk responses, word power, and fluency. Each team member must be able to summarize the text and discuss the team's graphic organizer/notes during Class Discussion as indicated.

3. Preview the Team Talk questions. If necessary, ask questions to guide students' reflection as they determine the meaning of the "(Write)" question.

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Team Talk Questions

1. How are plankton grouped—by what characteristics? **[RE]** (Team Talk rubric)

   100 = *Plankton are grouped by size, how they get food, and how much time they spend as plankton. Plankton are either large (macroplankton) or small (microplankton). They either make their own food, phytoplankton, or eat something else, zooplankton. If plankton spend their whole lives as plankton, they are holoplankton, but if they are plankton only at the beginning of their lives, they are grouped as meroplankton. Scientists use different* ***characteristics*** *to group organisms.*

   90 = *Plankton are grouped by size, how they get food, and how much time they spend as plankton. Plankton are either large or small. They either make their own food or eat something else. If plankton spend their whole lives as plankton, they are holoplankton, but if they are plankton only at the beginning of their lives, they are grouped as meroplankton.*

   80 = *They are grouped by size, how they get food, and how much time they spend as plankton.*

2. As used in the sentence "Since female Pollock spawn in the same ocean location…," the word *spawn* most nearly means—

   A. lay eggs.
   B. eat eggs.
   C. swim.
   D. float.

   How did you clarify this scientific word? **[CV]** (strategy-use rubric)

   100 = I clarified this word by looking at the context. The paragraph before this sentence talks about the walleye pollock and how it lays eggs. Therefore, spawn *means to lay eggs.*

   90 = I clarified this word by looking at the text. The paragraph before this sentence talks about the walleye pollock and how it lays eggs.

   80 = I looked at the rest of the text.

continued

Team Talk Questions *continued*

3. What is the relationship between currents and the walleye pollock population? **[RE]** (Team Talk rubric)

   100 = *Currents **vary** over the years. **Variations** in currents either increase or decrease the pollock population. When currents change so the walleye pollock babies are carried away from the parents, more of the babies survive to grow up. This means a larger pollock population. When the currents do not carry the babies away, more babies are eaten by pollock and the population falls. Populations of walleye pollock vary with changes in currents.*

   90 = *Currents change over the years. Changes in currents either increase or decrease the pollock population. When currents change so the walleye pollock babies are carried away from the parents, more of the babies survive to grow up. This means a larger pollock population. When the currents do not carry the babies away, more babies are eaten by pollock and the population falls.*

   80 = *Currents change over the years. Changes in currents either increase or decrease the pollock population.*

4. What is the author's purpose in including the information about the walleye pollock? Explain how it relates to the central question. **(Write) [AP]** (Team Talk rubric)

   100 = *The author includes this information to show how the work in one area is important in other areas. What Curt and Jim learned about currents from their study of floating sneakers and bathtub toys led other scientists to wonder if the **variations** in currents would **affect** fish populations. They used the same modeling program, OSCURS, to figure out the answer to **varying** walleye pollock populations. This information relates to the central question because it is about currents and how the currents affect the population of walleye pollock. Information in one area of science is often related to other areas.*

   90 = *The author includes this information to show how the work in one area is important in other areas. What Curt and Jim learned about currents from their study of floating sneakers and bathtub toys led other scientists to wonder if current changes would change fish populations. They used the same modeling program, OSCURS, to figure out the answer to changing walleye pollock populations.*

   80 = *The author includes this information to show how the work in one area is important in other areas.*

5. Choose a word from the vocabulary list, and write a meaningful sentence using the word correctly. **[CV]**

   Accept a sentence that shows that the student knows the meaning of the word and can use it correctly. For example: We used the practice as a simulation *of the real games, so half of the team pretended to be the opponents.*

4. Have students thoroughly discuss Team Talk questions before they write individual answers to the skill question marked "(Write)." Allow students to revise their written answers after further discussion if necessary.

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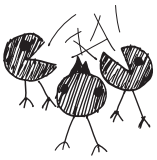
Cue students to discuss strategy use, graphic organizers, and word power journals.

5. Prompt teams to discuss comprehension problems and strategy use (their sticky notes), important ideas that they added to their graphic organizers, and words that a team member added to the word power journal.
6. Circulate and give feedback to teams and students. Use rubrics to give specific feedback. Ask questions to encourage further discussion. Record individual scores on the teacher cycle record form.
7. If some teams finish ahead of others, have them practice their fluency.
8. Award team celebration points for good team discussions that demonstrate 100-point responses.



Class Discussion tp

(15 minutes)

***Randomly* select team representatives who will share:**

- strategy use
- oral and written Team Talk responses
- word power discussions
- fluency selection

Lightning Round

1. Use **Random Reporter** to have teams share strategy use, oral and written Team Talk responses, word power discussions, and fluency. Ask other teams to agree, disagree, or add on to responses.
2. Use rubrics to evaluate responses and give specific feedback. Award team celebration points for 100-point responses. Record individual scores on the teacher cycle record form.

Celebrate

Celebrate team successes!

1. Tally the team scores on the poster, and celebrate teams that are accumulating points. Have teams reflect on the following questions:

   How many points did your team earn today?

   How can your team earn more points?

   Remind students that top-scoring teams will earn bonus points that will be added to their cycle scores.

   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

The top team chooses a cheer.

Remind students of the Read and Respond homework assignment.

2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

Word	Pronunciation	Definition	Sample Sentence
dispersed (verb) page 25	dis-persed (dih-SPURSED)	scattered, spread around	To help her teacher, Jenna *dispersed* the papers to all the students.
substantial (adjective) page 25	sub-stan-tial (sub-STAN-shul)	significant, large	The wind caused *substantial* damage to the garage, so it collapsed.
intervening (adjective) page 26	in-ter-ven-ing (in-ter-VEEN-ing)	middle, between things	The *intervening* weeds ruin the look of the garden.
simulations (noun) page 27	sim-u-la-tions (sim-yoo-LAY-shuns)	representations of the features of one thing through the use of another; copy	The computer *simulations* of baseball teach people how to play the game.
scrutiny (noun) page 27	scru-ti-ny (SCREW-tih-nee)	close examination or study	Under the *scrutiny* of my mother, I made sure I cleaned the sink just like she wanted.
correlate (verb) page 31	cor-re-late (KOR-reh-layt)	connect, compare	If you *correlate* the amount of rainfall with how high the grass grows, you will see that the grass grows higher with more rain.
hypothetical (adjective) page 32	hy-po-thet-i-cal (hi-puh-THET-ih-kal)	supposed, possible	His idea was only *hypothetical*, so he had to test it to make sure he was correct.
convergence (noun) page 34	con-ver-gence (kon-VUR-jence)	meeting, coming together	The Ohio River forms at the *convergence* of the Allegheny and Monongahela rivers.

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Lesson 3

Reading Objective: Analyze the author's purpose, and define the central question that the author seeks to address.

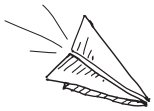
Teacher Background

In today's reading, the author connects a seemingly academic exercise (floating sneakers and tub toys) to a real environmental problem—marine debris. The oceans have been the repository of runoff from the land since their beginning, but most of the debris was of natural origin. Even the materials made by man prior to the twentieth century were of natural materials and would decompose over time, such as wool, cotton, and wood. The invention of modern synthetics in the first part of the twentieth century changed the relationship between man's cast-offs and the sea. Synthetic materials such as plastic do not easily break down and remain in the environment for long periods of time. The resistance to decomposition and the buoyancy of these synthetics combine to have a great impact on the oceans.

Background on Marine Organisms: Marine mammals (whales, dolphins, seals, walruses, and sea lions) and marine reptiles (sea turtles, marine iguanas, and sea snakes) must surface to breathe oxygen or they will drown. Sharks, fish, and other marine animals can take oxygen out of the water and do not need to surface.

Teacher's Note:

Use the Interactive Read Aloud if your students need additional support. Otherwise, build background, and then go directly to teamwork. Adjust partner reading page numbers accordingly.



Active Instruction tp

(15–25 minutes)

Students use the vocabulary study routine to rate their knowledge of each vocabulary word:

+ I know this word and can use it.
✓ This word looks familiar; it has something to do with…
? I don't know this word; it's totally new to me.

Partner Vocabulary Study

1. Display the vocabulary words. Have students use the vocabulary study routine as they rerate their knowledge of each vocabulary word as they arrive for class.
2. Spot check the Read and Respond homework.

Teams discuss their vocabulary ratings.

Vocabulary

1. Have teams discuss their ratings of the words. Ask teams to make a tent with their hands when they are ready to tell a word the entire team rated with a "+" and a word the entire team rated with a "?."
2. Use **Random Reporter** to have the teams share one word that they know and one word that they need to study further. Use **Random Reporter** to have teams report on a new sentence using a vocabulary word. Award team celebration points.

Model exploring a word in the word power journal.

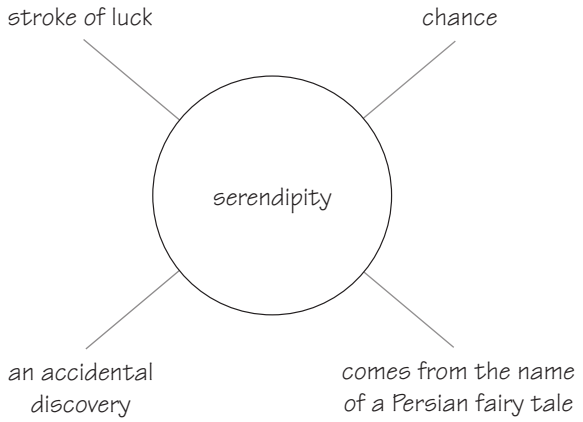
3. Choose an important word from the text or class discussion, and model how to explore it in a word power journal entry. A sample Think Aloud and word map follow.

Sample Think Aloud

On page 26, I saw an odd word—*serendipity*. (Model looking up the word.) The word means making an accidental discovery. The dictionary also says that the word was made up by Horace Walpole in 1754 after he read a Persian fairy tale called *The Three Princes of Serendip*. Sometimes you can trace the exact origin of a word.

I used the context—when Curt goes to the fairs, he hears about container spills, but it is not planned. What he hears is just by chance—the chance that someone will be at the fair who knows information that Curt might be interested in.

Sample Word Map



Review Vocabulary Vault.

4. Remind teams that if they find a word from the vocabulary list used in another place, such as in a magazine, textbook, TV ad, etc., they can bring in or copy the sentence in which the word was used and put it in the Vocabulary Vault to earn team points.

Set the Stage

Teams review their cycle goal.

1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

Post and present the reading objective.

3. Remind students of the text, author, and reading objective.
4. Introduce and show the video "Marine Debris." Use **Think-Pair-Share** to debrief the video.

   What are three problems created by marine debris?

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Marine debris damages coral reefs. Ghost traps capture marine life but then the animals can't get out and die. Floating plastic is eaten by marine mammals so they can't eat and die.

Interactive Read Aloud

Teacher: Read aloud.
Students: Practice the skill or strategy.

1. Read page 33 (paragraph 1 and the caption) aloud. Use **Think-Pair-Share** to prompt use of the skill or strategy.

   What do you think is the author's purpose in including this information and the diagrams on page 32? What do you predict the rest of the chapter will talk about? How does this relate to the central question?

   I think the author includes this information to introduce the idea that garbage is collecting in certain places in the ocean. I think the chapter will talk about garbage or trash in the ocean because of the chapter title and what is shown in the diagrams. It relates to the central question because any floating trash can be carried by currents.

Partner pairs: Read aloud/think aloud with the next passage to practice the skill/strategy.

2. Partner Practice: Student partner pairs use the read-aloud/think-aloud process to practice the skill or strategy with the next passage in the text. Have students read page 34 (paragraphs 1–3) and identify the author's purpose in including information about Charlie Moore and what he found.

   I think the author includes this information to show that the simulation OSCURS showed was true: garbage accumulates in certain parts of the ocean.

   Use **Random Reporter** to debrief.

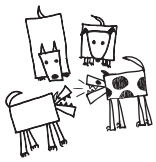
Partner pairs: Review, reread to clarify, and add to the graphic organizer.

3. Ask partners to review this section of text, check their understanding with each other, reread what they need to clarify, and add notes to their graphic organizers.

   Use **Random Reporter** to debrief. Add student responses to the graphic organizer.

Sample Graphic Organizer

Central Question: How does trash move in the oceans?	
Topic/Main idea	**Details**
OSCURS simulation of movement of drifting objects released from places around the Pacific	After 30 years of drifting, floating objects are concentrated in 2 places in the Pacific gyre
Capt. Charlie Moore found a floating patch of garbage	Partway between Hawaii & California; all kinds of plastic objects; huge number of objects



Teamwork tp

(20–30 minutes)

Partner Prep

Cue students to use their student routines for partner reading, word power, fluency, and the TIGRRS process.

1. Explain, or review if necessary, the student routines for partner reading, word power, fluency, and the TIGRRS process before having students read and restate: sr

   pages 34–37 aloud with partners.
   (if skipping Interactive Read Aloud, pages 33–37)

2. Circulate and check for comprehension, evidence of strategy use, and use of the TIGRRS process, for example, restating ideas on the graphic organizer. Give students feedback. Prompt and reinforce their discussions.

3. If some partners finish ahead of their teammates, have them begin looking over the Team Talk questions.

Team Discussion

Cue students to use their student routines for strategy use and Team Talk discussion.

1. Explain, or review if necessary, how to use role cards and the student routines for strategy use and Team Talk discussion. sr

2. Remind students to use the rubrics on their team folders to prepare each team member to discuss the team's strategy use, oral and written Team Talk responses, word power, and fluency. Each team member must be able to summarize the text and discuss the team's graphic organizer/notes during Class Discussion as indicated.

3. Preview the Team Talk questions. If necessary, ask questions to guide students' reflection as they determine the meaning of the "(Write)" question.

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Team Talk Questions

1. Why does trash collect in two areas in the Pacific gyre? Give the sources of the trash. **[RE]** (Team Talk rubric)

   100 = *Floating trash is carried in the ocean currents around the Pacific gyre, **eventually** moving toward two specific areas. These areas are called garbage patches. In the garbage patch, water sinks (downwelling), but the trash still floats and stays there because there are no currents to carry it away. Charlie Moore estimates that twenty **percent** of the trash comes from ships, but the rest comes from land. Trash is carried in runoff into storm drains that lead to streams that lead to rivers that empty into the ocean. Curt and Jim's work **explains** why the garbage patches exist.*

   90 = *Floating trash is carried in the ocean currents around the Pacific gyre and moves toward two specific areas. These areas are called garbage patches. In the garbage patch, water sinks (downwelling), but the trash still floats and stays there because there are no currents to carry it away. Charlie Moore estimates that some of the trash comes from ships, but most comes from land.*

   80 = *Floating trash is carried in the ocean currents around the Pacific gyre and moves toward two specific areas. In the garbage patch, water sinks, but the trash still floats and stays there because there are no currents to carry it away. Charlie Moore estimates that some of the trash comes from ships, but most comes from land.*

2. Why is a lot of the trash made out of plastic? Explain. **[RE]** (Team Talk rubric)

   100 = ***According to** Charlie Moore, a lot of the trash in the ocean is plastic. There are several **reasons** for this. Many of the everyday products that we use are made of plastic. Plastic is lightweight, so it floats easily. Plastic also does not decompose; it doesn't break down, and it can remain in the ocean for long periods of time. Because of their characteristics, some materials are often found in trash.*

   90 = *Charlie Moore says that a lot of the trash in the ocean is plastic. Many of the everyday products that we use are made of plastic. Plastic is lightweight, so it floats easily. Plastic also does not decompose; it doesn't break down, and it can remain in the ocean for long periods of time.*

   80 = *Charlie Moore says that a lot of the trash in the ocean is plastic. Many of the everyday products that we use are made of plastic. Plastic is lightweight, so it floats easily. Plastic also does not decompose.*

continued

Team Talk Questions *continued*

3. Why does the author include the work of Charlie Moore in the book? How does it relate to the central question? **(Write) [AP, RE]** (Team Talk rubric)

   100 = The author includes Moore's work to show that Curt and Jim's work has a more serious side; floating sneakers and bathtub toys could just be a curiosity, but millions of pounds of trash in the ocean is a serious problem. It relates to the central question because it involves floating trash and currents. The author builds her ***purpose*** *from an incidental observation (sneakers) to the problem of large amounts of trash in the ocean by giving background on latitude, longitude, ocean movements (currents, waves, gyres), and naturally floating plants and animals (plankton). The author* ***provides logical support*** *for* ***solving*** *a scientific problem.*

   90 = The author includes Moore's work to show that Curt and Jim's work has a more serious side; floating sneakers and bathtub toys could just be a curiosity, but millions of pounds of trash in the ocean is a serious problem. It relates to the central question because it involves floating trash and currents.

   80 = To show that Curt and Jim's work has a more serious side. It relates to the central question because it involves floating trash and currents.

4. Predict the impact of this trash on marine life. Explain. **[RE]** (Team Talk rubric)

   (Answers may vary.)

   100 = I think large amounts of trash will have a ***negative impact*** *on marine life. Because there are naturally floating plants and animals that other animals eat, some animals may eat the trash thinking it is plankton. Animals can get trapped in abandoned fishing nets and die. The ocean is no place for our trash.*

   90 = I think large amounts of trash will hurt marine life. Because there are naturally floating plants and animals that other animals eat, some animals may eat the trash thinking it is plankton. Animals can get trapped in abandoned fishing nets and die.

   80 = I think large amounts of trash will hurt marine life.

5. What is a synonym for the word *hypothetical*? What is an antonym for the word *hypothetical*? (Reminder: an antonym is a word meaning the opposite.) **[CV]**

   (Accept reasonable responses.) The word hypothetical *means supposed, so a synonym is the word* imaginary*. An antonym for* hypothetical *is* real*.*

4. Have students thoroughly discuss Team Talk questions before they write individual answers to the skill question marked "(Write)." Allow students to revise their written answers after further discussion if necessary.

Cue students to discuss strategy use, graphic organizers, and word power journals.

5. Prompt teams to discuss comprehension problems and strategy use (their sticky notes), important ideas that they added to their graphic organizers, and words that a team member added to the word power journal.

6. Circulate and give feedback to teams and students. Use rubrics to give specific feedback. Ask questions to encourage further discussion. Record individual scores on the teacher cycle record form.

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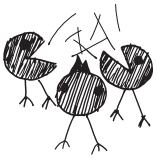
7. If some teams finish ahead of others, have them practice their fluency.
8. Award team celebration points for good team discussions that demonstrate 100-point responses.



Class Discussion

(20 minutes)

***Randomly* select team representatives who will share:**

- strategy use
- oral and written Team Talk responses
- word power discussions
- fluency selection

Lightning Round

1. Use **Random Reporter** to have teams share strategy use, oral and written Team Talk responses, word power discussions, and fluency. Ask other teams to agree, disagree, or add on to responses.
2. Use rubrics to evaluate responses and give specific feedback. Award team celebration points for 100-point responses. Record individual scores on the teacher cycle record form.

Celebrate

Celebrate team successes!

1. Tally the team scores on the poster, and celebrate teams that are accumulating points. Have teams reflect on the following questions:

   How many points did your team earn today?

   How can your team earn more points?

   The top team chooses a cheer.

   Remind students that top-scoring teams will earn bonus points that will be added to their cycle scores.

   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

Remind students of the Read and Respond homework assignment.

2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

Lesson 4

Reading Objective: Analyze the author's purpose, and define the central question that the author seeks to address.

Teacher Background

Today's reading discusses the effects of marine debris on marine life and gives some suggestions for people who wish to help.

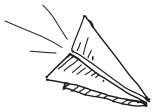
Many species of birds make their living fishing in the ocean; these include puffins, northern fulmars, albatrosses, cormorants, penguins, seagulls, terns, and petrels.

In 2011, a huge earthquake off the coast of Japan initiated a tsunami that devastated the coast. In addition to the terrible damage done on land, millions of tons of debris washed out to sea. This debris is traveling eastward on the North Pacific Current and will land on the west coast of North America. If you are interested, you can do an Internet search to find out the current status of this problem. Over time, more and more debris will reach the west coast.

(Optional) See websites about the impact of the Japanese tsunami of 2011 on marine debris in Additional Resources of the unit overview.

Teacher's Note:

Use the Interactive Read Aloud if your students need additional support. Otherwise, build background, and then go directly to teamwork. Adjust partner reading page numbers accordingly.



Active Instruction tp

(15–25 minutes)

Students use the vocabulary study routine to rate their knowledge of each vocabulary word:

+ I know this word and can use it.
✓ This word looks familiar; it has something to do with…
? I don't know this word; it's totally new to me.

Teams discuss their vocabulary ratings.

Partner Vocabulary Study

1. Display the vocabulary words. Have students use the vocabulary study routine as they rerate their knowledge of each vocabulary word as they arrive for class.
2. Spot check the Read and Respond homework.

Vocabulary

1. Have teams discuss their ratings of the words. Ask teams to make a tent with their hands when they are ready to tell a word the entire team rated with a "+" and a word the entire team rated with a "?."
2. Use **Random Reporter** to have the teams share one word that they know and one word that they need to study further. Use **Random Reporter** to have teams report on a new sentence using a vocabulary word. Award team celebration points.

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Review Vocabulary Vault.

3. Remind teams that if they find a word from the vocabulary list used in another place, such as in a magazine, textbook, TV ad, etc., they can bring in or copy the sentence in which the word was used and put it in the Vocabulary Vault to earn team points.

Set the Stage

Teams review their cycle goal.

1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

Post and present the reading objective.

3. Remind students of the text, author, and reading objective.

Build background on the Japanese tsunami of 2011.

4. Describe the Japanese tsunami of 2011. Use the points below if necessary:
   - On March 11, 2011, an earthquake struck off the northeast coast of Japan.
   - The earthquake generated a huge tsunami, killing thousands of people and devastating the coastal cities and towns.
   - Millions of tons of debris were washed into the ocean.

   Refer students to page 19 in their books, and have them identify the path they think the debris from Japan will take.

   The tsunami debris is being carried in the North Pacific Current and will land on the west coast of North America, probably including Alaska.

   (Optional) Show one or more of the videos about the Japanese tsunami of 2011.

Interactive Read Aloud

Teacher: Read aloud.
Students: Practice the skill or strategy.

1. Read page 38 (paragraph 1) aloud. Use **Think-Pair-Share** to prompt use of the skill or strategy.

   What is the author's purpose in including this paragraph?

   The author includes this information to tell me that while plastics are useful, they also pose a particular problem when they get into the ocean because they can't be digested and they don't break down.

Partner pairs: Read aloud/think aloud with the next passage to practice the skill/strategy.

2. Partner Practice: Student partner pairs use the read-aloud/think-aloud process to practice the skill or strategy with the next passage in the text. Have students read the caption on page 38 and explain why the author includes it.

   The author includes the caption and the pictures to show the impact of plastic on birds.

   Use **Random Reporter** to debrief.

Partner pairs: Review, reread to clarify, and add to the graphic organizer.

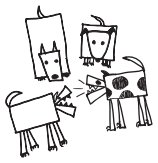
3. Ask partners to review this section of text, check their understanding with each other, reread what they need to clarify, and add notes to their graphic organizers.

   Use **Random Reporter** to debrief. Add student responses to the graphic organizer.

   A sample graphic organizer follows.

Sample Graphic Organizer

Central Question: How does trash move in the oceans?	
Topic/Main idea	**Details**
Plastic debris in the ocean	• doesn't decompose • can't be digested • is broken down into small pieces that continue to float



Teamwork tp

(20–30 minutes)

Partner Prep

Cue students to use their student routines for partner reading, word power, fluency, and the TIGRRS process.

1. Explain, or review if necessary, the student routines for partner reading, word power, fluency, and the TIGRRS process before having students read and restate: sr

   pages 38 (paragraph 2)–40 aloud with partners.
   (if skipping Interactive Read Aloud, pages 38–40)

2. Circulate and check for comprehension, evidence of strategy use, and use of the TIGRRS process, for example, restating ideas on the graphic organizer. Give students feedback. Prompt and reinforce their discussions.

3. If some partners finish ahead of their teammates, have them begin looking over the Team Talk questions.

Team Discussion

Cue students to use their student routines for strategy use and Team Talk discussion.

1. Explain, or review if necessary, how to use role cards and the student routines for strategy use and Team Talk discussion. sr

2. Remind students to use the rubrics on their team folders to prepare each team member to discuss the team's strategy use, oral and written Team Talk responses, word power, and fluency. Each team member must be able to summarize the text and discuss the team's graphic organizer/notes during Class Discussion as indicated.

3. Preview the Team Talk questions. If necessary, ask questions to guide students' reflection as they determine the meaning of the "(Write)" question.

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Team Talk Questions

1. What section of text did you choose to reread, and why? What new connection did you make by rereading and reviewing your notes?

   I reread the second paragraph on page 38. The new connection I made is that if the contaminants get into our food chain, we could get the contaminants too. I think that would cause a problem.

2. Write a summary of the section of text you reread. **(Write) [MI]** (summary rubric)

   100 = Plastic pieces can soak up contaminants. Many creatures eat contaminated plastic, such as sea turtles and jellyfish. If these pieces or the animals that eat these pieces are eaten by fish, and then we eat the fish, we can get the contaminants too.

   90 = Plastic pieces can soak up contaminants. Many creatures eat contaminated plastic. If these pieces or the animals that eat these pieces are eaten by fish, and then we eat the fish, we can get the contaminants too.

   80 = Plastic pieces can soak up contaminants. If these pieces are eaten by fish, and then we eat the fish, we can get the contaminants too.

3. How does trash affect marine life? How did your prediction in lesson 3 compare with the author's explanation? **[RE, DC]** (Team Talk rubric)

   *100 = Ocean trash **affects** marine life in **numerous** ways. Many animals eat plastic trash and die of starvation because they can't digest the plastic, so it fills up their stomachs. Animals also get caught in nets and other fishing gear and drown. Pieces of plastic can hold contaminants that can get into the food chain and be consumed by people. Some **experts estimate** that about 100,000 marine mammals (dolphins, sea lions, seals) die every year because of ocean trash. I **predicted** some of the same **impacts**—animals eating trash and animals getting caught in nets. Ocean trash **negatively affects** marine life and can even harm people.*

   90 = Ocean trash harms marine life in many ways. Many animals eat plastic trash and die of starvation because they can't digest the plastic, so it fills up their stomachs. Animals also get caught in nets and other fishing gear and drown. Pieces of plastic can hold contaminants that can get into the food chain and be consumed by people. Some people think that about 100,000 marine mammals (dolphins, sea lions, seals) die every year because of ocean trash. My prediction was right.

   80 = Many animals eat plastic trash and die of starvation because they can't digest the plastic, so it fills up their stomachs. Animals also get caught in nets and other fishing gear and drown. Pieces of plastic can hold contaminants that can get into the food chain and be consumed by people. My prediction was right.

continued

Team Talk Questions *continued*

4. Why does the author include the section on page 40? What is Curt's suggestion? How should the information in this section influence littering laws? **(Write) [AP, RE]** (Team Talk rubric)

   *100 = The author includes this section because she has been describing an environmental problem—the amount of trash in the ocean. **Since** most of the trash comes from land, solutions should be based on land. Curt **believes** that people should reduce the amount of plastic they use. He also thinks more people should walk the beaches to find, pick up, and record trash data. Since a lot of trash is dropped on streets, I think there should be more laws to **prevent** people from littering. If more people picked up litter and didn't drop it in the first place, it would be better for marine life. The author makes a complete **argument**—describing a problem and then **suggesting** what people can do about it.*

   90 = The author includes this section because she has been describing an environmental problem—the amount of trash in the ocean. Most of the trash comes from land, so solutions should be based on land. Curt thinks that people should reduce the amount of plastic they use. A lot of trash is dropped on streets, so I think there should be more laws to keep people from littering. If more people picked up litter and didn't drop it in the first place, it would be better for marine life.

   80 = The author includes this section because she has been describing an environmental problem. Most of the trash comes from land, so solutions should be based on land. Curt thinks that people should reduce the amount of plastic they use. A lot of trash is dropped on streets, so I think there should be more laws to keep people from littering.

5. "Many of these reports don't hold up to close scrutiny (you would be surprised how many other rubber ducks get lost at the beach)." In this sentence, the word *scrutiny* most nearly means— **[CV]**

   A. currents.
   B. waters.
   C. timing.
   D. inspection.

4. Have students thoroughly discuss Team Talk questions before they write individual answers to the skill question marked "(Write)." Allow students to revise their written answers after further discussion if necessary.

Cue students to discuss strategy use, graphic organizers, and word power journals.

5. Prompt teams to discuss comprehension problems and strategy use (their sticky notes), important ideas that they added to their graphic organizers, and words that a team member added to the word power journal.

6. Circulate and give feedback to teams and students. Use rubrics to give specific feedback. Ask questions to encourage further discussion. Record individual scores on the teacher cycle record form.

7. If some teams finish ahead of others, have them practice their fluency.

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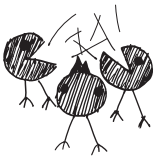
8. Award team celebration points for good team discussions that demonstrate 100-point responses.

***Randomly* select team representatives who will share:**

- strategy use
- oral and written Team Talk responses
- word power discussions
- fluency selection



Class Discussion tp

(20 minutes)

Lightning Round

1. Use **Random Reporter** to have teams share strategy use, oral and written Team Talk responses, word power discussions, and fluency. Ask other teams to agree, disagree, or add on to responses.
2. Use rubrics to evaluate responses and give specific feedback. Award team celebration points for 100-point responses. Record individual scores on the teacher cycle record form.

Celebrate

Celebrate team successes!

1. Tally the team scores on the poster, and celebrate teams that are accumulating points. Have teams reflect on the following questions:

   How many points did your team earn today?

   How can your team earn more points?

   Remind students that top-scoring teams will earn bonus points that will be added to their cycle scores.

   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

The top team chooses a cheer.

Remind students of the Read and Respond homework assignment.

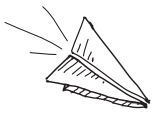
2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

Lesson 5

Writing Objective: Clearly state a position and include good reasons that support that position.

Teacher Background

Students have another opportunity to write an argument—to make a claim and support it with reasons.



Active Instruction tp

(10 minutes)

Students use the vocabulary study routine to rate their knowledge of each vocabulary word:

+ I know this word and can use it.
✓ This word looks familiar; it has something to do with…
? I don't know this word; it's totally new to me.

Partner Vocabulary Study

1. Display the vocabulary words. Have students use the vocabulary study routine as they rerate their knowledge of each vocabulary word as they arrive for class.
2. Spot check the Read and Respond homework.

Teams discuss their vocabulary ratings.

Vocabulary

1. Have teams discuss their ratings of the words. Ask teams to make a tent with their hands when they are ready to tell a word the entire team rated with a "+" and a word the entire team rated with a "?."
2. Use **Random Reporter** to have the teams share one word that they know and one word that they need to study further. Use **Random Reporter** to have teams report on a new sentence using a vocabulary word. Award team celebration points.

Review Vocabulary Vault.

3. Remind teams that if they find a word from the vocabulary list used in another place, such as in a magazine, textbook, TV ad, etc., they can bring in or copy the sentence in which the word was used and put it in the Vocabulary Vault to earn team points.

Set the Stage

Teams review their cycle goal.

1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

Post and present the writing objective.

3. Remind students of the text, author, and writing objective.

Introduce the writing project.

4. Remind students that the author has been writing about a particular topic and including information and reasons that support the topic. She is making a case for her topic.

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5. Refer students to the following writing prompt in their student editions. Read the writing prompt aloud.

Read the prompt aloud.

Writing Prompt
What do you think will be the impact of the debris from the 2011 tsunami on the garbage patches in the Pacific Ocean? Include good reasons that support your position.

tps

Use **Think-Pair-Share** to ask:

Read the prompt. What is it asking you to do: support a claim with reasons, explain ideas or information on a topic, or write a literary response? How do you know?

Students identify the purpose for writing.

The prompt is asking me to support a claim with reasons. I know because the prompt tells me to include good reasons that support my position.

6. Refer students to the following writer's guide in their student editions. Point out that the writer's guide for writing to support a claim with reasons is the criteria for writing. Point out that using the writer's guide will help them write a quality response.

Refer students to the appropriate writer's guide in their student editions.

Writing to Support a Claim with Reasons	
Ideas	• Clearly state a position (claim) and include good reasons that support that position.
Organization	• Begin by stating a position (claim). • In the middle, tell supporting reasons. • End with a closing statement.
Style	• Use words and phrases that help the audience see how the reasons are related to the claim.
Mechanics	• Use correct punctuation, capitalization, spelling, and grammar.

Highlight the writing objective.

Briefly review the guide, noting the four aspects of writing: ideas, organization, style, and mechanics.

Use **Think-Pair-Share** to ask:

Which guidelines relate to our writing objective: clearly state a position and include good reasons that support that position?

The guidelines for Ideas and Organization relate to the writing objective.

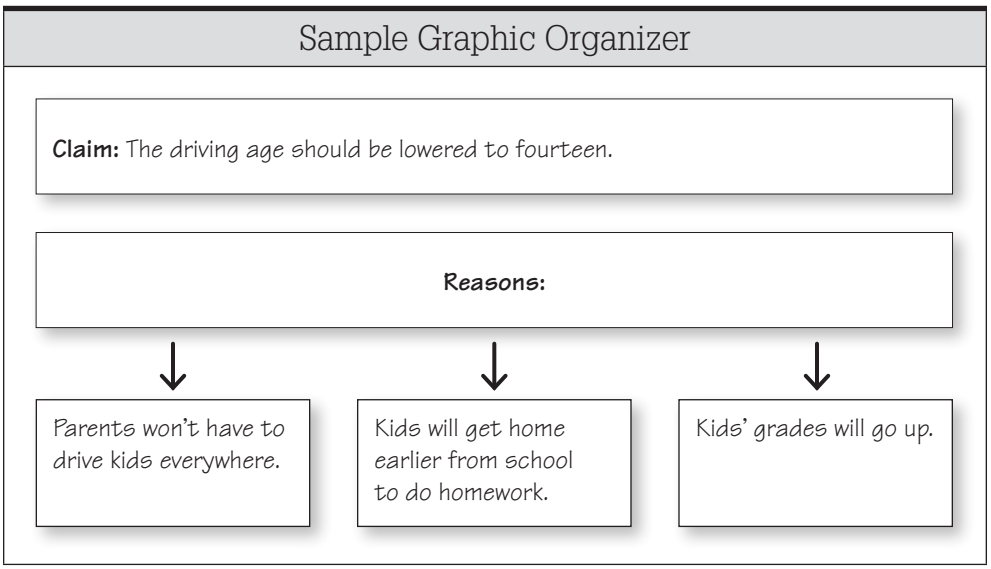
7. Tell students that this 10-minute writing project is practice to prepare them to write a quality answer for the writing section (part II) of the cycle test. Remind them that this section of the test is worth one third of their test score.

Model a Skill

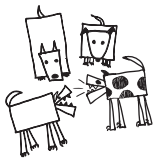
Model planning using a graphic organizer.

1. Remind students that the first step in the writing process is planning, or prewriting. Model using the writing prompt and writer's guide to create a prewriting graphic organizer. Point out that planning helps them organize their ideas and makes drafting easier.
2. Remind students that they will write an argument—make a claim and support it with reasons. Explain that a simple version of this is, "I think that _____ because _____." Remind students that as they move to high school and college, they will be required to do this in papers and on tests. Point out that clearly providing support for statements is the best way to convince people of your point.
3. Display the following graphic organizer:

Blackline master provided.



Have students discuss whether the reasons given really do support the claim. Remind students that they must include reasonable, logical reasons to support their arguments.



Teamwork tp

(20 minutes)

Independent Work

Students write for 10 minutes.

Tell students that they have 10 minutes to plan and write drafts of their responses to the writing prompt. Remind them to write on every other line to leave room for revisions. Suggest that they refer to the writing prompt to be sure that they include all the required elements and to the writer's guide to check the quality of their response.

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Team Discussion

Monitor discussions as partners and teams give feedback.

Students revise and edit their writing projects.

1. Refer students to the peer feedback checklist in their student editions, and review how to get/give feedback.
2. Have students share their drafts in teams. Allow 5 minutes for students to revise their writing projects based on feedback and to edit them using the editing checklist in their student editions.
3. Have teams put their writing projects in a pile in the middle of their tables so a writing project can be randomly selected.

Class Discussion tp

(30 minutes)

Lightning Round

Display and evaluate randomly selected writing projects using the writer's guide.

Randomly select a writing project from one or two teams' piles without revealing their authors. Display a writing project, and read it aloud.

Refer students to the writer's guide for writing to support a claim with reasons and the writing objective—clearly state a position and include good reasons that support that position.

Using the writer's guide, discuss and evaluate the selected writing project(s) with the class.

For example, ask:

- **Does the writer clearly introduce the topic?**
- **Does the writer include facts and examples to help a reader understand the information?**
- **Are all the reasons clearly connected to the claim?**
- **Does the writer end with a closing statement that supports the information?**
- **Does the writer use appropriate academic language and full sentences?**

Award points to teams whose writing projects meet the criteria. Record these points on the team poster.

Reflection on Writing

Have students reflect on their use of the writing process. Ask:

How did creating and using a graphic organizer work for you? How did it help you write your draft?

Answers will vary.

What was the most useful feedback that you received? How did it affect your revisions?

Answers will vary.

Did you find it easy or difficult to include good reasons in your writing? Do you think the reasons were effective?

Answers will vary.

Celebrate

Celebrate team successes!

1. Tally the team scores on the poster, and celebrate teams that are accumulating points. Have teams reflect on the following questions:

   How many points did your team earn today?

   How can your team earn more points?

The top team chooses a cheer.

   Remind students that top-scoring teams will earn bonus points that will be added to their cycle scores.

   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

Remind students of the Read and Respond homework assignment.

2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

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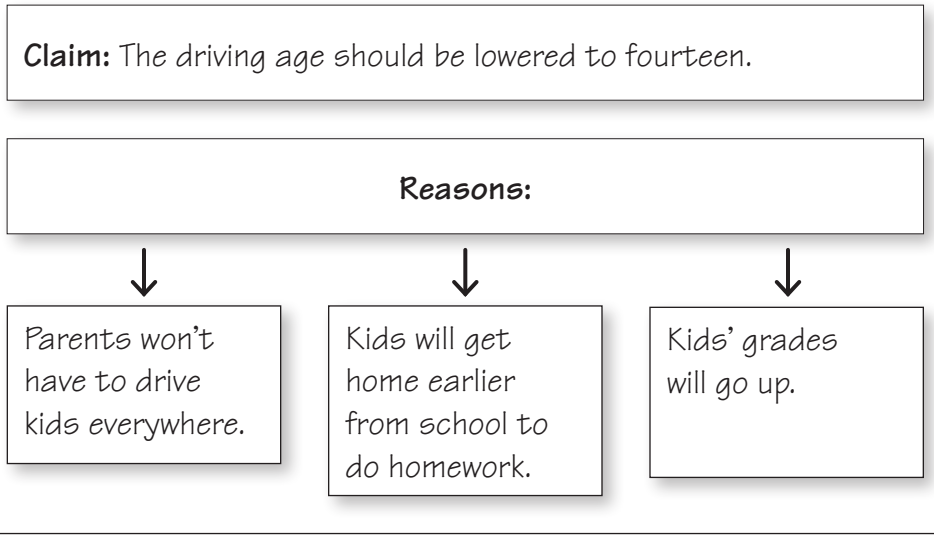
Writing Prompt

What do you think will be the impact of the debris from the 2011 tsunami on the garbage patches in the Pacific Ocean? Include good reasons that support your position.

Writing to Support a Claim with Reasons	
Ideas	• Clearly state a position (claim) and include good reasons that support that position.
Organization	• Begin by stating a position (claim). • In the middle, tell supporting reasons. • End with a closing statement.
Style	• Use words and phrases that help the audience see how the reasons are related to the claim.
Mechanics	• Use correct punctuation, capitalization, spelling, and grammar.

Sample Graphic Organizer



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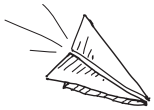
Lesson 6

Reading Objective: Analyze the author's purpose, and define the central question that the author seeks to address.
Writing Objective: Clearly state a position and include good reasons that support that position.

Teacher Background

Today's cycle test challenges students to identify the author's purpose.

Today's reading discusses the problem of ghost nets—abandoned or lost fishing nets that continue to float in the ocean and continue to catch fish and other marine creatures.



Active Instruction tp

(5 minutes)

Students use the vocabulary study routine to rate their knowledge of each vocabulary word:

+ I know this word and can use it.
✓ This word looks familiar; it has something to do with…
? I don't know this word; it's totally new to me.

Partner Vocabulary Study

1. Display the vocabulary words. Have students use the vocabulary study routine as they rerate their knowledge of each vocabulary word as they arrive for class.
2. Spot check the Read and Respond homework.

Teams review their cycle goal.

Set the Stage

1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.
3. Remind students of the text, author, and reading and writing objectives.
4. Remind teams that if they find a word from the vocabulary list used in another place, such as in a magazine, textbook, TV ad, etc., they can bring in or copy the sentence in which the word was used and put it in the Vocabulary Vault to earn team points.

Post and present the reading and writing objectives.

Review Vocabulary Vault.

Prepare Students for the Test tp

(5 minutes)

tps

Partner Review

1. Remind students that they have been practicing analyzing the author's purpose and defining the central question that the author seeks to address. They have also practiced clearly stating a position and including good reasons that support that position. Use **Think-Pair-Share** to ask:

   What is the value of keeping the author's purpose in mind as you read?

   (Answers may vary.) Keeping the author's purpose in mind helps me see how the different parts of the text are related to that purpose and the central question. It makes it easier to follow the main point.

   Tell students that they will use these skills as they take the cycle test.

2. Have partners review their notes and word power journals for this cycle. Allow 2 or 3 minutes for this activity.

Test Directions

1. Remind students that the test is independent work. Students should not ask their partners for help as they read, but they may use sticky notes if they would like.
2. Distribute the test so students can preview the questions. Point out that some of the test questions are multiple choice for which they will choose the best answer. Other questions require them to write a short answer or create a graphic organizer. Part II of the cycle test requires them to write a long answer. Remind them that their writing project was practice for writing the long answer for part II of the test.
3. Point out that questions #2 and #4 ask about author's purpose and the central question.
4. Ask students to identify key words or phrases in question #4.

   > 4. What is the author's purpose in the last chapter? Explain how it relates to the central question. **[AP]**

5. Introduce the text that students will read. Tell what it is about, but do not give additional information or details.

   Today you will read more about trash in the oceans.

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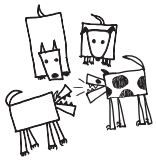
Test tp

(30 minutes)

Tell students that they have 30 minutes for the test and that they may begin. Give students a 5-minute warning before the end of the test.



Teamwork tp

(10 minutes)

Team Discussion

Teams discuss the answers to the test questions.

1. Pass out a colored pen to each student.
2. Explain or review, if necessary, the student routine for team discussions after the test.
3. Have teams discuss their answers to the test questions. As you monitor team discussions, ask additional questions to prompt their thinking about the important ideas in the reading and about the skills and strategies that they have been using.

Class Discussion tp

(10 minutes)

Lightning Round

Random Reporters share team discussion of a test question.

1. Use **Random Reporter** to have teams share team discussions of the test questions and explain their thinking.

   What do you think are the solutions to the problem of ghost nets?

   (Answers will vary.) I think that when ships find a ghost net, they should remove it so it doesn't continue to be a hazard.

   What do you think are the solutions to the problem of trash in the oceans?

   (Answers will vary.) I think a solution to keep trash out of the oceans is for people to stop littering. They should throw all trash in trash cans and recycle plastic so it doesn't get washed into the ocean.

2. Award team celebration points.
3. Collect test answers. Score original answers, and add extra points for improved answers.

Celebrate

Celebrate team successes!

1. Tally the team scores on the poster, and celebrate teams that are accumulating points. Have teams reflect on the following questions:

   How many points did your team earn today?

   How can your team earn more points?

   Remind students that top-scoring teams will earn bonus points that will be added to their cycle scores.

   The top team chooses a cheer.

   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

Remind students of the Read and Respond homework assignment.

2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

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Cycle 2 Test

Author's Purpose

Directions: Read *Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion*, pages 43–51. Use the TIGRRS process, and answer the following questions on a separate piece of paper.

Some of the questions are based on today's reading, and other questions are about the text that you read in previous lessons. You may refer to your notes from this cycle.

Part I. Comprehension (100 points)

1. What is the topic?

   5 points = The topic is ghost nets—abandoned or lost fishing nets.

   What is the author's intent?

   5 points = The author's intent is to finish the book with the problem of large floating nets that harm wildlife to show another aspect to the problem and how currents can carry very large floating objects.

   Write a short summary of the text you read today. Include the graphic organizer or notes that you used to organize the information and your thoughts. **[MI, AP]**

   10 points = Scientists found a 4,000-pound net in the ocean in 1991. Ghost nets are common, and they catch and kill many sea creatures. This is a problem. Jim Churnside is working to study these nets by tagging them with satellite tags and getting people to remove them. He used the OSCURS program to help in his work. He created the GhostNet Project to help find, track, and remove the nets so they won't kill animals. Many people are interested in saving the oceans from the trash.

2. Why does the author include the work of Charlie Moore in the book? How does it relate to the central question? **[AP, RE]**

   *20 points = The author includes Moore's work to show that Curt and Jim's work has a more serious side; floating sneakers and bathtub toys could just be a curiosity, but millions of pounds of trash in the ocean is a serious problem. It relates to the central question because it involves floating trash and currents. The author builds her **purpose** from an incidental observation (sneakers) to the problem of large amounts of trash in the ocean by giving background on latitude, longitude, ocean movements (currents, waves, gyres), and naturally floating plants and animals (plankton). The author **provides logical support** for **solving** a scientific problem.*

   15 points = The author includes Moore's work to show that Curt and Jim's work has a more serious side; floating sneakers and bathtub toys could just be a curiosity, but millions of pounds of trash in the ocean is a serious problem. It relates to the central question because it involves floating trash and currents.

10 points = To show that Curt and Jim's work has a more serious side. It relates to the central question because it involves floating trash and currents.

3. What is a "ghost net," and what does it do? **[RE]**

*20 points = A ghost net is a net that has been lost, thrown away, or ripped from fishing boats. The nets drift in the ocean. Many marine animals get **entangled** in the nets and die from drowning or are killed by predators. The nets also trap other trash. Balls of nets get very heavy and can **damage** coral reefs if they hit them. Some ghost nets have been as big as a school bus. Ghost nets are another example of marine trash that threatens marine life.*

15 points = A ghost net is a net that has been lost, thrown away, or ripped from fishing boats. The nets drift in the ocean. Many marine animals get caught in the nets and die from drowning or are killed by predators. The nets also trap other trash. Balls of nets get very heavy and can hurt coral reefs if they hit them.

10 points = A ghost net is a net that has been lost, thrown away, or ripped from fishing boats. Many marine animals get caught in the nets and die from drowning or are killed by predators. The nets also trap other trash. They can hurt coral reefs if they hit them.

4. What is the author's purpose in the last chapter? Explain how it relates to the central question. **[AP]**

*20 points = I think the author's purpose is to present another example of the problem of ocean trash—ghost nets—and to describe **additional** efforts to clean up the oceans. It is also another example of how far-reaching the work of Curt Ebbesmeyer and Jim Ingraham is. From trying to answer a mother's question, Curt and Jim's work is being used to **improve** our understanding of ocean currents, track trash in the ocean, and solve the problem of ocean trash. The ghost nets relate to the central question because they float and are carried by the currents. The author set out to describe the problem of ocean trash and moved **logically** from the work of Curt and Jim on sneakers and tub toys, through the **identification** of the Garbage Patch by Charlie Moore, and ends by **suggesting solutions**—what individuals can do and what is being done to track and remove ghost nets.*

15 points = I think the author's purpose is to present another example of the problem of ocean trash—ghost nets—and to describe efforts to clean up the oceans. It is also another example of how far-reaching the work of Curt Ebbesmeyer and Jim Ingraham is. From trying to answer a mother's question, Curt and Jim's work is being used to help our understanding of ocean currents, track trash in the ocean, and solve the problem of ocean trash. The ghost nets relate to the central question because they float and are carried by the currents.

10 points = She presents another example of the problem of ocean trash—ghost nets—and describes efforts to clean up the oceans.

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It is also another example of how far-reaching the work of Curt Ebbesmeyer and Jim Ingraham is.

5. What does this book tell you about scientific work? **[RE, DC]**

20 points = *This book tells me that scientific **inquiry** can come from anywhere. People and scientists ask questions, even seemingly silly questions, and try to find out answers. Scientists can use a variety of techniques—from technical, such as using satellites to track things, to informal, such as talking to beachcombers or soaking boxes of bathtub toys to see how long the box lasts in seawater. When one question is answered, usually it leads to other questions and other paths of inquiry. I also learned that scientists help each other. The work of one scientist can be used in different ways by other scientists. I also learned that when scientists see a problem, like ocean trash, they look for ways to solve it so their work can have practical applications. This book **illustrates** how scientists work to solve problems.*

15 points = *This book tells me that scientific questions can come from anywhere. People and scientists ask questions, even seemingly silly questions, and try to find out answers. Scientists can use a variety of techniques—from technical, such as using satellites to track things, to informal, such as talking to beachcombers or soaking boxes of bathtub toys to see how long the box lasts in seawater. When one question is answered, usually it leads to other questions and other paths of inquiry. I also learned that scientists help each other. The work of one scientist can be used in different ways by other scientists.*

10 points = *This book tells me that scientific questions can come from anywhere. People and scientists ask questions and try to find out answers. Scientists can use a variety of techniques. When one question is answered, usually it leads to other questions. I also learned that scientists help each other.*

Part II. Writing (100 points)

Write at least one paragraph to answer the following question:

How should the information in the last chapter affect any laws regarding fishing nets? Include good reasons that support your position.

Ghost nets occur when fishing nets are lost, ripped away from, or thrown away from fishing vessels. To reduce the number of ghost nets, I think it should be against the law to throw fishing nets into the ocean or abandon them. This would leave just the ones that are lost by accident. I also think any ship that sees a ghost net should remove it from the ocean if they can, or notify the GhostNet Project of its position. Ships should be rewarded for removing the nets. Ghost nets are a real problem for marine life. Marine mammals and reptiles that get caught in the nets can drown. Any fish that are caught in the net become food for predators, who also may get caught. Large ghost nets can be a problem for shipping. Many people are working to solve the problem of ghost nets, and all ships should be involved in one way or another.

The following guide is used to score part II of the cycle test.

Writing to Support a Claim with Reasons		
Ideas	• Clearly states a position (claim) and includes good reasons that support that position	**0–25 pts.**
Organization	• Begins by stating a position (claim) • In the middle, tells supporting reasons • Ends with a closing statement	**0–25 pts.**
Style	• Uses words and phrases that help the audience see how the reasons are related to the claim	**0–25 pts.**
Mechanics	• Uses correct punctuation, capitalization, spelling, and grammar	**0–10 pts.**
Writing Objective	• Clearly state a position and include good reasons that support that position.	**0–15 pts.**

Part III. Vocabulary (100 points)

1. I went to a public elementary school and a public high school, but in the _____ years, I went to a private middle school.

   Choose the word that belongs in the blank. **[CV]**

   A. intervening
   B. end
   C. beginning
   D. last

2. "If this was true, then bad pollock years would correlate with years in which current movement did not carry the planktonic walleye pollock babies far enough from their parents." In this sentence, the word *correlate* most nearly means— **[CV]**

   A. match.
   B. avoid.
   C. disappear.
   D. drift.

3. What is a synonym for the word *dispersed*? What is an antonym for the word *dispersed*? **[CV]**

   (Accept reasonable responses.) A synonym for dispersed *is the word* distributed*. An antonym for* dispersed *is the word* gathered*.*

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4. "Given the substantial release of 29,000 toy animals, we anticipate that by the year 2000 a few toys will have been transported to many oceanic locations in the Northern Hemisphere." In this sentence, the word *substantial* most nearly means— **[CV]**

   A. insignificant.
   B. huge.
   C. floating.
   D. current.

5. Write a meaningful sentence using the word *hypothetical*. **[CV]**

   Accept reasonable responses that show that the student knows the meaning of the word and can use it correctly. For example: Until we know the results of the test, my hypothetical *idea is that the patient has an allergy to poison ivy.*

6. What is a synonym for the word *simulation*? What is an antonym for the word *simulation*? **[CV]**

   (Accept reasonable responses.) A synonym for simulation *is the word* model*. An antonym for* simulation *is the word* actual*.*

7. You should always give a contract close _____ before signing it.

   Choose the word that belongs in the blank. **[CV]**

   A. washing
   B. trouble
   C. space
   D. scrutiny

8. Write a meaningful sentence using the word *convergence*. **[CV]**

   Accept reasonable responses that show that the student knows the meaning of the word and can use it correctly. For example: My mother put a chair at the convergence *of the two hallways so there would be a place to sit.*

9. What is one word that you or your teammates explored in your word power journal this cycle? Give the meaning of this word, and then use it in a meaningful sentence. **[CV]**

   (Answers will vary.) We clarified the word motivation*.* Motivation *means inspiration to do something. My* motivation *for studying for the test is that I want to get an A in the class.*

10. As used in the sentence "…tiny plastic bits, called nurdles, that manufacturers produce as a precursor to larger plastic items," *precursor* most nearly means— **[CV]**

    A. a common part of oceanic trash.
    B. the drift route of plastic tub toys around the world.
    C. a substance from which another substance is formed.
    D. items found in the Garbage Patch.

Explain how you figured out the meaning of *precursor*.

Students will explain their thinking. For example, I used the context. The passage talks about making larger plastic items from smaller bits, so a precursor is a substance from which another substance is made. The word includes the prefix pre-*, which means before.*

Question Codes			
[DC]	Make inferences; interpret data; draw conclusions.	**[AA]**	Analyze an argument.
[SA]	Support an answer; cite supporting evidence.	**[AP]**	Identify author's intent or purpose.
[MI]	Identify the main idea that is stated or implied.	**[RE]**	Analyze relationships (ideas, story elements, text structures).
[CV]	Clarify vocabulary.	**[AC]**	Author's craft; literary devices

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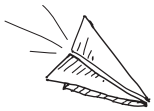
Lesson 7

Reading Objective: Analyze the author's purpose, and define the central question that the author seeks to address.

Teacher Background

During Class Discussion, students orally present evaluations of their homework reading selections. During Teamwork, students use their Read and Respond notes and answers to the homework questions to make final preparations for these presentations. Team members share their responses and give one another feedback. During the oral presentations, students use their revised responses to the questions to describe the kind of texts they read, the strategies that helped them understand the text, and whether they will recommend their reading selections to others.



Active Instruction tp

(20 minutes)

Two-Minute Edit

Two-Minute Edit

1. Display and have students complete the Two-Minute Edit as they arrive for class.
2. Use **Random Reporter** to check corrections. Award team celebration points.

Vocabulary

Vocabulary Vault

Ask teams if they have a Vocabulary Vault word that they would like to share. Award team celebration points.

Set the Stage

Teams review their cycle goal.

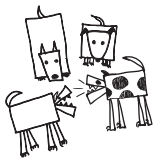
1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

Connect the cycle objective to students' homework reading selections.

3. Have students get out their reading selections and Read and Respond forms. Remind them that today, with the help of their teams, they will each prepare a presentation about their individual reading selections.

   Challenge students to think about the strategies and skills that they used to read their self-selected texts, share their answers to the Read and Respond questions, discuss their thinking, and prepare evaluations of their selections.

4. Remind students to add to the notes on their Read and Respond forms as they discuss their selections and prepare oral presentations about their selections. Students will use their answers to the questions on the Read and Respond form as the basis for their presentations.



Teamwork tp

(25 minutes)

Team Discussion

Students prepare, share, and revise presentations about their reading selections.

1. Tell students that they will use the Read and Respond questions as a guide as they discuss their homework reading and prepare evaluations of their reading selections to share with their teams.
2. As students prepare their answers, check in with those students for whom you do not have individual scores for graphic organizer/notes, written Team Talk responses, word power journal, and/or a fluency score. Have them show you examples from the cycle. Point out areas of success, and give feedback to improve student performance.

Give students feedback on classwork.

3. As you visit teams, take this opportunity to check students' homework for completion (Read and Respond forms). Enter the information on your teacher cycle record form.

Teacher's Note:

Have students who are ready for a new selection take turns choosing reading material from the classroom library. Make sure that every student has a Read and Respond form for next cycle.

Read and Respond Questions	
1.	Is your selection informational or literature? Summarize your reading. (summary rubric)
2.	Why did you choose this reading? What is your purpose for reading? (Team Talk rubric)
3.	Choose a word, phrase, or passage that you did not understand at first. How did you figure it out? (strategy-use rubric)
4.	Write down a question that you had or a prediction that you made as you read. Were you able to answer or confirm it? Explain. (strategy-use rubric)
5.	Would you recommend this selection to others to read? State your opinion, and support it with reasons. (Team Talk rubric)
6.	Choose a short section of the text that you think is important or especially interesting. Tell your teammates why you chose it. Read it aloud smoothly and with expression. (fluency rubric)

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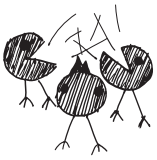


Class Discussion tp

(15 minutes)

Team responses and feedback

Teams report on their review of the texts and Read and Respond discussions.

Lightning Round

Use **Random Reporter** to have students present their evaluations of their homework reading selections (responses to the Read and Respond questions). Use rubrics to evaluate responses, give specific feedback, and award points.

Celebrate team successes!

Final tally for this cycle

Celebrate

1. Tally up this cycle's points on the poster.
2. Tell students that their scored tests will be returned at the beginning of the next lesson. Poster points and the teams' test scores will determine which teams earn the status of super team, great team, or good team for the cycle.

Record team celebration points on the teacher cycle record form.

3. Be sure to record each team's total celebration points from the poster into the teacher cycle record form. Remind students that team celebration points and team test averages are used to determine team scores.

Collect Read and Respond forms for this cycle.

4. Collect students' Read and Respond forms, and pass out new forms.
5. Tally up the number of Read and Respond signatures on students' forms, and record the number on the teacher cycle record form after class.

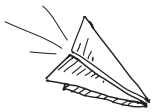
Lesson 8

Objectives: Celebrate successes, and set new goals. Hold a Class Council meeting.

Teacher Background

In the first part of this lesson, students review their test results and their final scores for the cycle and compare them with their goals. They celebrate success and set new objectives for further improvement.

In the second part of the lesson, students participate in Class Council.



Active Instruction tp

(2 minutes)

Two-Minute Edit

Two-Minute Edit

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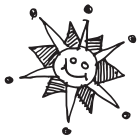

Celebrate/Set Goals

(20 minutes)

Distribute scored cycle tests.

1. Distribute students' scored cycle tests. Allow a few moments for students to review them.

Distribute team score sheets and celebration certificates.

2. Distribute team score sheets to teams and celebration certificates to students. Remind students that the cycle's top-scoring teams are determined by their points on the poster and their test scores.

Class celebration! Celebrate team successes with a class cheer.

3. Recognize and celebrate the super, great, and good teams. Remind the teams of the impact of bonus points that are added to team members' cycle scores.

Each team sets a team goal for the next cycle.

4. Have each team discuss and set a goal for the next cycle and record it on their team score sheet. Use the questions below to analyze and discuss the students' scores.

   What was your team's highest score?

   What score do you want to improve?

   What can the team do to improve that score?

   Use **Random Reporter** to ask:

   What is your team's goal for the next cycle? Why did you choose that goal?

   Accept supported answers.

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5. Use the poster to award team celebration points for responses that include the team's reasons for choosing the goal, thus beginning the accumulation of points for the next cycle.
6. Have students record their cycle test scores and their areas of greatest strength and improvement on their progress charts.

Class Council

(30 minutes)

1. Share class compliments.
2. Review the class goal that was set at the last Class Council. Using the agreed-upon measure of progress, was the goal met? Why or why not?
3. Discuss a class concern, or use the scenario and discussion hints provided.
4. Have teams discuss and then use **Random Reporter** to share responses.
5. After debriefing how they resolved the problem, help students set a goal and a measure of progress that they can use at the next Class Council.

Brain Game

(5 minutes)

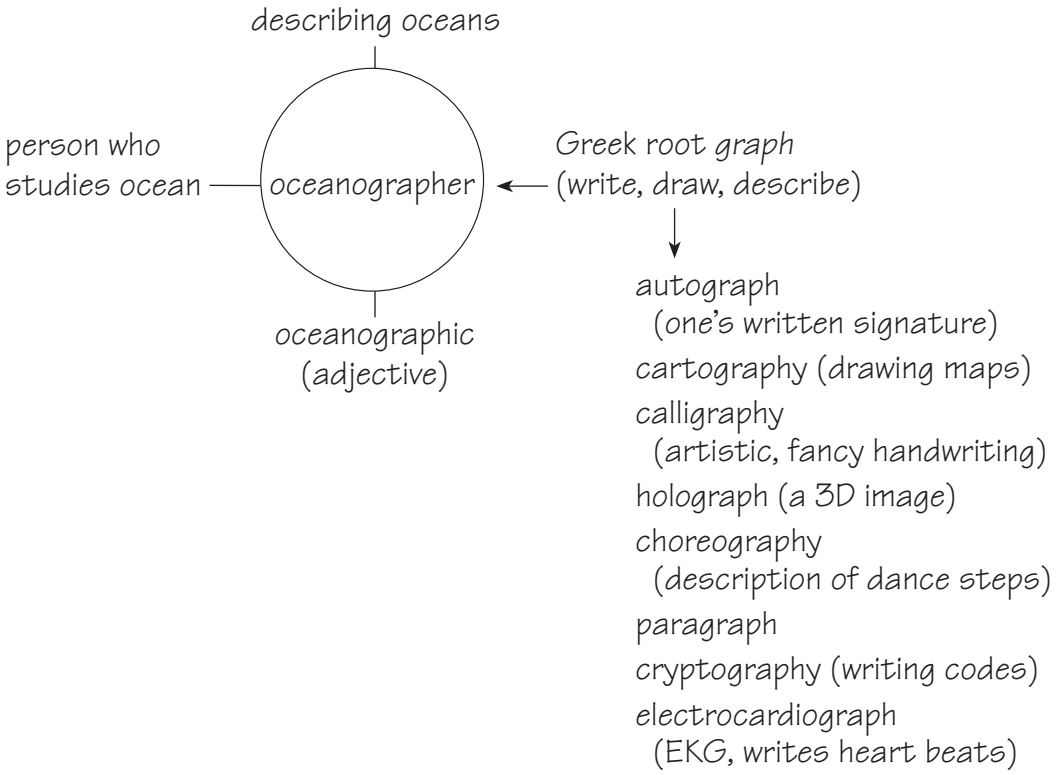
1. Choose a brain game from the card set, and then play the game.
2. Use the following questions to debrief and remind students of self-regulatory strategies:

   What did this game require your brain to do?

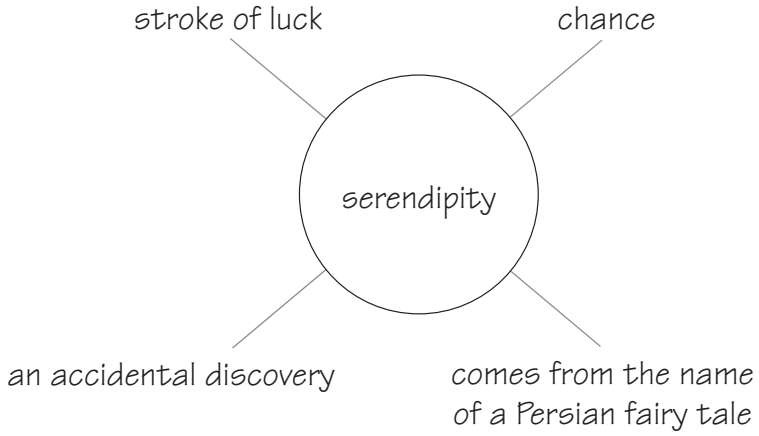
   How will use of this skill improve your success in other classes?

Word Power Journal Sample Entries

Sample Word Map
Cycle 1



Sample Word Map
Cycle 2



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Step Up to Research

1. Team score sheets for this unit should be distributed during lesson 1. Students will use this modified version of the team score sheet to review their goals, track their progress through the six-step research process, and tally team celebration points throughout each lesson.
2. All teams will have the same team goal for this unit—to earn as many team celebration points as possible.
3. The teacher cycle record form has also been modified for the research unit.
   - Track student completion of the research steps, using check marks to indicate done or not done.
   - Note the writing purpose that each student selects to evaluate the individual research presentations.
   - Record the writing/presentation score for each student based on the scoring guide for writing that each student chose. This is the only score from the research unit that will roll up into the averages on the classroom assessment summary for the grading period.
   - Record tallies for completion of Read and Respond homework.
4. This is a short, focused research opportunity. While a two to three-page written product and a three to five-minute presentation are recommended at this level, please consider your available time and research materials and students' Internet access and needs to choose a product that is appropriate for your class.

Unit Overview

This research unit follows the level 8H unit Author's Purpose: *Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion.*

The focus for this unit is plastic in the environment. This focus provides the motivation for students to generate questions and to stimulate new thinking about the books they read in the previous unit.

Lesson 1

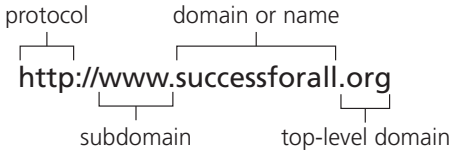
Teacher Background

Many students have experience using the Internet for socialization or entertainment, but they are less experienced using it for academic research. This mini-lesson introduces how to do digital research and evaluate the credibility of sources.

Determine how students will access the Internet. If possible, arrange time with a librarian who has expertise in using library resources such as databases, online books and journals, and primary sources for academic research by students.

Review your school's policies on using the Internet, and review them with your students. Adjust instruction based on the skill level of your students.

The Anatomy of a URL, or Uniform Resource Locator



The top-level domain may be:

.org (usually a not-for-profit organization)

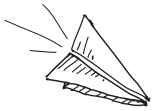
.edu (usually an educational institution, such as a university)

.com or **.net** (usually a commercial or for-profit organization)

.gov (usually a government organization or agency)

.mil (usually a military organization or branch of the armed forces)

In addition, letters may be added to indicate the location of the publisher of the site. For example, uk.co indicates a company in the United Kingdom, and md.us.edu would indicate an educational organization in Maryland in the United States.



Active Instruction tp

Generate Questions (15 minutes)

1. Post the research purpose and focus. Have students write their focus-related questions as they enter the classroom.

Research Purpose: In this unit, you will ask questions, find and organize information, and present your findings to others.
Research Focus: Plastic in the environment

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2. Have teams use the Questioning Formulation Technique (QFT: Rothstein, 2012) to write as many questions about the research focus as they can in ten minutes.
   - Ask as many questions as you can.
   - Do not stop to answer, discuss, or judge the questions.
   - Write down every question just as you hear it.
   - If a teammate makes a statement, turn it into a question.

3. Use **Random Reporter** to select a student from each team to share a question or two.

Prioritize and Improve Your Questions (10 minutes)

1. Present the research product:

> **Research Product:** You will write two to three pages that answer your research question and include at least one text feature that helps to inform the audience. You will prepare and deliver a three- to five-minute presentation of your written information.

2. Present the materials that students will use to research their questions.
3. Have each student use the team list to choose up to three questions that he or she finds important or interesting.
4. Have students share their questions with their teams and discuss how realistic it is to research each question, given the time and materials available. Teammates help one another narrow down questions to make them more researchable. Each student chooses one question to research.
5. Have students choose the scoring guide that they will use based on the research project (Writing to Support a Claim with Reasons or Writing to Inform or Explain).

6. Use **Random Reporter**, and award team celebration points to teams whose representatives can share the research question and scoring guide that they chose and explain why.
7. Have students review their research purpose, team goal, and team cooperation goal for this cycle. Tell teams to discuss how they are going to earn more team celebration points during this unit, and have them write that goal in the allotted space.
8. Explain to students that they will earn super, great, or good team status based only on the team celebration points that they earn in this unit.
9. Tell students that the only score they will earn this cycle is a writing score that will be based on the scoring guide that they select for evaluation of their research presentation.
10. Tell students to initial each step of the writing process as it is completed during the unit.

Interactive Skill Instruction (25 minutes)

1. Present the mini-lesson on Internet searches.

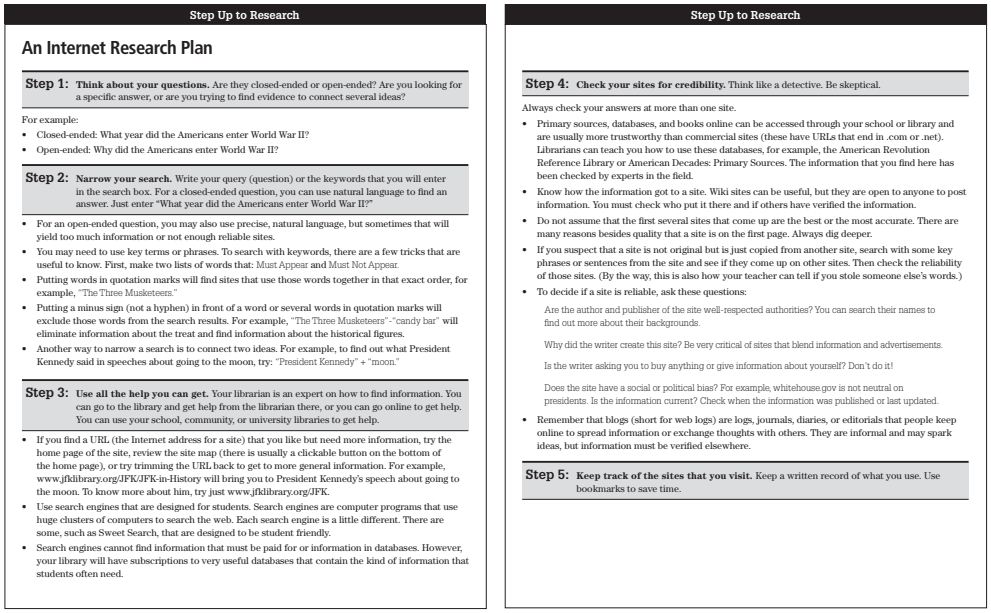
   Use Thumbs Up or Thumbs Down to ask students:

   Have you ever started searching on the Internet for something, and before you knew it, time passed and you were looking at something else? There is so much information available online that it is very easy to get distracted.

   Explain that when you use the Internet for academic research, the first and most important step is to have a plan. Point out that a search is only as good as the thinking you do before you start.

2. Refer students to the following steps in An Internet Research Plan in their student editions. Review and discuss each of the steps. Have partners work together on step two to identify key terms and phrases that they will use to research their questions, and to identify + terms and – terms that will help them narrow their searches.

Blackline master provided.



Step Up to Research

An Internet Research Plan

Step 1: **Think about your questions.** Are they closed-ended or open-ended? Are you looking for a specific answer, or are you trying to find evidence to connect several ideas?

For example:

- Closed-ended: What year did the Americans enter World War II?
- Open-ended: Why did the Americans enter World War II?

Step 2: **Narrow your search.** Write your query (question) or the keywords that you will enter in the search box. For a closed-ended question, you can use natural language to find an answer. Just enter "What year did the Americans enter World War II?"

- For an open-ended question, you may also use precise, natural language, but sometimes that will yield too much information or not enough reliable sites.
- You may need to use key terms or phrases. To search with keywords, there are a few tricks that are useful to know. First, make two lists of words that: Must Appear and Must Not Appear.
- Putting words in quotation marks will find sites that use those words together in that exact order, for example, "The Three Musketeers."
- Putting a minus sign (not a hyphen) in front of a word or several words in quotation marks will exclude those words from the search results. For example, "The Three Musketeers"-"candy bar" will eliminate information about the treat and find information about the historical figures.
- Another way to narrow a search is to connect two ideas. For example, to find out what President Kennedy said in speeches about going to the moon, try: "President Kennedy" + "moon."

Step 3: **Use all the help you can get.** Your librarian is an expert on how to find information. You can go to the library and get help from the librarian there, or you can go online to get help. You can use your school, community, or university libraries to get help.

- If you find a URL (the Internet address for a site) that you like but need more information, try the home page of the site, review the site map (there is usually a clickable button on the bottom of the home page), or try trimming the URL back to get to more general information. For example, www.jfklibrary.org/JFK/JFK-in-History will bring you to President Kennedy's speech about going to the moon. To know more about him, try just www.jfklibrary.org/JFK.
- Use search engines that are designed for students. Search engines are computer programs that use huge clusters of computers to search the web. Each search engine is a little different. There are some, such as Sweet Search, that are designed to be student friendly.
- Search engines cannot find information that must be paid for or information in databases. However, your library will have subscriptions to very useful databases that contain the kind of information that students often need.

Step Up to Research

Step 4: **Check your sites for credibility.** Think like a detective. Be skeptical.

Always check your answers at more than one site.

- Primary sources, databases, and books online can be accessed through your school or library and are usually more trustworthy than commercial sites (these have URLs that end in .com or .net). Librarians can teach you how to use these databases, for example, the American Revolution Reference Library or American Decades: Primary Sources. The information that you find here has been checked by experts in the field.
- Know how the information got to a site. Wiki sites can be useful, but they are open to anyone to post information. You must check who put it there and if others have verified the information.
- Do not assume that the first several sites that come up are the best or the most accurate. There are many reasons besides quality that a site is on the first page. Always dig deeper.
- If you suspect that a site is not original but is just copied from another site, search with some key phrases or sentences from the site and see if they come up on other sites. Then check the reliability of those sites. (By the way, this is also how your teacher can tell if you stole someone else's words.)
- To decide if a site is reliable, ask these questions:

  Are the author and publisher of the site well-respected authorities? You can search their names to find out more about their backgrounds.

  Why did the writer create this site? Be very critical of sites that blend information and advertisements.

  Is the writer asking you to buy anything or give information about yourself? Don't do it!

  Does the site have a social or political bias? For example, whitehouse.gov is not neutral on presidents. Is the information current? Check when the information was published or last updated.

- Remember that blogs (short for web logs) are logs, journals, diaries, or editorials that people keep online to spread information or exchange thoughts with others. They are informal and may spark ideas, but information must be verified elsewhere.

Step 5: **Keep track of the sites that you visit.** Keep a written record of what you use. Use bookmarks to save time.

3. Use **Random Reporter** to share answers, and then award team celebration points.

4. Present the target(s) for scoring from the scoring guides: ideas, organization, style, and mechanics.

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Start Digging (10 minutes)

Encourage partners to share relevant information.

1. Have students use the research materials to search for information, and have them use a graphic organizer or notecards to make notes and record source information.
2. Ask students to write the research question in the center of the web or on the first notecard.
3. Circulate, check students' progress, and record each completed step on the teacher cycle record form. Spot check the Read and Respond homework.

Remind students of the Read and Respond homework assignment.

4. Commend students for their progress through the research process during the lesson as recorded in the Research Process section of their team score sheets.
5. Add up the team celebration points earned by each team during the lesson, and record them on the Team Celebration Points poster.

Step Up to Research

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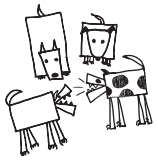
Lesson 2



Teamwork

Keep Digging: Search and Process (50 minutes)

1. Have students review their research purpose, team goal, and team cooperation goal as recorded on their team score sheets. Remind teams that they will earn super, great, or good team status based on how many team celebration points they earn.
2. Have students continue to use the research materials to search for information, and have them use their graphic organizer or notecards to record relevant information.
3. Circulate, check students' progress, and record each completed step on the teacher cycle record form.
4. Spot check the Read and Respond homework.
5. Ask partners to share what they have found with each other and prepare to share an important piece of information and its source with the class prior to class discussion.

Class Discussion (10 minutes)

1. Use **Random Reporter** to have students share an important piece of information, the source, and why they think the information is important with the class. Award team celebration points.
2. Award extra team celebration points to volunteers who answer the following question: "Did your research change your question or your thinking about what you thought you would find?"
3. Commend students for their progress through the research process during the lesson as recorded in the Research Process section of their team score sheets.
4. Add up the team celebration points earned by each team during the lesson, and record them on the Team Celebration Points poster.

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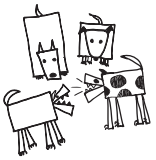
Lesson 3



Teamwork

During this class period, students review their research and write an answer to their questions.

Put It All Together: Draw Conclusions, Write, and Practice (30 minutes)

1. Have students review their research purpose, team goal, and team cooperation goal as recorded on their team score sheets. Remind teams that they will earn super, great, or good team status based on how many team celebration points they earn.
2. Have each student make a plan for his or her written product and review it with a teammate.
3. Ask each student to draft his or her written product. Have students record the type of writing (writing to support a claim with reasons or writing to inform or explain) at the top of the page.

Team Feedback (20 minutes)

1. Have each team member share his or her presentation with another member of the team.
2. Ask team members to use the evaluation form to give feedback.
3. Tell students to make improvements and prepare for their presentations.
4. Circulate, check students' progress, and record each completed step on the teacher cycle record form.
5. Spot check the Read and Respond homework.

Class Discussion (10 minutes)

1. Award team celebration points to Random Reporters who can report a strength that teammates shared with them about their presentations.
2. Award extra team celebration points to volunteers who share what they have learned about the research, writing, and presentation process.

Remind students of the Read and Respond homework assignment.

3. Commend students for their progress through the research process during the lesson as recorded in the Research Process section of their team score sheets.
4. Add up the team celebration points earned by each team during the lesson, and record them on the Team Celebration Points poster.

Lesson 4

Present and Evaluate

In this lesson, students will present their research to groups other than their own teams, and students will use the evaluation form to provide a written evaluation of each presentation that they hear. There will be four rounds of presentations, during which each student will have three minutes to present.

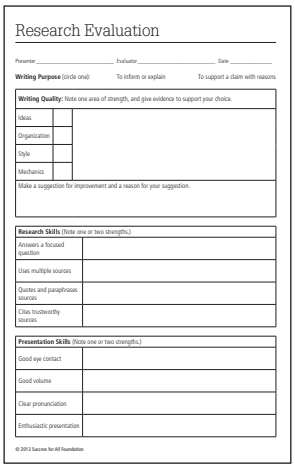
Choose group assignments in advance, or use the following process:

- Count the number of teams.
- Have students count off from 1 to the number of teams. There will be four or five students with each number.
- Have the students who counted off as 1s go to table 1, 2s go to table 2, and so on.

Allow a volunteer to give the first presentation, or designate an individual within each group. Presentations then proceed to the right until everyone has presented. As each presentation concludes, the evaluators complete the evaluation sheets and give them to the presenter.

Present (30 minutes)

1. Have students review their research purpose, team goal, and team cooperation goal as recorded on their team score sheets. Remind teams that they will earn super, great, or good team status based on how many team celebration points they earn.
2. Review the criteria for evaluating a presentation, and demonstrate how to complete the evaluation. Remind students that you will collect the evaluation forms.
3. Designate group assignments, and pass out evaluation forms.
4. Have students move to their designated groups. Begin the presentations.
5. Make sure that each student presents and receives evaluations after the presentation.



Research Evaluation

Presenter _____ Evaluator _____ Date _____

Writing Purpose (circle one): To inform or explain To support a claim with reasons

Writing Quality: Note one area of strength, and give evidence to support your choice.		
Ideas		
Organization		
Style		
Mechanics		
Make a suggestion for improvement and a reason for your suggestion.		

Research Skills (Note one or two strengths.)	
Answers a focused question	
Uses multiple sources	
Quotes and paraphrases sources	
Cites trustworthy sources	

Presentation Skills (Note one or two strengths.)	
Good eye contact	
Good volume	
Clear pronunciation	
Enthusiastic presentation	

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Team Discussion (20 minutes)

1. When all presentations are finished, have students return to their teams to review the feedback that they received.
2. Ask team members to share their strengths and suggestions in each category.

Class Discussion (10 minutes)

1. Review each target, and ask for a show of hands indicating areas of strength and areas that need improvement.

2. Use **Random Reporter** to hold a discussion during which students reflect on the research process and the products that they produced and draw conclusions about successes and areas in need of improvement. Award team celebration points.
3. Collect the written materials, including the plans, drafts, and evaluations. Plan to score and return the research products by the end of the next unit. Award up to 100 points for evidence that the chosen targets were met.

Remind students of the Read and Respond homework assignment.

4. Review the total number of team celebration points earned by each team. Use the poster overlay to determine team status (super, great, or good) for this unit.
5. Enter the writing, Read and Respond, and team celebration points scores into the Member Center.
6. Generate the teacher cycle record results report to review team and class averages for the unit.

Research Evaluation

Presenter_____ Evaluator_____ Date _____

Writing Purpose (circle one): To inform or explain To support a claim with reasons

Writing Quality: Note one area of strength, and give evidence to support your choice.		
Ideas		
Organization		
Style		
Mechanics		
Make a suggestion for improvement and a reason for your suggestion.		

Research Skills (Note one or two strengths.)	
Answers a focused question	
Uses multiple sources	
Quotes and paraphrases sources	
Cites trustworthy sources	

Presentation Skills (Note one or two strengths.)	
Good eye contact	
Good volume	
Clear pronunciation	
Enthusiastic presentation	

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Research Evaluation

Presenter_____ Evaluator_____ Date _____

Writing Purpose (circle one): To inform or explain To support a claim with reasons

Writing Quality: Note one area of strength, and give evidence to support your choice.		
Ideas		
Organization		
Style		
Mechanics		
Make a suggestion for improvement and a reason for your suggestion.		

Research Skills (Note one or two strengths.)	
Answers a focused question	
Uses multiple sources	
Quotes and paraphrases sources	
Cites trustworthy sources	

Presentation Skills (Note one or two strengths.)	
Good eye contact	
Good volume	
Clear pronunciation	
Enthusiastic presentation	

Common Core State Standards

The following Common Core State Standards are addressed in this unit. Full program alignments can be found on the Reading Edge online resources. Contact your SFA coach for more information.

Level 8H Author's Purpose

English Language Arts Standards: Science and Technical Subjects

Craft and Structure

RST.9-10.6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.

RST.9-10.4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.

RST.9-10.5. Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).

Integration of Knowledge and Ideas

RST.9-10.8. Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.

English Language Arts Standards: Writing

Text Types and Purposes

W.8.b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.

Research to Build and Present Knowledge

W.8.7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

W.8.8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

W.8.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

English Language Arts Standards: Speaking and Listening

Presentation of Knowledge and Ideas

SL.8.4. Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.

SL.8.5. Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.

SL.8.6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

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WNET

Charles R. Smith, Jr.

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