Informational

Problem and Solution

***Odyssey* magazine: Science and the City**

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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We wish to acknowledge the coaches, teachers, and children who piloted the program, provided valuable feedback, and appear in classroom and professional-development videos.

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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 problems, and draw conclusions about solutions based on information from the text.
Writing: Explain the connections among facts, events, or ideas.

Unit Overview

In this unit, students will analyze problems to draw conclusions about their solutions. Students will think about problem solving, the possible causes of problems, and why certain solutions are chosen over others. They will also make connections among articles to consider why certain solutions are used.

During writing, students will think about the connections they can make among facts, events, and ideas. They will think about the information in the text and how to express those ideas so the connections among them are clear to an audience.

Unit Topic/Content

Students will read Science and the City, an issue of *Odyssey* magazine. This issue discusses a variety of topics about the science, planning, and development that go into a city. In the first cycle of the unit, students will mainly focus on articles that discuss planning, organization, infrastructure, and future plans for cities. The second cycle will mainly discuss how cities are turning to greener technologies to solve problems such as urban heat islands.

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 that you have the correct plug-ins.

Odyssey magazine: Science and the City

At a Glance

Cycle 1		
Lesson	**Text**	**Media**
Lesson 1	"Megacities with Mega-Challenges," pages 6–8	(Optional) This website includes satellite images of before and after the New York City blackout of August 2003: www.noaanews.noaa.gov/stories/images/nightlights-081403-0121z.jpg (Aug. 13, 2003, night before the outage) www.noaanews.noaa.gov/stories2003/images/nightlights-081503-0103z-hires.jpg (Aug. 14, 2003, night of the outage) A *New York Times* story about the blackout of 2003: www.nytimes.com/2003/08/15/nyregion/15POWE.html?ref=newyorkcityblackoutof2003&pagewanted=1
Lesson 2	"Megacities with Mega-Challenges," pages 9 and 10 and sidebar, pages 8–10	(Optional) "Urban Planner" www.pbslearningmedia.org/content/f611786b-bd96-489b-b749-3dfed59fa80a (end at 3:25) (Embedded) "Team Talk Response"
Lesson 3	"The Hidden Order Within Cities," pages 16–19	
Lesson 4	"Can You Solve the World's Most Famous Traffic Problem?," pages 20 and 21	
Lesson 5	writing in response to reading	
Lesson 6	"A Mile High in the Sky," pages 24–26	
Lesson 7	self-selected reading	
Lesson 8	Getting Along Together	

Odyssey magazine: Science and the City

Cycle 2		
Lesson	**Text**	**Media**
Lesson 1	"Mapping Our Cities: Mood Swings and Million Dollar Blocks," pages 28 and 29	(Embedded) "Fluency"
Lesson 2	"Heat Islands," page 3 and "A Little Seed in a Big City," page 5	(Embedded) Background video: "Heat Islands"
Lesson 3	"Cool Roofs," pages 11–14	(Embedded) Background video: Science Nation: "Green Roofs"
Lesson 4	"Beez in the Hood," pages 41–43	(Optional) "City Dwellers Feast on Plant Derived Resources" www.pbslearningmedia.org/content/8d3915f6-7d31-4c64-a453-3b60daff488b (Optional) "Silence of Bees" www.pbslearningmedia.org/content/vtl07.la.rv.text.lpsilbees/#content/4dd2fdf0add2c73bce0083cc
Lesson 5	writing in response to reading	
Lesson 6	"Venice: City on the Edge," pages 38–40	
Lesson 7	self-selected reading	
Lesson 8	Getting Along Together	

Cycle 1:

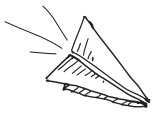
Problem and Solution

Lesson 1

Reading Objective: Analyze problems, and draw conclusions about solutions based on information from the text.

Teacher Background

Today students will begin reading about megacities, or densely populated areas with more than 10 million people. Cities such as New York require miles and miles of underground infrastructure to provide water, steam, gas, electricity, and telecommunications to businesses and residents. The difficulty is maintaining the infrastructure while causing as little disruption in the city as possible. Cities turn to newer technology to help repair old infrastructure and create more-efficient new construction. The densely populated city of Tokyo has to deal with being in a seismically active area by designing buildings and public transportation to withstand large earthquakes. Mumbai avoids problems with India's unreliable electrical grid by being able to separate itself when outages occur outside the city. The city has to plan for the future though, as its energy demands increase with its population.



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: How can a city with millions of people feel like a community?

Set the Stage

Discuss the Big Question. tps

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

   How can a city with millions of people feel like a community?

   Most cities have smaller neighborhoods in them, and that is where you get your sense of community. People share a smaller living space and see one another in the neighborhood. Neighborhoods might have stores, restaurants, or parks where neighbors can interact.

   How do you think you can avoid feeling isolated within a big city?

   I think I can be an active member of a community and take part in different events to keep from feeling isolated. If I meet my neighbors or see them regularly, then I will feel like a part of something.

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 earn team celebration points during the Lightning Round.

Post and present the reading objective.

3. Introduce the texts, authors, and reading objective.

Distribute copies of Science and the City, and refer students to pages 6–8 in the magazine.

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

4. 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: The problems that really big cities face

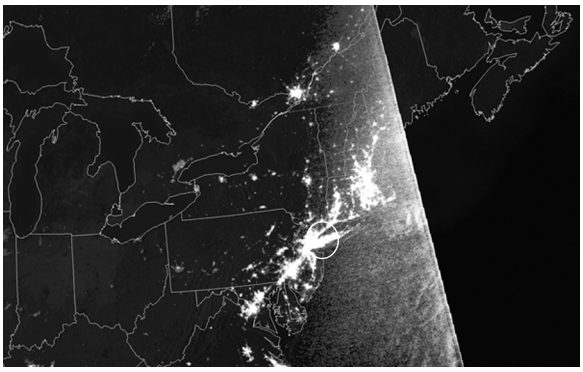
   I: To inform readers about big-city problems and how people solve them

   G: A chart to track the problems, solutions, and conclusions

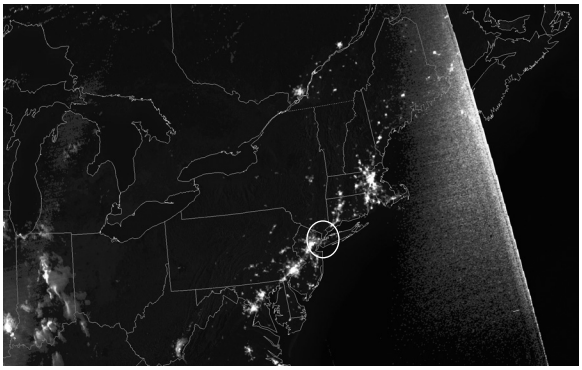
Build background about the topic.

Direct students to the following images in the student edition, or visit the links on the Internet if available.

5. Tell students that electricity is just one part of a city's infrastructure. Explain to students that on August 14, 2003, New York City and much of the northeast United States experienced a widespread blackout. Share the following two images with students, highlighting the area around New York City as needed.



Aug. 13, night before the outage; Photo credit: NOAA and DMSP



Aug. 14, night of the outage; Photo credit: NOAA and DMSP

Teacher's Note:

If the Internet is available, visit the following links to provide larger images for students to view, highlighting the area around New York City as needed.

www.noaanews.noaa.gov/stories/images/nightlights-081403-0121z.jpg (Aug. 13, 2003, night before the outage)

www.noaanews.noaa.gov/stories2003/images/nightlights-081503-0103z-hires.jpg (Aug. 14, 2003, night of the outage)

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

What differences do you notice between the two images?

The area over New York City is the biggest and brightest area in the first image. In the second image, the city is almost completely dark. There are no lights in the city.

How do you think the lack of electricity affected the city?

Other than being much darker than usual, many things in the city would not work. Elevators and automatic doors would not work. There would be no traffic lights for cars. The subway trains would not work.

If there is time, share the following article from the *New York Times* about the blackout of 2003 with students, or highlight some of the problems caused by the blackout: www.nytimes.com/2003/08/15/nyregion/15POWE.html?ref=newyorkcityblackoutof2003&pagewanted=1.

Interactive Read Aloud

tps

1. This cycle our reading objective is to analyze problems and draw conclusions about solutions based on information from the text. Use **Think-Pair-Share** to ask:

   What do you think is the first step in problem solving?

   The first step is identifying the problem that needs to be solved. I should identify the desired outcome and the obstacle that is keeping that outcome from being achieved. That obstacle is the problem.

   Point out that analyzing a problem means looking at the factors that make it a problem. Tell students that you are going to read aloud the first part of the article to identify and analyze the problem that is presented.

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

Students: Actively listen.

2. Read "Megacities with Mega-Challenges," page 6 (paragraphs 1–4) aloud. A sample Think Aloud follows.

Sample Think Aloud
After reading these three sections, I think I can begin to see what problem New York City faces. There are approximately 19 million people relying on the infrastructure of the city, most of which is underground and unseen. There are subways and their tunnels, cables carrying electricity and telecommunications, and pipes for steam and gas. All this keeps the city operating for both the residents and visitors to the city, and disruptions in these services would impact their lives. Much of the infrastructure is old, and records for the miles of pipes are incomplete. I think this is going to be the problem in this part of the article: keeping New York City running behind the scenes. This is one of the mega-challenges referred to in the title of the article.

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

3. Point out to students that you identified a problem by analyzing the information presented in the text: the number of people in the city and the services that they rely on every day without thinking about them.

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 6 (paragraphs 5 and 6). Use **Think-Pair-Share** to ask:

   Although there are extensive records about the water mains and sewer lines, what other problem exists in maintaining New York City's infrastructure?

   The infrastructure is aging, with about two-thirds of the pipes being more than sixty years old. Even if the city had $500 million to spend on upgrading the pipes, that would fix less than one percent of them.

   What can you conclude about using the polyethylene material to repair pipes?

   I can conclude that this is a solution that helps to deal with some of the problems in maintaining the system. It saves time, disruption, and cost. I think the lining goes inside the pipes, so the city does not have to dig up the streets, remove pipes, and insert new ones to repair them. Not having to do that extra work saves time and money.

   Use **Random Reporter** to debrief.

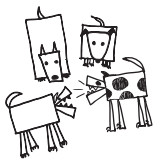
Partner pairs: Review, reread to clarify, and add to the graphic organizer.

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		
Problem	**Solution**	**My Conclusion**
New York City has 19 million people to serve with a huge infrastructure: Much of the infrastructure is aging. Records are incomplete or missing. Repairs are costly and can be disruptive.	Polyethylene lining to line pipes: Works as well as new piping Does not require huge excavations	Strategies, such as using polyethylene lining, save the city time and money while repairing the infrastructure.



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

   "Megacities with Mega-Challenges," pages 6–8 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 argument do you think the author is making when she writes, "Water and sewer lines may not seem glamorous. Yet, maintaining and upgrading those facilities is crucial," on page 7? Support your thinking. **[AA, SA]** (Team Talk rubric)

   *100 = The author is arguing that a properly **functioning infrastructure** is just as important as the beautiful buildings that people see every day. **According to the text**, some sewers combine wastewater and storm water runoff, but **excessive** storms may cause treatment plants to overflow. This causes pollution and flooding, which is bad for the city. Beautiful sights may attract people to cities, but a **sound** infrastructure is what really keeps the city running.*

   90 = The author is arguing that a properly working framework is just as important as the beautiful buildings that people see every day. In New York City, some sewers combine wastewater and storm water runoff, but big storms may cause treatment plants to overflow. This causes pollution and flooding, which is bad for the city.

   80 = When the framework of a city isn't working, the whole city suffers and becomes a less attractive place to live or visit.

2. Japan's efforts to hold nationwide and local earthquake drills could best be described as— **[DC, SA]** (Team Talk rubric)

   A. an expensive method of avoiding low-cost construction projects.

   B. the most time- and cost-efficient way to help the population stay safe.

   C. an unacceptable replacement for renovating older buildings and structures.

   D. the only solution to staying safe during strong earthquakes in Japan.

   What evidence from the text supports this conclusion?

   *100 = **According to the text**, bringing old buildings up to new construction **codes** is too costly. Engineers have made **recommendations** for building codes and developed ways to **reinforce** structures. It would be expensive for the country to replace buildings made before these recommendations. I don't think it is as expensive to **educate the public** about earthquakes and to have people practice the steps they should take to stay safe. This is the easiest and least expensive way to protect citizens in the case of an earthquake.*

   90 = Bringing old buildings up to new construction standards is too costly. Engineers have made new suggestions for building standards and developed ways to strengthen structures, but it would be expensive for the country to replace buildings made before these suggestions. I don't think it is as expensive to teach people about earthquakes and to have people practice the steps they should take to stay safe.

   80 = Making old buildings follow the newest standards is very expensive compared with teaching people how to stay as safe during an earthquake.

continued

Team Talk Questions *continued*

3. Japan is working on increasing the warning time for earthquake tremors, and they are currently able to give up to forty seconds of warning. Why do you think giving advanced warning of an earthquake is crucial to safety? Support your thinking. **[DC, SA]** (Team Talk rubric)

   *100 = You want to give people as much time as possible to find somewhere safe and **stable** to hide. When earthquakes **strike**, they are **destructive** and deadly. **For instance**, an earthquake in 1923 killed 140,000 people. With more warning, people will be able to reach safe places in buildings where they won't be hurt by falling **debris**, or they will be able to escape unsafe places. With practice, they will also be less likely to panic. **Therefore**, more warning will help people survive **catastrophic** events that used to strike without warning.*

   90 = You want to give people as much time as possible to find somewhere safe to hide. When earthquakes happen, they are deadly and they destroy buildings. An earthquake in 1923 killed 140,000 people. With more warning, people will be able to reach safe places in buildings where they won't be hurt by falling pieces of buildings, or they will be able to escape unsafe places. With practice, they will also be less likely to panic.

   80 = With more warning, people will have more time to escape unsafe situations and find good places to protect themselves from the damage caused by earthquakes.

4. How has Mumbai, India, avoided dealing with the frequent blackouts that are experienced throughout the rest of the country? What conclusion can you draw about its solution to the problem? **(Write) [RE, DC, MI]** (Team Talk rubric)

   *100 = Mumbai's power companies break off from the national **grid** when it experiences problems, but the solution is not permanent. **Currently**, the power companies practice load shedding during hours of **peak demand**. A better way of controlling demand is to offer **preferential** pricing for energy use during off-peak hours. **Another way** is to **reclaim** the energy that is lost as a **byproduct** when power is generated. These ideas show that while Mumbai does its best to meet demands, it will have to experiment with new ways of providing its growing population with energy.*

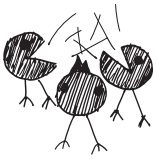
   90 = Mumbai's power companies break off from the national source when it experiences problems, but the solution is not permanent. The power companies cause controlled partial shutdowns of power during times when more people need energy. A better way of controlling demand is to offer better pricing for energy use during off-peak hours. Or the country could use the energy that is lost when power is generated.

   80 = Mumbai breaks away from the national power lines when they go out, but it will have trouble providing energy for everyone in the growing city.

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?

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

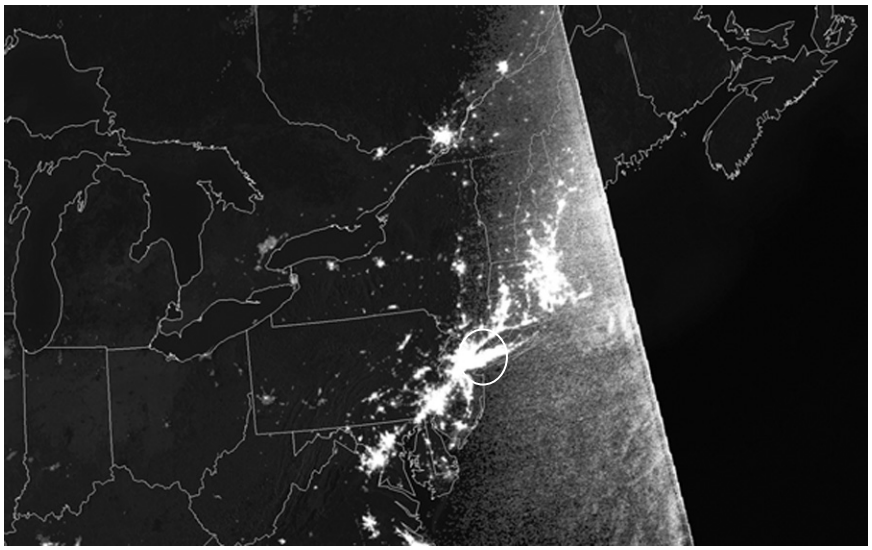
   - Something to cheer about: Choose a behavior or learning outcome that you would like to reinforce, and reward that behavior by asking students to lead a cheer of their choice.

The top team chooses a cheer.

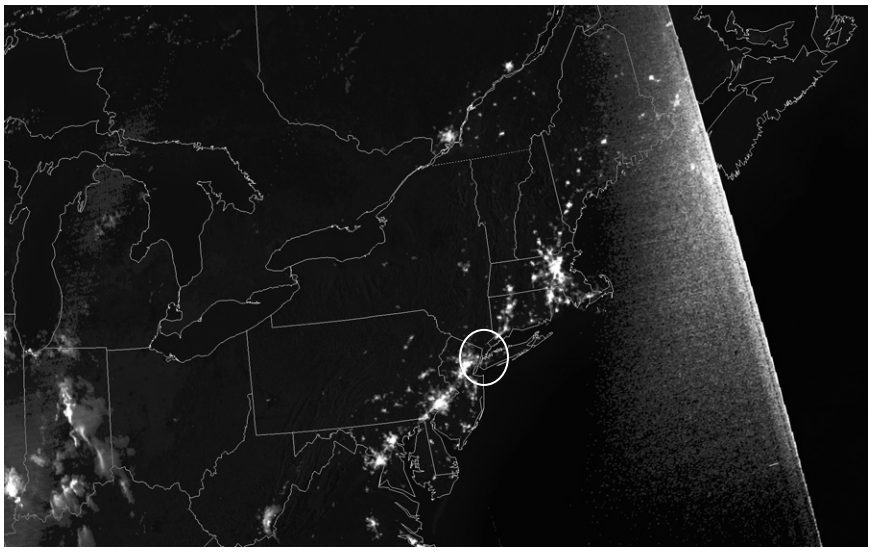
Remind students of the Read and Respond homework assignment.

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

From Student Edition



Aug. 13, night before the outage; Photo credit: NOAA and DMSP



Aug. 14, night of the outage; Photo credit: NOAA and DMSP

Lesson 2

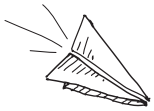
Reading Objective: Analyze problems, and draw conclusions about solutions based on information from the text.

Teacher Background

Today students will continue to learn about emerging megacities and the trouble they experience as they grow and develop. Shanghai, China, has grown dramatically over the past twenty years, and that growth has increased air pollution and traffic problems within the city. Meanwhile, developers have a plan to create an ecocity on the outskirts of Shanghai. Buildings in this ecocity will use technology to be energy efficient, will recycle, and will rely on more local resources.

Unlike other cities in this article, Dubai is not a megacity yet, but developers and the United Arab Emirates' government want it to become one. Business incentives attract companies and workers to one of the world's fastest-growing cities. The city is full of tall skyscrapers, including the world's tallest, the Burj Khalifa (Burj Dubai at the time of this article's publication). However, the city has to worry about more than engineering buildings. Dubai is a desert city, and providing water and electricity to its growing population is a struggle.

Students will also read an interview with a city planner who discusses how city planning of old did not take green spaces into account. Now cities have to find ways to insert green spaces into existing places. New cities have the advantage because green spaces can be planned before buildings take up all the room.



Active Instruction tp

(25 minutes)

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.

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.

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
disrupting (verb) page 6	dis-rup-ting (dis-RUPT-ing)	to temporarily destroy or interrupt the normal state of things	The small child was *disrupting* the movie by asking questions about what was happening on the screen.
preferential (adjective) page 8	pref-er-en-tial (pref-uh-REN-shuhl)	receiving or enjoying an advantage, favored	People willing to pay more for airplane tickets often receive *preferential* treatment such as being allowed to board first.
deliberate (adjective) page 10	de-lib-er-ate (dih-LIB-er-it)	carefully weighed or considered; intentional	The coach made a *deliberate* decision to have Leshawn sit out for the rest of the game after he rolled his ankle.
urbanizing (verb) page 10	ur-ban-iz-ing (UR-buh-nahyz-ing)	to cause to become city-like	Many people reject the *urbanizing* of their quiet neighborhoods as cities sprawl beyond their original borders.
preposterous (adjective) page 16	pre-pos-ter-ous (pri-POS-ter-uhs)	absurd; contrary to common sense	The idea that Earth revolved around the sun seemed *preposterous* to many early scientists because one cannot feel the movement of Earth.
pesky (adjective) page 21	pes-ky (PES-kee)	annoyingly bothersome	"The only problem with having picnics outside is the *pesky* flies that want to share our food!" Janice exclaimed while waving her hands over the food.
sewage (noun) page 22	sew-age (SOO-ij)	waste matter that passes through underground pipes	When old pipes break down or become clogged, *sewage* can back up, causing not only an unpleasant odor, but an unsanitary mess in neighborhoods.
dwindling (verb) page 24	dwin-dl-ing (DWIN-dl-ing)	shrinking	Many people fear that *dwindling* supplies of clean water in many parts of the world will lead to bitter wars and unchecked disease.

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 texts, authors, and reading objective.

Refer students to "Megacities with Mega-Challenges," pages 9 and 10 in the text.

4. Have teams discuss and report on their preview of the text and explain their thinking. Use **Random Reporter** to share team responses.

   T: The megacities of Shanghai and Dubai and city planning

   I: To inform readers about the problems with megacities and how cities are planned

   G: A chart to track the problems, solutions, and conclusions

Build background about the topic.

5. Explain to students that cities need to grow and evolve to suit the needs of the people living in them. Cities need to be functional, providing living, work, retail, and recreational spaces. Urban planners have to take all these needs into account as they plan new cities or decide how to change existing space in a city to better meet the needs of the people. If you have time and an Internet connection, show the video "Urban Planner," stopping at 3:25: www.pbslearningmedia.org/content/f611786b-bd96-489b-b749-3dfed59fa80a.

6. Refer to this cycle's Big Question, "How can a city with millions of people feel like a community?" Use **Think-Pair-Share** to ask:

   How might urban planners design a city to provide residents with the feeling that they live in a small community?

   I think neighborhoods built around parks might give people the feeling that they are in a small community. The park will give people a local place to play and meet. Without spaces such as parks, people might feel disconnected from one another.

Interactive Read Aloud

Review the skill as necessary.

1. Refer students to the reading objective to analyze problems and draw conclusions about solutions based on information from the text. Use **Think-Pair-Share** to ask:

   What do you think it means to analyze a problem? What do you think you should be looking for or thinking about when you analyze problems?

I think analyzing a problem means to research and learn about the problem. I should learn about what is causing the problem. I should think about different ways this problem affects people in their daily lives and how solving the problem will also affect them. I should think about all the possible solutions to the problem.

Point out that when people think about problems and their solutions, they have to weigh the costs and benefits of the problem. For example:

- Will it cost more (money, time, disruption) to fix the problem now when it's small or later when it's bigger?
- Are there other problems that are a bigger priority?
- Should the solution be a quick patch for the problem or something that will last over the long term?

Tell students that these are just a few examples of questions that they might think about as they practice the skill in this unit.

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

Students: Actively listen.

2. Read "Megacities with Mega-Challenges," page 9 (paragraph 1) aloud. A sample Think Aloud follows.

Sample Think Aloud
The first paragraph in the section introduces me to the problem that Shanghai is experiencing with its rapid growth over the past twenty years. The author says, "Shanghai's economic growth during the last twenty years has come with a high environmental price tag." I think the author is saying that while this growth is good for the city, it is costing the city in other ways. There is more water and air pollution because there are more people and cars in the city than before. Because there are more people, there are also bigger traffic jams and overcrowding, making the livability of the city unpleasant. It seems like the problem is that the population of Shanghai has boomed, but the development of the city itself hasn't been able to grow to meet the demands of its new population.

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

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

   How did I analyze the problem in this section of the article?

   You identified what the article stated about growth coming with a high environmental price tag. Then you analyzed the evidence that supports this high price tag. You identified the pollution problems and overcrowding issues that are due to the city's growth.

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 9 (paragraph 2). Use **Think-Pair-Share** to ask:

   What steps is Shanghai taking to help the city meet the demands of its growing population?

The city is investing more money in public transportation, creating new rules for private car ownership, and enforcing limits on how people use heating and cooling units.

Why invest in public transportation and place restrictions on private car ownership? How do you think these measures deal with the problem?

Shanghai wants to reduce air pollution, so investing in public transportation could be part of a solution. For example, investing in new low-emission or electric buses could reduce pollution. Creating new rules for private car ownership makes it sound like people could be restricted on how many cars they own, where the cars travel, or what kind of cars they can purchase, such as more fuel-efficient cars. Fewer cars could mean less air pollution. The city is trying to force its residents to make better choices about how they travel to and from work.

Use **Random Reporter** to debrief.

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

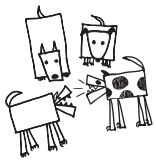
5. Ask partners to review this section of text, check their understanding with each other, reread what they need to clarify, and add notes to their graphic organizers.

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

   A sample graphic organizer follows.

Sample Graphic Organizer

Problem	Solution	My Conclusion
Shanghai has grown faster than the city can handle: • Increased air and water pollution • Traffic and overcrowding	City taking steps to reduce pollution: • Investing more money in public transportation • Restrictions on private car ownership • Limits on using heating and cooling units	City wants to make it more appealing and easier to use public transportation: • Improve existing public transportation, add more to city • Make owning a car more expensive, or restrict types of cars to be more fuel efficient



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

   "Megacities with Mega-Challenges," pages 9 and 10, and the sidebar, pages 8–10 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. Think about Shanghai's problems. How do the planned features of Dongtan address those problems? Support your thinking. **(Write) [RE, DC]** (Team Talk rubric)

   100 = Shanghai's problems are water and air pollution and overcrowding. Dongtan's planned features address these problems. ***For instance****, solar panels will provide electricity without needing a power plant while the window shades will* ***automatically*** *adjust to the sun, reducing the need to crank up the heat or air conditioning. Having only public transportation will reduce air pollution in the city.* ***Additionally****, using local produce will reduce the need for trucks to drive long distances to* ***transport*** *food, decreasing pollution locally and nationally. The planning behind Dongtan takes steps to correct the problems that exist in current cities.*

   90 = Shanghai's problems are water and air pollution and overcrowding. Dongtan's planned features address these problems. Solar panels will provide electricity without needing a power plant, and the window shades will adjust to the sun, reducing the need for heating and air conditioning. Having only public transportation will reduce air pollution in the city, and using local produce will keep trucks from having to travel long distances to carry food, decreasing pollution across the country.

   80 = Shanghai's problems are water and air pollution and overcrowding. Dongtan's planned features address these problems because they don't require burning fuel or using up too much electricity to operate the city.

2. What advantage does the author argue that Dubai has over cities such as New York, Mumbai, or Shanghai? Provide evidence to support your response. **[AA, MI, SA]** (Team Talk rubric)

   100 = Dubai isn't a ***megacity*** *yet and has time to plan a strong* ***infrastructure*** *that will handle the city's* ***expected*** *growth.* ***Earlier****, I learned that New York is an old city with an* ***aging*** *infrastructure. Mumbai and Shanghai both grew rapidly and have to find solutions to meet their energy and environmental needs.* ***Since*** *Dubai is still building and has a relatively small population, it can plan ahead and use* ***ecofriendly*** *technologies. The city has more flexibility to develop solutions for the increasing demands for electricity and water.*

   90 = Dubai isn't a huge city yet and has time to plan a strong framework that will handle the city's predicted growth. New York is an old city with an old infrastructure. Mumbai and Shanghai both grew rapidly and have to find solutions to meet their energy and environmental needs. Dubai is still building and has a relatively small population; it can plan ahead and use technology that is good for the environment.

   80 = Unlike older cities with old frameworks and too many people, Dubai has time to plan ahead for the population that will move there.

continued

Team Talk Questions *continued*

3. According to Charles Waldheim, how has urban planning evolved over the past 100 years? **[RE]** (Team Talk rubric)

   100 = *Urban planners think about cities differently than they did 100 years ago. **According to** Charles Waldheim, cities such as Chicago were planned to be spaces made up by a lot of buildings. He explains that planners today design cities around parks and other open spaces. **Further**, planners like to **revitalize** older **industrial areas** into more enjoyable landscapes. These changes show that urban planning has changed to add nature back into cities and to make them more environmentally friendly.*

   90 = *Urban planners think about cities differently than they did 100 years ago. Cities such as Chicago were planned to be spaces made up by a lot of buildings. He explains that planners today design cities around parks and other open spaces. They also like to remake older factory areas into more enjoyable landscapes.*

   80 = *One hundred years ago, urban planners just built cities full of buildings. Today planners include open green spaces and parks.*

4. Does the section about Shanghai (page 9) support the arguments made by Waldheim in the sidebar (pages 8–10)? Why or why not? **[AA, MI, SA]** (Team Talk rubric)

   100 = *Dongtan will be a new city that will **incorporate** a lot of environmentally friendly ideas in its design. Waldheim says that new cities are usually planned around open spaces instead of just buildings, and he **adds** that the increasing **urbanization** of Asia has made urban landscapes popular there too. The artist's **concept** of what Dongtan could look like on page 9 seems to show trees and grassy spaces. Since Dongtan's goal is to be **ecofriendly**, I think this shows that designers will think about the landscape as they plan the city.*

   90 = *Dongtan is a new city that will use a lot of environmentally friendly ideas in its design. Waldheim says that new cities are usually planned around open spaces instead of just buildings, and the growing cities in Asia have made urban landscapes popular there. The artist's idea of what Dongtan could look like on page 9 seems to show trees and grassy spaces.*

   80 = *Since Dongtan is new, it can plan for open spaces to be included in its design.*

5. What word from the vocabulary list belongs in the blank? How do you know? **[CV]**

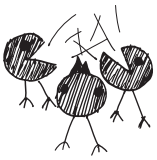
   The referee considered Dianna's hit on Raquel during the game to be _____ rather than accidental, so he penalized her and made her sit on the bench.

   Deliberate. *The word* accidental *is a clue. The referee did not think the hit was an accident, so that means Dianna hit her on purpose, or intentionally. It was deliberate.*

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.

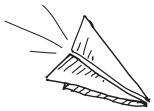
Word	Pronunciation	Definition	Sample Sentence
disrupting (verb) page 6	dis-rup-ting (dis-RUPT-ing)	to temporarily destroy or interrupt the normal state of things	The small child was *disrupting* the movie by asking questions about what was happening on the screen.
preferential (adjective) page 8	pref-er-en-tial (pref-uh-REN-shuhl)	receiving or enjoying an advantage, favored	People willing to pay more for airplane tickets often receive *preferential* treatment such as being allowed to board first.
deliberate (adjective) page 10	de-lib-er-ate (dih-LIB-er-it)	carefully weighed or considered; intentional	The coach made a *deliberate* decision to have Leshawn sit out for the rest of the game after he rolled his ankle.
urbanizing (verb) page 10	ur-ban-iz-ing (UR-buh-nahyz-ing)	to cause to become city-like	Many people reject the *urbanizing* of their quiet neighborhoods as cities sprawl beyond their original borders.
preposterous (adjective) page 16	pre-pos-ter-ous (pri-POS-ter-uhs)	absurd; contrary to common sense	The idea that Earth revolved around the sun seemed *preposterous* to many early scientists because one cannot feel the movement of Earth.
pesky (adjective) page 21	pes-ky (PES-kee)	annoyingly bothersome	"The only problem with having picnics outside is the *pesky* flies that want to share our food!" Janice exclaimed while waving her hands over the food.
sewage (noun) page 22	sew-age (SOO-ij)	waste matter that passes through underground pipes	When old pipes break down or become clogged, *sewage* can back up, causing not only an unpleasant odor, but an unsanitary mess in neighborhoods.
dwindling (verb) page 24	dwin-dl-ing (DWIN-dl-ing)	shrinking	Many people fear that *dwindling* supplies of clean water in many parts of the world will lead to bitter wars and unchecked disease.

Lesson 3

Reading Objective: Analyze problems, and draw conclusions about solutions based on information from the text.

Teacher Background

Today students will read about how cities are actually very orderly, despite their disorderly and hectic appearance. Michael Batty, a professor of planning, developed models that show that a city's growth is predictable and consistent. He argues that if cities were disorganized, then his models would not work. Batty can use his models to predict changes in cities when certain elements, such as new roadways, are added. The Industrial Revolution really changed how cities grew because technology, such as trains, made mass relocation possible.



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.

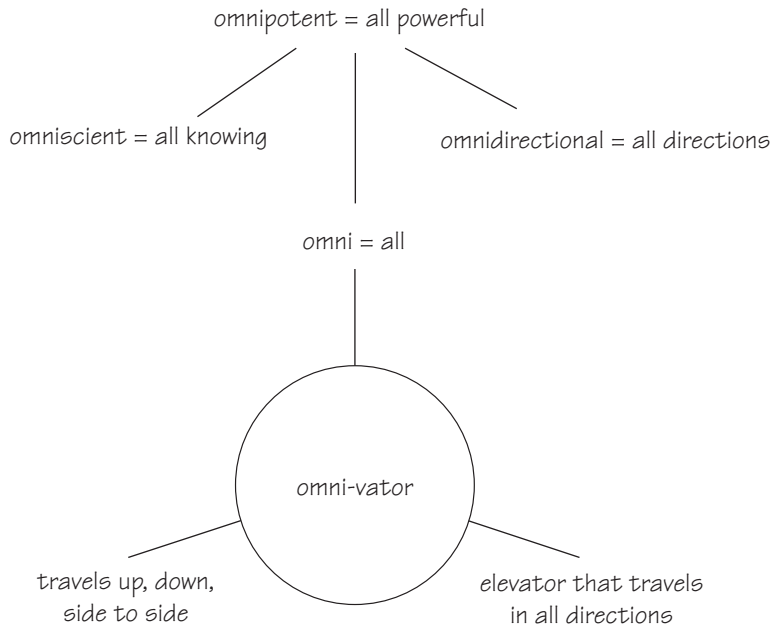
Model exploring a word in the word power journal.

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

I found an interesting word in another part of the text that I want to explore a little more deeply. The word is *omni-vator*, and I found it on page 26 in the sentence "Japanese designers have proposed an omni-vator—it would travel up and down or side to side, connecting all parts of a building." This is a strange word, and from the context, it sounds like it might be some kind of elevator since the device will travel up and down. Let me look up the word *omni* in the dictionary. (Model using the dictionary to look up the word *omni*.) I see that the word *omni* comes from Latin and means all, and that it is generally combined with other words. So I can figure out that an *omni-vator* is an elevator that goes in all directions.

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 texts, authors, and reading objective.

Refer students to "The Hidden Order Within Cities," pages 16–19 in the text.

4. Have teams discuss and report on their preview of the text and explain their thinking. Use **Random Reporter** to share team responses.

   T: Cities have an order to them that we cannot see.

   I: To inform readers about how cities are really ordered

   G: A chart to track the problems, solutions, and conclusions

Interactive Read Aloud

Teacher: Read aloud.

Students: Practice the skill or strategy.

1. Read "The Hidden Order Within Cities," page 16 (paragraphs 1–7) aloud. Use **Think-Pair-Share** to ask:

   This article begins with an imagined scene. Based on this scene, what problem do you think will be discussed in the article?

   The problem is identifying the order within cities. The judge argues that a city is disordered and chaotic and has no place in a discussion about order. The city disagrees with the judge about this.

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 (paragraphs 8 and 9). Use **Think-Pair-Share** to ask:

   How can urban planners find order within a city?

   They can use computer models that show and predict the growth of a city. They can create models to study the effects of adding a road and changing the flow of traffic or how a new housing development shifts the population of the city.

   Why would urban planners want to use a model to plan how to design roads in and out of the city?

   Urban planners might want to see where the most crowded roads in the city are to see what needs to be done to help traffic on these roads. That might help them decide to build a wider main road in and out of the city or to widen existing roads.

   Use **Random Reporter** to debrief.

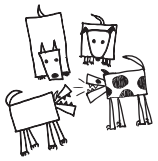
Partner pairs: Review, reread to clarify, and add to the graphic organizer.

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		
Problem	**Solution**	**My Conclusion**
Cities appear disorderly and chaotic on the surface.	Fractal models show that cities are well ordered: Models can show how changes affect the city.	Models can help urban planners design roads: Identify the most crowded roads Plan new, wider roads or widen existing roads



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

   "The Hidden Order Within Cities," pages 16–19 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 do the images at the top of pages 18 and 19 show? What information is missing from the images that could be helpful for better understanding what is being shown? **[RE, DC]** (Team Talk rubric)

   *100 = The images show a **fractal model** of how the city of Cardiff grew, but they don't tell me how long this growth took. I don't know which years the images **represent**, so I don't know what caused the changes in the growth patterns that are shown. **For example**, the first and second images show that Cardiff grew in some areas but shrank in others. If I knew which years the images modeled, I might be able to figure out what caused this change.*

   90 = The images show how the city of Cardiff grew, but they don't tell me how long this growth took. I don't know which years the images show. I don't know what caused the changes in the growth patterns. The first and second images show that Cardiff grew in some areas but shrank in others.

   80 = The images show how the city of Cardiff grew, but they don't tell me how long this took or what caused parts of the city to grow and later shrink.

2. Select one of the qualities of a healthy city from the sidebar on page 18, and describe why this is important for the health of a city. **[AA, MI]** (Team Talk rubric)

   *100 = It is important for a city to have low levels of disease so the city can grow. If a large part of a city's population is **constantly** sick or dying from disease, it will be difficult for that city to **operate**. A city needs a healthy population to run businesses and maintain the **infrastructure**. When the population cannot do this, their city will shrink or fall apart. **Therefore**, **managing** the health and welfare of the population is important for a city's **sustainability**.*

   90 = It is important for a city to have low levels of disease so the city can grow. If a large part of a city's population is sick or dying from disease, it will be difficult for that city to run normally. A city needs a healthy population to run businesses and maintain its foundations. When the population cannot do this, their city will shrink or fall apart.

   80 = An unhealthy population will be unable to keep a city running well, so it will fall apart or shrink.

continued

Team Talk Questions *continued*

3. According to the text, newer cities, such as Los Angeles and Phoenix, have low-density central business districts. What can you conclude about how these cities have organized themselves? Support your thinking. **(Write) [RE, DC, SA]** (Team Talk rubric)

   *100 = Los Angeles and Phoenix could grow with their major businesses spread out or in locations across the cities rather than all in one place. **Due to** the invention of personal cars, people no longer have to rely on **public transportation**. Businesses don't have to be located along popular bus or subway routes because cars can access any point in the city. **Thus**, these cities are **characterized** by **sprawl** rather than **concentrated**, busy city centers.*

   90 = Los Angeles and Phoenix could grow with their major businesses spread out or in locations across the cities rather than all in one place. With cars, people no longer have to rely on buses or trains. Businesses don't have to be located along popular bus or subway routes because cars can access any point in the city.

   80 = Businesses in Los Angeles and Phoenix did not have to limit themselves to locations along major bus or subway routes because cars can access any point in a city.

4. Which of the following best represents a possible consequence of people being able to use the Internet to interact with one another? **[RE, MI]** (Team Talk rubric)

   A. Most people will no longer have a desire for open spaces within their cities.

   B. Some people will have to travel even further for face-to-face interactions with friends.

   C. A few people will still need to work in the city to open stores and shops.

   D. Many people will no longer have to travel to businesses to do their jobs.

   What evidence from the text and your own knowledge supports your choice?

   *100 = The text **indicates** that changing technology has always **impacted** the way people move within cities. With the invention of the car, people could easily travel everywhere in a city without relying on public transportation, so people no longer had to travel to the busy city center. I think the Internet will change this again because fewer people will actually have to travel for work **since** they can work from anywhere with Internet **access**. This shows that the Internet will affect how cities grow and **adapt** to new patterns.*

   90 = The text says that changing technology has always affected the way people move within cities. With the invention of the car, people could easily travel everywhere in a city without relying on public transportation, so people no longer had to travel to the busy city center. I think the Internet will change this again because fewer people will actually have to travel for work. They will be able to work from anywhere with the Internet.

   80 = Changing technology has affected the way people move within cities in the past, and the Internet will change it again because you will be able to work from anywhere with the Internet.

continued

Team Talk Questions *continued*
5. What is a synonym for the word *dwindling*? What is an antonym for the word *dwindling*? **[CV]** *The word* dwindling *means shrinking, so a synonym is the word* decreasing. *An antonym for* dwindling *is the word* increasing.

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?

   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.

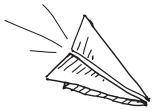
2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

Lesson 4

Reading Objective: Analyze problems, and draw conclusions about solutions based on information from the text.

Teacher Background

Today students will read about Konigsberg, a city made up of two islands and the banks of the river surrounding it. To access different parts of the city, residents could use any of the seven bridges that connect the islands and river banks; however, residents could not figure out how to travel completely around the town by using each bridge only once. A mathematician named Leonhard Euler went to work on their problem, breaking a map of the city down into dots and lines. Urban planners use Euler's method when designing cities today or when considering changes to make transportation routes more efficient.



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 texts, authors, and reading objective.

Refer students to "Can You Solve the World's Most Famous Traffic Problem?," pages 20–23, and "Solving Traffic Problems in a Roundabout Way," page 23 in the text.

4. Have teams discuss and report on their preview of the text and explain their thinking. Use **Random Reporter** to share team responses.

   T: An old traffic problem that a city used to have and how to solve traffic problems

   I: To inform readers about different ways to solve traffic problems

   G: A chart to track the problems, solutions, and conclusions

Interactive Read Aloud

Teacher: Read aloud.

Students: Practice the skill or strategy.

1. Read "Can You Solve the World's Most Famous Traffic Problem?" page 20 (paragraph 1) aloud. Use **Think-Pair-Share** to ask:

   What was the traffic problem that Konigsbergers needed to solve?

   The city of Konigsberg sat on two islands in the middle of a river, in addition to the riverbanks that surrounded it. There were seven bridges connecting the islands to one another and to the riverbanks. People could not figure out a way to travel around the city by using each bridge only once.

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 20 (paragraphs 2–4). Use **Think-Pair-Share** to ask:

   What method was used to begin solving Konigsberg's traffic problem?

   Leonhard Euler created a graph to simplify the map of Konigsberg into dots and lines that represented only the islands, river banks, and bridges. He connected the dots with the lines that represented the bridges.

   What can you conclude about past attempts to solve the traffic problem in the city?

   Since Euler came up with such a simple way to map the city, I think other people were getting distracted and confused by using regular maps of the city. There is a map of the city at the top of the page. It is very cluttered and confusing since all the roads through the city are shown. Euler's new graph simplified the problem.

   Use **Random Reporter** to debrief.

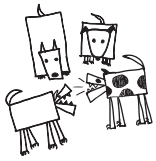
Partner pairs: Review, reread to clarify, and add to the graphic organizer.

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		
Problem	**Solution**	**My Conclusion**
People couldn't figure out how to travel through Konigsberg by using each of the seven bridges only once.	Leonhard Euler broke a map of Konigsberg into simpler parts: Dots to represent each island and bank of the city Lines to represent the crossing for each bridge	Previously, people were distracted by complicated or busy maps of the city, so they could not see the travel routes easily.



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

   "Can You Solve the World's Most Famous Traffic Problem?," pages 20–23, and "Solving Traffic Problems in a Roundabout Way," page 23 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. Write a summary for one of the articles you read today. **[MI]** (summary rubric)

   100 = Professor Eugene Russell works on traffic problems in the twenty-first century and is an advocate for roundabouts to keep traffic moving smoothly. According to the text, roundabouts are similar to old-fashioned traffic circles. However, unlike those old traffic circles, vehicles that want to enter the circle have to yield to traffic already in the circle. When the path is clear, vehicles enter to the right and travel counterclockwise around the circle to the exit they need. Professor Russell explains that though the circle forces traffic to slow down, it keeps vehicles moving, thus making the intersection faster than a normal traffic signal. Additionally, roundabouts are safer, cheaper to maintain, and better for the environment. Despite this, many people oppose converting old intersections into roundabouts, and roundabouts are not an ideal solution for every intersection.

   90 = Professor Eugene Russell works on traffic problems and supports making roundabouts to keep traffic moving. Roundabouts are like old-fashioned traffic circles, but cars that want to enter the circle have to wait for cars already in the circle to move. Then cars can enter to the right and travel around the circle until they reach the exit they need. Though the circle makes cars slow down, it keeps them moving, so the intersection is faster than a normal traffic signal. They are also safer, cheaper to take care of, and better for the environment. Many people do not want to turn intersections into roundabouts, and roundabouts are not good answers for every intersection.

   80 = Professor Eugene Russell supports making roundabouts to help keep traffic moving. In a roundabout, cars that are already in the circle have the right-of-way over cars waiting to get in the circle. Roundabouts make cars slow down, but are still faster than traffic signals. They are also safer, cheaper, and cleaner. Many people do not like them, and they cannot fix every intersection.

continued

Team Talk Questions *continued*

2. What was the final solution to the bridge problem in Konigsberg? From this situation, what can you conclude about how the city grew and developed? Support your thinking. **(Write) [RE, DC, MI]** (Team Talk rubric)

   *100 = Euler **determined** that it was impossible to travel on each bridge only once because there were too many bridges connecting each part of the city. Konigsberg grew and added bridges as they were needed, but not with **formal** planning. **In yesterday's article**, I learned that cities grow based on **practical** decision making. I think the bridges were **originally** built to meet the needs of the population, which needed to reach the center island. Originally, there was probably little need for people to travel all around the city using each bridge only once.*

   90 = Euler figured out that it was impossible to travel on each bridge only once. There were too many bridges connecting each part of the city. Konigsberg grew and added bridges as they were needed, but not with a plan. I learned that cities grow based on decisions that make good sense. I think the bridges were first built to meet the needs of the population, which needed to reach the center island.

   80 = You could not travel around the city using each bridge only once. The city was probably planned so that people could reach the center.

3. Planners use Eulerian graphs for everything from designing routes to laying cable TV lines. What is the value in using a simple graph to plan and chart paths? Support your thinking. **[DC, SA]** (Team Talk rubric)

   *100 = Using a Eulerian graph helps planners keep pathways simple and **uncluttered**. **Since** the graph breaks everything down into simple dots and lines, it is easy to see the paths and their connecting points. When there is a problem in the system, people can look back at the paths and identify what is affected and where to fix it. **Furthermore**, it helps planners **chart** the easiest path between two points, making the system less **complex**. This shows that the Eulerian graph is a useful tool for creating **efficient** designs.*

   90 = Using a Eulerian graph helps planners keep pathways simple. The graph breaks everything down into simple dots and lines. It is easy to see the paths and their connecting points. When there is a problem in the system, people can look back at the paths and identify what is affected and where to fix it. It also helps planners map the easiest path between two points.

   80 = A Eulerian graph helps make the plans and paths of different objects clear and easy to understand.

continued

Team Talk Questions *continued*

4. Which of the following best describes the opposition to using roundabouts as a means of traffic control? **[MI, SA]** (Team Talk rubric)

   A. People are not concerned about side-on collisions.

   B. People dislike new ideas and hold on to misconceptions easily.

   C. People are generally opposed to driving right to turn left.

   D. People would rather sit at red lights to use their phones.

   What evidence from the text supports this conclusion?

   *100 = People have a hard time learning new things and forgetting past mistakes. **For instance**, drivers are used to regular four-way intersections with lights. **Additionally**, old-fashioned traffic circles and poorly designed roundabouts have left a mark on people's memories. Drivers **assume** that new roundabouts will have the same poor, **inefficient** design. These show how people can be slow to accept new or unfamiliar ideas.*

   90 = People have a hard time learning new things and forgetting past mistakes. Drivers are used to regular four-way intersections with lights. Old-fashioned traffic circles and poorly designed roundabouts have left a mark on people's memories. Drivers think that new roundabouts will be just as bad as the old ones.

   80 = People are used to the design of normal intersections and don't see the need to change things. They also remember how bad traffic circles were.

5. What is an example of something you would describe as *pesky*? What is an example of something you would not describe as *pesky*? Explain your answer. **[CV]**

   Something I would describe as pesky is a mosquito. They buzz around until they land on me and bite me so they can feed. This bite itches and is very annoying. On the other hand, I would not describe a dog asleep in its bed as pesky, because the animal is not doing anything to bother me at the moment.

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?

   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.

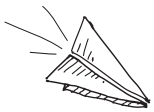
2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

Lesson 5

Writing Objective: Explain the connections among facts, events, or ideas.

Teacher Background

Students will continue to practice the skills that they learned in other units and throughout the cycle.



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. 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 texts, authors, and writing objective.

Introduce the writing project.

tps

4. Explain to students that it is important to make connections among facts, events, or ideas in their writing to help their audience fully understand a concept or an idea. Use **Think-Pair-Share** to ask:

   What is the difference between giving someone an answer and explaining the answer?

When you give someone an answer, you just state a fact. When you explain the answer, you might provide more information about it. For example, you might explain how something works or how one can get to that answer. You make a connection between the question or problem and the answer.

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

Read the prompt aloud.

Writing Prompt
A development group wants to create Dongtan, the world's first eco-city. Use information from page 9 of the text to explain how developers plan to achieve this in Dongtan.

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.

It is asking me to explain ideas or information on a topic. I can tell because it wants me to use information from the text to explain a topic. I am not asked to support an argument or provide an opinion.

6. Refer students to the following writer's guide in their student editions. Point out that this is the criteria for writing to inform or explain. 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 Inform or Explain	
Ideas	• Clearly introduce the topic. • Develop the topic with relevant details.
Organization	• Begin by introducing the topic. • In the middle, provide facts, examples, or events that help a reader understand the information. • End with a closing statement that supports the information.
Style	• Use words and phrases that help a reader understand how the facts or events are related. • Include details or examples that help a reader make a mind movie.
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: to explain the connections among facts, events, or ideas?

The Organization guideline to provide facts, examples, or events that help a reader understand the information and the Style guideline to use words and phrases that help a reader understand how the facts or events are related both relate to our 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.

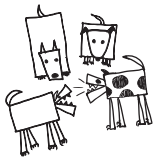
Model a Skill

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 their writing needs to include facts from the text to provide information. Point out that an outline can help them organize facts around a topic. Display the start of an outline for today's writing project.

Sample Graphic Organizer
Dongtan, the world's first eco-city
I. Energy-efficient buildings
A.
B.
C.
II. Water recycling
A.
B.
C.
III. Food supply
A.
B.
C.

3. Explain that students can write supporting details under each heading to help them organize the facts in their paragraphs. Point out that they may not have three supporting details for each heading but that this is standard outline format.



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 inform or explain and the writing objective—to explain the connections among facts, events, or ideas.

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 the reader understand the information?**
- **Does the writer use words or phrases that help the reader make connections between the facts and the topic?**
- **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 examples in your writing? Do you think the examples 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.From Student Edition

Writing Prompt

A development group wants to create Dongtan, the world's first eco-city. Use information from page 9 of the text to explain how developers plan to achieve this in Dongtan.

Writing to Inform or Explain	
Ideas	• Clearly introduce the topic. • Develop the topic with relevant details.
Organization	• Begin by introducing the topic. • In the middle, provide facts, examples, or events that help a reader understand the information. • End with a closing statement that supports the information.
Style	• Use words and phrases that help a reader understand how the facts or events are related. • Include details or examples that help a reader make a mind movie.
Mechanics	• Use correct punctuation, capitalization, spelling, and grammar.

Lesson 6

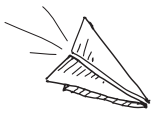
Reading Objective: Analyze problems, and draw conclusions about solutions based on information from the text.

Writing Objective: Explain the connections among facts, events, or ideas.

Teacher Background

Today's cycle test challenges students to analyze the problems presented in the text and draw conclusions about the solutions. Students have to think about the information they learned from the text to infer why the solution was selected or what prompted the use of the solution.

Today students will read about supertall skyscrapers and the problems that designers and cities have to deal with when developing them. Some architects dream of one day building skyscrapers that reach a mile into the sky, but first they need to perfect buildings that aren't quite half a mile tall. Developers have to consider the effects of wind on tall towers, how to provide energy for the building, how people will travel throughout the building, the safety of the residents, and how to make residents feel like they are part of a community when there are hundreds of floors of people stacked on top of one another.



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.

Teams review their cycle goal.

Post and present the reading and writing objectives.

Review Vocabulary Vault.

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.

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 texts, authors, 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.

Prepare Students for the Test tp

(5 minutes)

tps

Partner Review

1. Remind students that they have been practicing analyzing problems and drawing conclusions about solutions based on information from the text and explaining the connections among facts, events, or ideas. Use **Think-Pair-Share** to ask:

   What should you do when you first read the text and analyze the problem?

   I should think about what the eventual goals are and what is keeping those goals from being reached. For example, for cities that want to become megacities, what obstacles do they have to overcome while growing in population and size?

   Tell students that they will use this skill 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 #3 and #5 ask about problems and solutions.
4. Ask students to identify key words or phrases in question #3.

   > 3. Terrorists may target tall skyscrapers as they did with the World Trade Center in 2001. What can you conclude about the solution that engineers have developed for skyscrapers in the section titled "High Alert"? **[RE, MI, DC]**

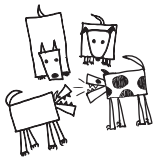
5. Introduce the text that students will read. Tell what it is about, but do not give additional information or details.

   Today you will read about supertall skyscrapers, both real and conceptual.

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.

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

   This article was published in February 2009 and mentions the Chicago Spire. Construction on this building was suspended in September 2008. What does this tell you about being critical of the types of sources that you use to gather information?

   When reading sources to gather information, I need to take the age of the text into account before accepting information as valid. The article describes the Chicago Spire as if it has been completed; however, more than four years later, the building is not finished. Magazine articles are probably written several months before they are published. That means that by the time the issue comes out, the articles inside it might already be outdated. This shows that I should be careful when selecting sources and find information from other sources to support my findings.

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?

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

Problem and Solution

Directions: Read "A Mile High in the Sky," pages 24–26. Use the TIGRRS process, and answer the following questions on a separate piece of paper.

Part I. Comprehension (100 points)

1. What is the topic?

   5 points = The topic is tall and mile-high skyscrapers.

   What is the author's intent?

   5 points = To inform readers about building tall skyscrapers and the ones that already exist around the world.

   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 = Ever since Frank Lloyd Wright suggested building a mile-high tower in the 1950s, engineers and city developers have wrestled with the idea. Buildings already reach a half-mile into the sky, and creating such tall towers would reduce urban sprawl and use limited city landscapes more efficiently. However, creating them involves extreme technological and social challenges such as dealing with wind, energy consumption, travel between floors, safety, and social planning to create a high-rise community.

2. What is the relationship between skyscrapers and air movement in cities? How do engineers plan for this relationship? Use evidence from the text to support your answer. **[RE, SA]**

   20 points = Winds push against very tall skyscrapers and make them sway, while skyscrapers can make winds stronger in the city. ***According to the text****, the Taipei Tower in Taiwan has a pendulum weight inside that swings in the opposite direction of the building's sway when the wind blows against it. That* ***cancels out*** *the building's movement. Other buildings,* ***such as*** *the Chicago Spire, were designed to draw wind up and away from the sidewalks to keep* ***pedestrians*** *safe. This shows that engineers have to plan for things that affect their buildings* ***in addition to*** *how their buildings affect the city.*

   15 points = Winds push against very tall skyscrapers and make them sway, while skyscrapers can make winds stronger in the city. The Taipei Tower in Taiwan has a pendulum weight inside that swings in the opposite direction of the building's sway and stops the building's movement. Other buildings were designed to draw wind up and away from the sidewalks to keep walkers safe.

   10 points = Since winds can cause tall buildings to sway, engineers have to plan to make buildings move less in the wind. They also have to design them to draw wind away from the streets and walkers.

3. Terrorists may target tall skyscrapers as they did with the World Trade Center in 2001. What can you conclude about the solution that engineers have developed for skyscrapers in the section titled "High Alert"? **[RE, MI, DC]**

   20 points = *Engineers have examined what happened to the World Trade Center to develop ways to keep buildings standing long enough for people to escape them. The explosions and extremely hot temperatures weakened the steel frames of the buildings, causing them to* ***collapse****.* ***One possible solution*** *is ceramic coatings to* ***reinforce*** *the steel frames that support a building. Ceramic shields, such as those on the space shuttle, would keep the steel from being* ***exposed*** *to the heat. This shows that engineers have developed solutions based on past events and problems.*

   15 points = *Engineers have examined what happened to the World Trade Center to develop ways to keep buildings standing long enough for people to escape them. The explosions and extremely hot temperatures made the steel frames weak enough to fall down. Builders could use ceramic coatings to strengthen the steel frames. These kinds of shields are used on the space shuttle.*

   10 points = *Engineers use past events, such as the attack on the World Trade Center in New York City, to make new skyscrapers safer and stronger.*

4. Which of the following arguments is the author making in the section titled "Alone Together"? **[AA, SA]**

   A. Designers should strive to compete with one another for the tallest building.

   B. The social engineering of buildings is just as important as the structural engineering.

   C. Supertall skyscrapers are the only way to fit thousands of people in a relatively small footprint.

   D. Engineering buildings to meet the needs of the city is the most important stage of planning.

   Support your choice with evidence from the text.

   20 points = *The text argues that very tall skyscrapers need to be more than just story upon story of homes.* ***For instance****, if a skyscraper is just several hundred stories of homes, people could feel* ***alienated*** *from one another and the world. This is probably true in the higher levels of a skyscraper. The author argues that a skyscraper needs businesses, schools, shopping malls, and* ***recreational facilities*** *on its different levels. These would allow the residents to feel like they are part of a community.*

15 points = *The text argues that very tall skyscrapers need to be more than just story upon story of homes. If a skyscraper is just several hundred stories of homes, people could feel too separate from one another and the world. This is probably true in the higher levels of a skyscraper. The author argues that a skyscraper needs businesses, schools, shopping malls, and parks on its different levels.*

10 points = *The text argues that you need to include things within a tall skyscraper to help the residents feel like they are part of a community.*

5. Based on what you read in the article "Megacities with Mega-Challenges" and what you read today, why are so many cities looking for greener solutions to develop new skyscrapers? Support your thinking. **[RE, DC, SA]**

20 points = *Cities are looking for greener solutions when building new skyscrapers because the energy* ***demands*** *of cities are increasing. With more and more people moving to larger cities,* ***such as*** *Mumbai or Shanghai, the energy demands on those cities'* ***infrastructures*** *will be greater.* ***Additionally****, a supertall skyscraper, such as the Taipei Tower and Burj Dubai, will need a lot of* ***resources*** *to provide energy to everyone living or working in the building. Green energy solutions will help to reduce the demand on the infrastructure.*

15 points = *Cities are looking for greener solutions when building because the energy needs of cities are increasing. With more and more people moving to certain cities, the energy needs of those cities' frameworks will be greater. A superhigh skyscraper, such as the Taipei Tower and Burj Dubai, will need a lot of supplies to provide energy to everyone living or working in the building.*

10 points = *Cities are looking for greener energy solutions because more and more people are moving into cities, and developers are creating superhigh skyscrapers that will need a lot of energy to operate.*

Part II. Writing (100 points)

Write at least a paragraph to answer the following question:

Use information from the text to explain how the proposed London Citygate Ecotower would be the most ecofriendly tower in the world.

The London Citygate Ecotower was designed to show how a skyscraper could meet the energy needs of thousands of residents. Engineers designed the outside of the building to be covered with solar cells instead of glass or stone. This means that the walls of the building would absorb energy from sunlight to provide power to the residents, lessening the need for miles of wire within the structure's walls. Designers also planned that the elevators within the tower could act like pistons in a car. A piston is a cylinder that moves up and down, providing the energy to a car engine. Elevators in a mile-high structure could provide energy as they travel up and down the height of the building. These are two methods that designers believe would work efficiently for supertall towers of the future.

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

Writing to Inform or Explain		
Ideas	• Clearly introduces the topic • Develops the topic with relevant details	**0–25 pts.**
Organization	• Begins by introducing the topic • In the middle, provides facts, examples, or events that help a reader understand the information • Ends with a closing statement that supports the information	**0–25 pts.**
Style	• Uses words and phrases that help a reader understand how the facts or events are related • Includes details or examples that help a reader make a mind movie	**0–25 pts.**
Mechanics	• Uses correct punctuation, capitalization, spelling, and grammar	**0–10 pts.**
Writing Objective	• Explain the connections among facts, events, or ideas.	**0–15 pts.**

Part III. Vocabulary (100 points)

1. In the past, many epidemics in cities were caused by _____ leaking into drinking water and making people sick.

   Choose the word that belongs in the blank. **[CV]**

   A. urbanizing
   B. deliberate
   C. pesky
   D. sewage

2. In which of the following sentences is the word *preposterous* used incorrectly? **[CV]**

   A. Tony thought the woman who was walking her dog down the street in a stroller was being preposterous.
   B. "It is preposterous that you think you should get change for giving me five dollars for a one-dollar soda," the cashier said.
   C. Coral had the preposterous idea that she could avoid getting sick by holding her breath for long periods of time.
   D. "You are being preposterous if you think you will have time to play three sports in one season," Pia's mother said.

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

   A synonym for deliberate *is* calculated*. An antonym for* deliberate *is* unintentional*.*

4. Which of the following is NOT an example of something that is *disrupting* normal activities? Explain why. **[CV]**

   A. a person talking throughout a movie
   B. a baby crying in a quiet library
   C. dogs barking while playing in the dog park
   D. an emergency vehicle in a busy intersection

   Dogs barking while playing is normal and should be expected, especially in a dog park where there are a lot of dogs together. It would be disrupting if it were one dog barking loudly at night.

5. As neighborhoods begin _____, they may become more crowded and busy, causing them to lose their quiet, small-town feel.

   Choose the word that belongs in the blank. **[CV]**

   A. dwindling
   B. preferential
   C. urbanizing
   D. disrupting

6. What is a synonym for the word *pesky*? What is an antonym for the word *pesky*? **[CV]**

   A synonym for pesky *is* troublesome*. An antonym for* pesky *is* pleasing*.*

7. In which of the following sentences is the word *dwindling* used incorrectly? **[CV]**

   A. Jack was surprised when the magic beans began dwindling into a beanstalk that reached the clouds.
   B. The amount of money in Terrell's pocket was dwindling, so he began looking for chores he could do.
   C. The bump on Enrique's head began dwindling after he held a bag of ice on it for a while.
   D. The number of bees you see outside is dwindling as summer turns into cool autumn.

8. Which of the following is NOT an example of *preferential* treatment? Explain why. **[CV]**

   A. getting to pick first because you won a prize
   B. receiving coupons for being a loyal shopper at a store
   C. getting seated at a busy restaurant for having a reservation
   D. having to wait and leave last as a punishment

   Having to wait and leave last as a punishment indicates that someone is not giving you an advantage over other people, so this is not preferential treatment.

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]**

   We explored the word islanding *on page 8. In the context, this word means to isolate or make separate. For example: When the river floods, it has an islanding effect on some of the higher hilltops, making them stick out like little humps from the flooded plain.*

10. As used in the sentence "Heat or ultraviolet light cures resin in place to match pipes' varied shapes," on pages 6 and 7 *cures* most nearly means— **[CV]**

    A. restores.
    B. weakens.
    C. smolders.
    D. solidifies.

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

    I determined the meaning of cures *using the context of the passage. The article describes how the insides of older sewers are coated with a substance called resin, and that resin eventually hardens and becomes part of the pipe. When resin hardens, it becomes solid.*

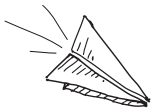
Question Codes			
[DC]	Make inferences; interpret data; draw conclusions.	**[AA]**	Analyze an argument.
[SA]	Support an answer; cite supporting evidence.	**[AP]**	Identify author's intent or purpose.
[MI]	Identify the main idea that is stated or implied.	**[RE]**	Analyze relationships (ideas, story elements,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

Lesson 7

Reading Objective: Analyze problems, and draw conclusions about solutions based on information from the text.

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.

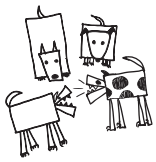
1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

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.

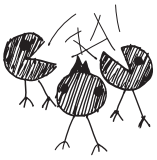
Give students feedback on classwork.

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)



Class Discussion tp

(15 minutes)

Team responses and feedback

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

Celebrate team successes!

Final tally for this cycle

Record team celebration points on the teacher cycle record form.

Collect Read and Respond forms for this cycle.

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

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.
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.
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.

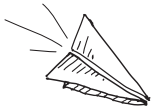
Lesson 8

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 goals for further improvement.

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



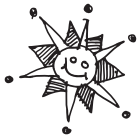
Active Instruction tp

(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?

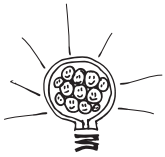
   What can the team do to improve that score?

Use **Random Reporter** to ask:

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

Accept supported answers.

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:

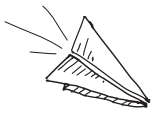
Problem and Solution

Lesson 1

Reading Objective: Analyze problems, and draw conclusions about solutions based on information from the text.

Teacher Background

Today students will read about a different way to map a city. Some researchers wanted to map the emotional responses that people had while walking through a city, so they created an experiment in which volunteers were equipped with portable lie detectors and GPS devices. As each volunteer walked through the city, the lie detector recorded the person's emotional responses to situations while the GPS recorded his or her position. People felt the highest emotions at intersections and in social spaces. Another form of social mapping found that people who were incarcerated in jails tend to come from the same relatively small neighborhoods in cities. What's more, these neighborhoods generally have a lot of poverty. Creators of the map hope it can help city governments to consider spending more money to help these communities rather than spending money on prisons, where many members of these communities often end up.



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: Is it better to fight nature or work with nature? Why?

Set the Stage tp

Discuss the Big Question. tps

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

   Is it better to fight nature or work with nature? Why?

   I think it is better to work with nature because that means you are doing your best to blend in with the environment. Nature can be unpredictable and does not always work the way we expect or want it to work. It is not aware of our best plans. It is better to be flexible and to build in a way that works with nature.

   Can you think of any examples of building projects that have tried to work with nature? Use information from the previous cycle's reading if necessary.

   Building projects in Japan that work to lessen the impact of earthquakes are examples of people working with nature. If you don't plan for earthquakes, your building is likely to collapse or suffer great damage. If you do plan for

them and design your building to withstand the shaking, you are working with nature to make your building safer.

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 texts, authors, and reading objective.

Refer students to "Mapping Our Cities: Mood Swings and Million Dollar Blocks," pages 28 and 29 in the text.

4. Have teams discuss and report on their preview of the text and explain their thinking. Use **Random Reporter** to share team responses.

T: Mapping mood and different areas of the city

I: To inform readers about a way to map people's responses to different areas in the city

G: A chart to track the problems, solutions, and conclusions

Build background about the topic.

5. Introduce the idea of emotional mapping by using **Think-Pair-Share** to ask:

Humans experience constant emotional responses, even though they are often subtle. You may feel happy, calm, anxious, or angry in certain parts of your home, neighborhood, or city. For example, what part of your home makes you feel happy? What part makes you feel calm?

The kitchen makes me happy. This is where everyone gathers together; this is where food is made and eaten. The smells and memories in the kitchen make it feel happy. The space where I do my homework makes me feel calm. This is where I go for quiet or to read books and magazines. I go to my room to relax or sleep.

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 "Mapping Our Cities: Mood Swings and Million Dollar Blocks," page 28 (paragraphs 1 and 2) aloud. Use **Think-Pair-Share** to ask:

What problem is presented in this article?

Modern maps only show streets, numbers, subway stops, and landmarks. They don't show how many people are living in a city or where those people tend to go. A visitor might be surprised to discover just how many people there are in one location.

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 page 28 (paragraphs 3 and 4). Use **Think-Pair-Share** to ask:

What do you think the maps that the two mapmakers are working on will show?

The article says that the two mapmakers are concerned about maps not showing the thoughts, experiences, and movements of people. I can infer that their maps will show how people feel in certain parts of the city or how they feel as they move through the city.

Use **Random Reporter** to debrief.

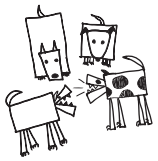
Partner pairs: Review, reread to clarify, and add to the graphic organizer.

4. 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		
Problem	**Solution**	**My Conclusion**
Maps only show streets, numbers, subway stops, and landmarks: They do not reveal how many people live in the city.	Create maps that show people's thoughts, experiences, and movements through the city.	Maps will show what people feel or how different experiences affect them in the city.



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

   "Mapping Our Cities: Mood Swings and Million Dollar Blocks," pages 28 and 29 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. Why do you think it was important for Christian Nold to interview volunteers about their bio-mapping results? Support your response with evidence from the text. **[DC, SA]** (Team Talk rubric)

   100 = *Nold needed to find out what triggered the emotional responses that he saw in the volunteers' bio-mapping records.* ***According to the text****, the portable lie detector only records how worked up a person is compared with when he or she is* ***at ease****. It cannot tell whether a person is angry, frightened, excited, or happy.* ***Therefore****, he needed to interview his volunteers to find out what happened to collect* ***data*** *about how people experience cities.*

   90 = *Nold needed to find out what triggered the emotional responses that he saw in the volunteers' bio-mapping records. The portable lie detector only records how worked up a person is compared with when he or she is calm. It cannot tell whether a person is angry, frightened, excited, or happy.*

   80 = *Since the portable lie detectors only told him when people became emotional, he needed to find out what triggered those emotions to really map the city.*

continued

Team Talk Questions *continued*

2. Compare the emotion map on page 28 with the fractal image on page 17. How do these maps help you understand people's movements through cities? **[RE, SA]** (Team Talk rubric)

   100 = *Both maps show where the highest **concentrations** of movement occur within a city. In the fractal image on page 17, high-traffic and high-**density** areas appear in dark red, with the deepest red colors at busy intersections. The map on page 28 shows a similar pattern of high emotional traffic at busy intersections and roads. **According to today's reading**, our emotions run highest in places where we **encounter** more people, such as busy intersections and social spaces. This shows that the maps **complement** each other even though they **chart** different characteristics.*

   90 = *Both maps show where the highest amounts of movement occur within a city. In the fractal image on page 17, high-traffic and highly populated areas appear in dark red, with the deepest red colors at busy intersections. The map on page 28 shows a similar pattern of high emotional traffic at busy intersections and roads. Our emotions run highest where we meet more people, such as busy intersections and social spaces.*

   80 = *The maps complement each other, showing that a city has high-traffic areas at busy intersections and that our emotions run highest when we are at those busy intersections.*

3. Laura Kurgan suggests that the United States needs to put more money into poorer neighborhoods. What can you conclude from her solution to the million-dollar–blocks problem? Support your thinking. **(Write) [RE, DC, SA]** (Team Talk rubric)

   100 = *Kurgan believes that **access** to better education, homes, and health services will **prevent** people from turning to a life of crime. **According to her research**, it costs states more than $1 million per year to **incarcerate** one neighborhood block. She believes that using that $1 million to improve neighborhood schools would do more to prevent crime than **repeatedly** incarcerating people. A better education is more likely to help someone get a better or higher-paying job and avoid turning to crime. **Thus**, more funding should go to these areas than to prisons.*

   90 = *Kurgan believes that better education, homes, and health services, will keep people from turning to a life of crime. It costs states more than $1 million per year to send one neighborhood block to jail. She believes that using that $1 million to improve local schools would do more to stop crime than sending people to jail again and again. A good education is more likely to help someone get a better or higher-paying job and avoid turning to crime.*

   80 = *If states put more money into poor neighborhoods, especially the schools, then they would be doing more to stop people from turning to crime.*

continued

Team Talk Questions *continued*

4. Both Nold and Kurgan have repeated their studies in other cities and countries. What is the value in repeating experiments or research? Support your thinking. **[AA, DC, SA]** (Team Talk rubric)

   *100 = Repeating their studies in other cities and countries gives them data from different groups of people. In the cases of Nold and Kurgan, they discovered that they **consistently** collected **similar** results across cities and cultures to support their research. **For instance**, Kurgan has found the same patterns between prison inmates and neighborhoods in several cities across the United States. This shows that the more data you collect from a **variety** of sources, the more strength your claim has.*

   90 = Repeating their studies in other cities and countries gives them data from different groups of people. In the cases of Nold and Kurgan, they discovered that they collected the same kind of results across several cities and cultures to support their research. Kurgan has found the same patterns between prison inmates and neighborhoods in several cities across the United States.

   80 = Repeating their studies in other cities and countries gives them data from different groups of people. It makes their arguments stronger.

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

Show the video.

Celebrate team successes!

The top team chooses a cheer.

Remind students of the Read and Respond homework assignment.

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.
3. Show the video "Fluency."

Celebrate

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.

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

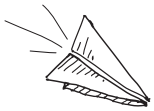
Lesson 2

Reading Objective: Analyze problems, and draw conclusions about solutions based on information from the text.

Teacher Background

Today students will read two short articles about the environment in cities. The first article focuses on the heat-island effect of cities. A sunny day is a lot hotter in cities where dark asphalt streets absorb heat and concrete sidewalks and buildings reflect it, not to mention all the cars and people using heat-producing appliances. Green grassy areas are always cooler due to evaporation, so the most common solution to the heat-island problem is creating more green areas in cities.

The second article discusses the ability of city weeds to spread their seeds. With few places to grow plants, weeds often grow in cracks in the sidewalks. One weed, the *Crepis sancta*, normally produces feathery seeds that are carried in the wind to new places to take root, but this is difficult to accomplish in a city. The plant has evolved to also drop heavy seeds that land near the parent plant, giving the seeds a better chance of growing in the hostile city.



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.

Word	Pronunciation	Definition	Sample Sentence
hapless (adjective) page 5	hap-less (HAP-lis)	unlucky; unfortunate	The man in the business suit was just a *hapless* bystander when a taxicab swerved into a large puddle and drenched him with muddy water.
interlocking (adjective) page 11	in-ter-lock-ing (IN-ter-lok-ing)	linked or connected closely together	Most puzzles have *interlocking* pieces that need to be arranged correctly for the pieces to fit and form a picture.
pigments (noun) page 14	pig-ments (PIG-muhnt)	substances used to color or paint objects	The *pigments* used on the walls were so dark that any sunlight that entered the room was absorbed.
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agitated (adjective) page 28	ag-i-tat-ed (AJ-i-tey-tid)	excited; disturbed	After the earthquake, we realized that our dog had become unusually *agitated* and had begun to bark just minutes before the ground shook under our feet.
forage (verb) page 41	for-age (FOR-ij)	to wander or search for provisions	There are still some parts of the world where people *forage* in the forests or plains for food to bring back to their villages to share.
uninitiated (adjective) page 42	un-in-i-ti-at-ed (un-i-NISH-ee-eyt-ed)	not introduced	"Our rules might seem strict to those *uninitiated* to our school, but you will find them more than fair and easy to follow," the principal explained to new students.

(continued)

Word	Pronunciation	Definition	Sample Sentence
stagnate (verb) page 40	stag-nate (STAG-neyt)	to become stale or foul from standing still or not flowing	The fallen tree caused the normally clean creek to *stagnate* and smell unpleasant until the tree was removed.

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 texts, authors, and reading objective.

Refer students to "Heat Islands," page 3 and "A Little Seed in a Big City," page 5 in the text.

4. Have teams discuss and report on their preview of the text and explain their thinking. Use **Random Reporter** to share team responses.

T: Heat islands in cities and how seeds grow in cities

I: To inform readers about heat islands and how seeds grow where there is little soil

G: A chart to track the problems, solutions, and conclusions

Show the video.

5. Show the NASA video "Heat Islands." Use **Think-Pair-Share** to ask:

According to the video, is the urban-heat-island effect more noticeable in areas surrounded by forest or in areas surrounded by desert? Why?

The urban-heat-island effect is more noticeable in areas surrounded by forest because the forested area is already much cooler because of the vegetation and the shade. The urban area is going to feel much hotter relative to the forest. An urban area in a desert is surrounded by an area that is already hot. The city won't feel that much warmer compared with the desert.

In the next fifty years, approximately 80 percent of the world's population will live in cities. According to the video, what kinds of problems might the world's population face from urban heat islands?

In addition to increased costs in energy for cooling off, people will face health problems. Urban heat islands can affect asthma and heart conditions. The many people moving to cities will be affected by these problems.

6. Tell students that one of the most famous examples of how changing city conditions affect wildlife is the peppered moth in newly industrialized England. Explain the following to students:
   - There are two varieties of the peppered moth: one with wings that are predominantly white with dark spots and one with wings that are predominantly dark. The coloration of the wings provides the moth with camouflage against tree bark.
   - Before the Industrial Revolution and the heavy use of coal, the lighter-colored moths were most common because they blended in well with light-colored trees, making them more difficult for predators to find and eat. Darker moths were easier to find and usually eaten first, so their populations were generally smaller.
   - After the Industrial Revolution, soot from coal fires polluted the air and discolored the tree bark in many areas. Because the darker moths blended in with the soot coating, they survived longer. The lighter moths were easier targets for birds, so their populations declined as the populations of the darker moths increased.

Interactive Read Aloud

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

1. Read "Heat Islands," page 3 (paragraphs 1 and 2) aloud. Use **Think-Pair-Share** to ask:

   Based on what I just read, make a prediction about the problem we will read about in this article.

   The problem will have to do with heat in the city and how there is too much asphalt and concrete keeping things hot. You read about how asphalt and concrete absorb or reflect heat, unlike grass, which cools the air down through evaporation. I know that there isn't a lot of grass in the city.

Partner pairs: Read aloud/think aloud with the next passage to practice the skill or 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 3 (paragraph 3). Use **Think-Pair-Share** to ask:

   Was your prediction accurate? Why or why not?

   Yes. The paragraph illustrates why asphalt and concrete are problems in cities. Cities are full of streets, sidewalks, and buildings made from these materials and relatively few green spaces full of grass or trees. Then all the people using cars, stoves, dryers, and air conditioners add to that heat.

   What can you conclude about the possible solutions to this problem?

   Planners are likely trying to find ways to make cities cooler by using more plants. I think urban planners probably try to include more green spaces and parks to cool cities down or to plant more trees and small grassy areas in different parts of the city. They might also try to find construction materials that handle heat better.

Use **Random Reporter** to debrief.

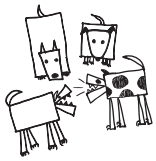
Partner pairs: Review, reread to clarify, and add to the graphic organizer.

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		
Problem	**Solution**	**My Conclusion**
Cities are hotter than other areas: Asphalt absorbs heat; concrete reflects heat.	Grass and other green plants cool the air through evaporation.	Urban planners will incorporate more green spaces into cities to cool down temperatures.



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

   "Heat Islands," page 3 and "A Little Seed in a Big City," page 5 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. Which of the following best describes the relationship between global warming and urban heat islands? **[RE, SA]** (Team Talk rubric)

   A. Global warming causes urban heat islands to get hotter in proportion to other areas.

   B. Global warming is causing rural areas to become as hot as urban heat islands.

   C. Global warming causes green spaces to be ineffective at cooling urban heat islands.

   D. Global warming is the cause of urban heat islands over the past twenty-six years.

   What evidence from the text supports this relationship?

   *100 = Scientists **studied** the temperature records of inner-city London and a **rural** English town. **According to their research**, the temperature increased by the exact same amount in London and in rural Rothamsted. The city was already a hotter place, but the temperature difference between London and Rothamsted did not increase. This shows that urban heat islands exist with or without global warming.*

   90 = Scientists looked at the temperature records of inner-city London and a small town in the country. The temperature increased by the exact same amount in London and in Rothamsted. The city was already a hotter place, but the temperature difference between the cities did not get bigger.

   80 = Scientists looked at the temperatures of London and Rothamsted and discovered that the temperature increased by the same amount in both cities, but London was already a hotter place.

2. How does the inclusion of the two satellite images help you better understand the problem in the article "Heat Islands"? **[AP, MI]** (Team Talk rubric)

   *100 = The satellite images provide a **visual** that explains how temperatures are affected by green areas in cities. **In the top image**, the purplish spots **represent** the coolest areas while the whitish spots represent the warmest areas. I can see how those purplish spots in the top image **relate** to the darkest green spaces in the second image. These images show how the coolest spots **correlate** to the areas of densest vegetation.*

   90 = The satellite images show how temperatures are affected by green areas in cities. The purplish spots show the coolest areas while the whitish spots show the warmest areas. I can see how those purplish spots in the top image match the darkest green spaces in the second image.

   80 = The satellite images show how areas of dense plant life help to cool the temperature in a city compared with areas with little plant life.

continued

Team Talk Questions *continued*

3. Which do you think would survive better through future generations: a city-dwelling *Crepis sancta* planted in the country or a country-dwelling *Crepis sancta* planted in the city? Support your thinking. **[DC, SA]**
(Team Talk rubric)

   100 = *The **city-dwelling** Crepis sancta would **survive** better in the country than the other way around. **According to the text**, Crepis sancta plants that live in the country **produce** more of the light, feathery seeds **designed** to be carried on the wind than their city cousins. If a country weed were planted in the city, most of its seeds would not find a good place to grow. If a city weed were planted in the country, seeds would find a home at the base of the parent plant and farther away. This shows that the city weed would survive better.*

   90 = *The city Crepis sancta would live better in the country than the other way around. Crepis sancta plants that live in the country make more of the light, feathery seeds that float in the wind than their city cousins. If a country weed were planted in the city, most of its seeds would not find a good place to grow. If a city weed were planted in the country, seeds would find a home at the base of the parent plant and farther away.*

   80 = *The city Crepis sancta would be able to have its seeds survive at the base of the parent plant and after being carried in the wind if it were planted in the country.*

4. Plant species survive by spreading their seeds over a wide area. Do you think city-dwelling *Crepis sancta* weeds will ever stop producing their floating seeds? Why or why not? Support your conclusion. **(Write) [RE, DC, SA]**
(Team Talk rubric)

   100 = *It is unlikely that **city-dwelling** Crepis sancta will ever stop **producing** floating seeds. These weeds **survive** by producing floating seeds and dropping heavier seeds that will grow around the parent plant. The heavy seeds survive more than the floating ones since they land in soil right away. **However**, this is not a good **strategy** for the survival of the species. I think they will continue to produce floating seeds on the chance that even one will take root in a crack or some dirt far away. This shows that the weed will continue to **reproduce** in a way that **benefits** it the most.*

   90 = *It is unlikely that city Crepis sancta will ever stop making floating seeds. These weeds live by making floating seeds and dropping heavier seeds that will grow around the parent plant. The heavy seeds live more than the floating ones since they land in soil right away. But this is not the best way to help the weeds live. I think they will continue to make floating seeds on the chance that even one will take root in a crack or some dirt far away.*

   80 = *It is unlikely that city Crepis sancta plants will stop making the floating seeds because they are too important for spreading the plants.*

5. The vocabulary word *interlocking* contains the Latin prefix *inter-*, meaning between. What do you think the word *interstate* means? **[CV]**

   I think the word indicates something that happens between states. For example, an interstate highway runs across several states.

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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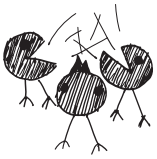

Class Discussion tp

(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 3

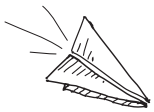
Reading Objective: Analyze problems, and draw conclusions about solutions based on information from the text.

Teacher Background

Today students will read about efforts to reduce the urban heat-island effect by creating green roofs. Green roofs may either be covered in actual plants and gardens or use light-colored paints to keep them cool. Buildings waste the most energy trying to stay cool when temperatures are high, but green roofs would not only reduce urban heat islands, but also help to keep energy costs down for schools, companies, and families. Rooftop gardens add enjoyable spaces to buildings, help to defray energy costs, deaden noise, clean the air and water, and can even provide fresh produce. Other green-roof options include light-colored paint and more environmentally friendly materials to keep the heat down.

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.

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.

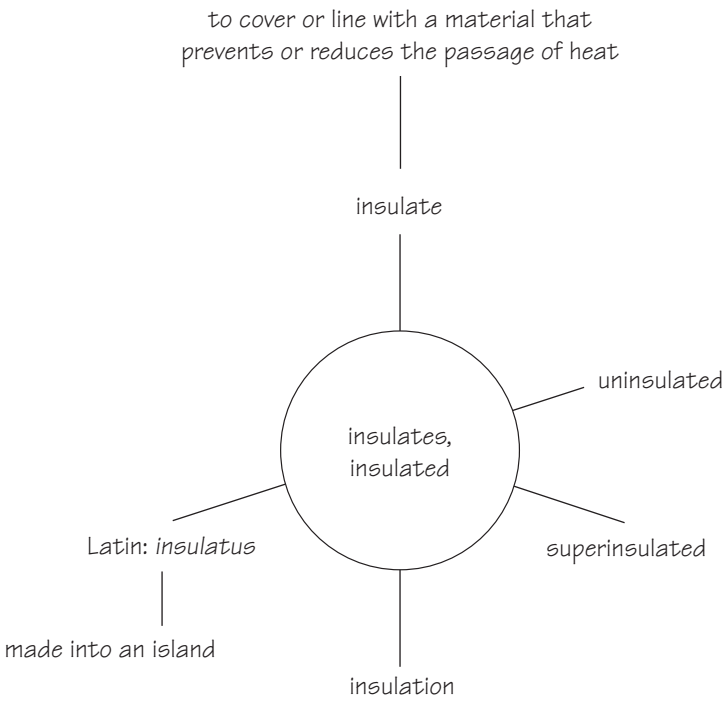
Model exploring a word in the word power journal.

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

When I was previewing today's reading, I noticed two words on page 14 that seem related: *insulates* and *insulating*. If I remove the suffixes, I can see that the base word is *insulate*. I've heard this word before in reference to items such as lunch bags. They insulate food to keep it cool or warm. Let me check this word in the dictionary. (Model looking up *insulate* in the dictionary.) The definition means to cover or line with a material that prevents or reduces the passage of heat. This makes sense. Lunch bags and coolers are insulated so cold drinks or food stay cold, and jackets and sleeping bags are insulated to retain warmth.

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 texts, authors, and reading objective.

Refer students to "Cool Roofs," pages 11–14 in the text.

4. Have teams discuss and report on their preview of the text and explain their thinking. Use **Random Reporter** to share team responses.

   T: How to make your rooftop cooler

   I: To inform readers about different strategies that people use to cool roofs and reduce urban heat islands

   G: A chart to track the problems, solutions, and conclusions

Show the video.

5. Show the video Science Nation: "Green Roofs," from the National Science Foundation. Use **Think-Pair-Share** to ask:

   Cooler temperatures are one benefit of green roofs. How can green roofs also help a city's infrastructure?

   Green roofs absorb water instead of letting the water run off the building and into the streets. According to the video, when it rains, waves of water rush off buildings and into the sewer systems, which can be overwhelmed. Some green roofs absorb all the water that hits them, so there is less water running off into the sewers.

   According to the video, how are scientists working to make green roofs even greener?

   Scientists are looking for ways to use already recycled materials as part of green roofs. The scientist in the video is experimenting with using pulp from recycled paper as the base for the roof plants to grow. The material is lightweight, so it would be good to use on a roof.

Build background about the topic.

Interactive Read Aloud

Teacher: Read aloud.

Students: Practice the skill or strategy.

1. Read "Cool Roofs," pages 11 and 12 (paragraph 1) aloud. Use **Think-Pair-Share** to ask:

   What problem did the Jackman Avenue public school have?

   The school was looking for an ecofriendly way to cool the building and the neighborhood around it. The school did not want to install air conditioning units because they would just heat the air around the neighborhood.

   What solutions did the school come up with?

   The school installed an ultraviolet film and solar blinds on their windows to block out the sun. The school installed ceiling fans in rooms, shaded the building with more trees on the property, and installed a green roof.

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 2). Use **Think-Pair-Share** to ask:

   What data did you learn that supports that there is a problem with urban heat islands?

According to the article, cities may be two to ten degrees warmer than the surrounding country areas due to the tall buildings and narrow streets trapping heat from the sun and people's activities.

On page 11, I read that Canada, Europe, and the Middle East have been making green roofs for a long time. What can you conclude about the fact that the United States is just now catching on to this solution?

I think that people in the United States just didn't consider green roofs as a solution to the problem, or people did not consider them a priority. Now that the price of oil and using electricity are going up and more people are aware of the effect that humans are having on the planet's temperature, people want to do something about it.

Use **Random Reporter** to debrief.

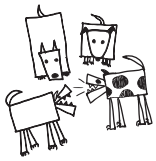
Partner pairs: Review, reread to clarify, and add to the graphic organizer.

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		
Problem	**Solution**	**My Conclusion**
How to cool a building off without adding to the heat: Air conditioners heat up the outside air as they work to cool down the inside. Cities are two to ten degrees warmer than the outlying countryside.	Install environmentally friendly cooling solutions: Ultraviolet film and solar blinds on windows Ceiling fans Shade trees Green roof	It has taken the United States a long time to realize the problem or make it a priority: More awareness of our effect on global climate



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

   "Cool Roofs," pages 11–14 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. The author uses the word *green* to describe the roofs but points out on page 13 that planted roofs may be shades of yellow, red, purple, or brown. What is the word *green* actually describing? How did you figure this out? **[CV]** (Team Talk rubric)

   100 = The word green *is describing the* ***environmentally-friendly*** *nature of the roofs* ***rather than*** *their color. I can tell because the article discusses many of the environmental* ***benefits*** *of having a green roof.* ***For example****, it can reduce the temperature of a roof from 190 degrees Fahrenheit to 77 degrees. That can reduce a building's need to use the air conditioner by 30–50 percent. It doesn't matter what kind of plants or what color the plants are; they will all make your roof more environmentally friendly.*

   90 = The word green *is describing how the roofs are good for the environment instead of their color. I can tell because the article discusses many of the good reasons for having a green roof. It can reduce the temperature of a roof from 190 degrees Fahrenheit to 77 degrees. That can reduce a building's need to use the air conditioner by 30–50 percent.*

   80 = The word green *describes how the roofs are good for the environment and help buildings waste less energy.*

continued

Team Talk Questions *continued*

2. Which of the following is a conclusion that you can draw from this article? **[DC, SA]** (Team Talk rubric)

   A. *There are green-roof solutions to fit different needs and buildings.*
   B. The only truly green roofs would not need fossil fuels to be created.
   C. A green roof is more damaging to the environment than other roofs.
   D. Creating a rooftop garden is the ideal solution for every building.

   What evidence from the text supports this conclusion?

   100 = *There are several different types of green or cool roofs to choose from. **For example**, a planted roof works best on a flat roof that is strong enough to hold those materials. **However**, if you have a slanted roof that can't be planted, you can white coat an **existing** roof so it reflects sunlight, replace the roof with lighter-colored materials, use natural slate, or use **recyclable** metal or other materials. Some of these solutions are much less expensive than planting a roof. **Therefore**, there are a variety of options for people who want a green roof.*

   90 = *There are several different types of green or cool roofs to choose from. A planted roof works best on a flat roof that is strong enough to hold those materials. You can white coat your roof so it reflects sunlight, replace the roof with lighter-colored materials, use natural slate, or use metal or other materials that can be reused. Some of these solutions are less expensive than planting a roof.*

   80 = *There is a variety of green or cool roofs that can be used on flat or slanted roofs and that are less expensive.*

3. Several articles in this magazine, including today's reading, have highlighted Shanghai, China, as a city that could become a model green city for the world. Why do you think China is a target for these developments? Support your thinking. **[DC, SA]** (Team Talk rubric)

   100 = *I think China is a target for green development because its cities are growing. **Earlier** I read that when cities are planned today, they are planned around green spaces and to be more **environmentally friendly**. I **also** know that Shanghai is experiencing a population and economic **boom**. Planners can **incorporate** green technology in the city now before environmental problems become too hard to **reverse**.*

   90 = *I think China is a target for green development because its cities are growing. I read that when cities are planned today, they are planned around green spaces and to be less harmful to the environment. Shanghai is experiencing population and economic growth, so using technology that is good for the environment could help it in the future.*

   80 = *Many Chinese cities are growing economically and in population, so using green technology now will help those cities later.*

continued

Team Talk Questions *continued*

4. The sidebar on page 14 gives hints about how to start a green roof. What conclusion can you draw from the last sentence in the sidebar, "Get started planning some fundraisers today"? Support your thinking. **(Write) [RE, DC, SA]** (Team Talk rubric)

   100 = *Creating a green roof is an expensive project that a lot of schools will not have the* ***resources*** *for.* ***Based on*** *what I read in the sidebar, it seems to take a lot of materials to make a green roof.* ***For instance****, the roof has to be covered with* ***barriers*** *to waterproof and* ***insulate*** *it and to prevent plant roots from damaging the roof.* ***Depending on*** *the size of your roof, this might be expensive. This shows that a school probably needs help from the community to make a green roof.*

   90 = *Creating a green roof is an expensive project that a lot of schools will not have the money for. It seems to take a lot of materials to make a green roof. The roof has to be covered with linings to waterproof and protect it and to keep plant roots from damaging the roof. A big roof might cost a lot of money.*

   80 = *You need to buy a lot of special materials to make a green roof, and a lot of schools might need help from the community to get one built.*

5. hapless agitated

   Would a hapless person be likely to become agitated? Why? **[CV]**

   Yes. A hapless person is unlucky or unfortunate, so they would likely become excited or disturbed in a negative way because of their bad luck.

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?

   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

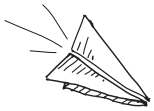
Reading Objective: Analyze problems, and draw conclusions about solutions based on information from the text.

Teacher Background

Today students will learn about urban beekeeping. Bees are one of Earth's most important pollinators and are responsible for providing much of the food that we eat, even if we don't realize it. They are also becoming a popular form of livestock to keep in cities such as London, Paris, Chicago, San Francisco, and New York. Urban bees visit windowsill gardens, parks, or anything with flowers growing in it. Students will learn that urban bees can produce more honey per year than their country cousins, possibly due to the fact that cities are warmer and better lit than the country.

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)

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.

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.

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.

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.

Refer students to "Beez in the Hood," pages 41–43 in the text.

3. Remind students of the texts, authors, and reading objective.
4. Have teams discuss and report on their preview of the text and explain their thinking. Use **Random Reporter** to share team responses.

   T: Raising bees in the city

   I: To inform readers about how people have beehives in big cities

   G: A chart to track the problems, solutions, and conclusions

Build background about the topic.

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

   Imagine a city. Where does all the food that is eaten in that city come from? Where do grocery stores and restaurants get their food?

   Cities have to get their food from farms outside the cities. There aren't any crops grown in cities, and there isn't any livestock in cities. All this has to be shipped from other places in the country.

   (Optional) If you have time and an Internet connection, listen to the following audio clip about human consumption of food in the city: www.pbslearningmedia.org/content/8d3915f6-7d31-4c64-a453-3b60daff488b.

   If you have additional time, share this clip about the serious problem of Colony Collapse Disorder and how one city in China combats it to continue producing fruit: www.pbslearningmedia.org/content/vtl07.la.rv.text.lpsilbees/#content/4dd2fdf0add2c73bce0083cc.

Interactive Read Aloud

Teacher: Read aloud.

Students: Practice the skill or strategy.

1. Read "Beez in the Hood," page 41 (paragraph 1) aloud. Use **Think-Pair-Share** to ask:

   Based on what I read, what would be the problem if there were no bees?

   There would be a lot less food variety because bees are important pollinators. They not only produce honey, but also help to pollinate other plants so there is grass for cows to eat and oranges to make orange juice. They pollinate more than 150 crops.

Partner pairs: Read aloud/think aloud with the next passage to practice the skill or 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 41 (paragraphs 2 and 3). Use **Think-Pair-Share** to ask:

   What conclusion can you draw about the benefit of having urban beekeepers?

   Urban beekeepers add more bees to the bee population around the world and help to increase the amount of food available for people to eat. Urban bees help

to produce the 1.3 pounds of honey that the average American eats each year. They pollinate trees and flowers in the city to help them grow.

Use **Random Reporter** to debrief.

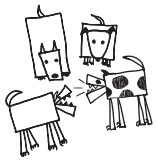
Partner pairs: Review, reread to clarify, and add to the graphic organizer.

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		
Problem	**Solution**	**My Conclusion**
Plants need pollinators to reproduce and produce food for human consumption.	Bees are the most important pollinators: Create honey Pollinate grasses for livestock Pollinate fruit trees	Urban beekeepers add bees to the population around the world: Help to produce the 1.3 pounds of honey that each American eats per year



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

   "Beez in the Hood," pages 41–43 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. Write a summary of the text that you read today. **[MI]** (summary rubric)

   100 = Bees can live anywhere in the world where there are flowers, including in the middle of cities. Many people have begun keeping beehives in densely packed urban environments, setting up hives in gardens and on rooftops. Bees are becoming a popular form of livestock to keep in the city because they are able to feed themselves. They not only collect pollen from flowers near their hives, but also fly to neighboring gardens, window boxes, and parks to bring pollen back to the hive to turn into honey. Many beekeepers have found that urban hives produce approximately twice as much honey as hives in rural settings. Scientists theorize that cities are naturally warmer and better lit than the countryside. This allows bees to forage later into the day. Urban hives are also less affected by Colony Collapse Disorder, a problem threatening beehives around the world.

   90 = Bees can live anywhere in the world where there are flowers, even in the middle of cities. Many people have begun keeping beehives in big cities, setting up hives in gardens and on rooftops. Bees are becoming popular because they are able to feed themselves. They collect pollen from flowers near their hives, neighboring gardens, window boxes, and parks. Many beekeepers have found that city hives make about twice as much honey as hives in the country. Scientists think that cities are warmer and better lit than rural places, so bees can keep collecting food later into the day. City hives are also less bothered by Colony Collapse Disorder, a problem threatening beehives around the world.

   80 = Bees can live anywhere in the world where there are flowers, even in the middle of cities. Many people have begun setting up hives in gardens and on rooftops. Bees collect pollen from flowers near their hives and fly to neighboring gardens, window boxes, and parks to bring pollen back to the hive. City hives make about twice as much honey as hives in the country. They are also less bothered by Colony Collapse Disorder.

continued

Team Talk Questions *continued*

2. What misconceptions do people have about bees that might cause them to protest an increase in urban beekeeping? Support your answer with evidence from the text. **[RE, SA]** (Team Talk rubric)

   100 = *Many people believe that bees are aggressive, so they fear them. **However**, **according to bee experts**, honey bees will only sting if they feel that they or their hive is under **direct** attack. When a honey bee stings something, its stinger is pulled out, and the bee dies, so it will only sting if it is **truly** necessary. **Additionally**, a swarm of bees is not being defensive or aggressive but is only looking for a new home. These show that many people do not understand how bees behave.*

   90 = *Many people believe that bees are aggressive, so they fear them. Honey bees will only sting if they feel that they or their hive is under attack. When a honey bee stings something, its stinger is pulled out, and the bee dies, so it will only sting if it really needs to. And a swarm of bees is not being aggressive but is only looking for a new home.*

   80 = *Many people don't understand that most bee behavior is not defensive or aggressive, so they are unnecessarily afraid of them.*

3. The author and beekeepers interviewed in this article enjoy urban beekeeping. Despite misconceptions about bees, why do you think they might be the ideal type of livestock to have in an urban environment? Support your thinking. **[AA, SA]** (Team Talk rubric)

   100 = ***Compared with** other types of **livestock**, bees are probably **relatively** easy to keep in a small space. Other animals, **such as** cows, goats, sheep, or pigs, would not do well in the city because there is little space. **However**, bees live in small spaces and can live on rooftops when there is no backyard. **What is more**, they collect their own food, so beekeepers just have to take care of the hive. **Therefore**, bees are a good type of livestock to keep in the city.*

   90 = *Unlike other types of farm animals, bees are probably easy to keep in a small space. Other animals would not do well in the city because there is little space. Bees live in small spaces and can live on rooftops when there is no backyard. They collect their own food, so beekeepers just have to take care of the hive.*

   80 = *Bees are well suited for the city because they can live in small spaces and they take care of themselves.*

continued

Team Talk Questions *continued*

4. The article states that small-scale bee farmers have been least affected by Colony Collapse Disorder (CCD). What conclusion can you draw about whom CCD is affecting and how small-scale farms will help? **(Write) [RE, DC, SA]** (Team Talk rubric)

   *100 = CCD has mostly **affected** large-scale bee farmers, so small-scale farms can help to keep pollination and honey production up. **As described in the article**, CCD has affected beekeepers in twenty-eight states. Since small-scale beekeepers are less affected, they can help to replace lost bees on other farms. **Additionally**, if more people take up beekeeping, then pollination can continue to happen, which will help to **maintain** food production. An urban beehive can produce more than 250 pounds of honey per year. This shows that small-scale beekeepers may prevent **devastating** losses due to CCD.*

   90 = CCD has mostly bothered large-scale bee farmers, so small-scale farms can help to keep pollination and honey production up. CCD has bothered beekeepers in twenty-eight states. Since small-scale beekeepers are less bothered, they can help to replace lost bees on other farms. If more people take up beekeeping, then pollination can continue to happen, which will help to keep up food production. An urban beehive can produce more than 250 pounds of honey per year.

   80 = CCD has mostly bothered large-scale bee farmers, so it may be up to small-scale farmers to keep hives of healthy bee populations to replace those lost by CCD.

5. "City bees, like their country cousins, forage for nectar and pollen." From this sentence and the passage on page 41, the word *forage* most nearly means— **[CV]**

   A. find food in the hive
   B. steal food from others
   C. explore for foodstuffs
   D. waste food from stores

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.

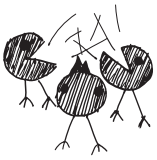
Cue students to discuss strategy use, graphic organizers, and word power journals.

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?

   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.

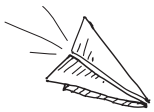
2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

Lesson 5

Writing Objective: Explain the connections among facts, events, or ideas.

Teacher Background

Students will continue to practice the skills that they learned in other units and throughout the cycle.



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 texts, authors, and writing objective.

Introduce the writing project.

4. Remind students that their writing should make connections among facts, events, or ideas to help their audience fully understand a concept or an idea. Use **Think-Pair-Share** to ask:

   How do you think using words and phrases to create transitions helps your writing?

Words and phrases that make transitions help to make my writing smoother and flow better. They help to make ideas clearer and better connect them to the topic. Without transitions, the ideas would appear disconnected in the answer.

Remind students that they use transition words and phrases to make connections as part of the Team Talk rubric during Team Talk each day.

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

Read the prompt aloud.

Writing Prompt
How can green roofs and rooftop gardens be beneficial to urban beekeepers? Use information from the text in your response.

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.

It is asking me to explain ideas or information on a topic. I can tell because it wants me to use information from the text to explain a topic. I am not asked to support an argument or provide an opinion.

6. Refer students to the following writer's guide in their student editions. Point out that this is the criteria for writing to inform or explain. 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 Inform or Explain	
Ideas	• Clearly introduce the topic. • Develop the topic with relevant details.
Organization	• Begin by introducing the topic. • In the middle, provide facts, examples, or events that help a reader understand the information. • End with a closing statement that supports the information.
Style	• Use words and phrases that help a reader understand how the facts or events are related. • Include details or examples that help a reader make a mind movie.
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: to explain the connections among facts, events, or ideas?

The Organization guideline to provide facts, examples, or events that help a reader understand the information and the Style guideline to use words and phrases that help a reader understand how the facts or events are related both relate to our 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 revising.

1. Remind students that their writing should clearly show the connections among facts, ideas, or events to make their answers smooth and clear for their readers. Display the following facts for students.

> Green roofs can contain many different flowering plants.
>
> Green roofs often have bergamot, yarrow, asters, geraniums, daisies, coneflowers, and sedum.
>
> Bees survive anywhere with flowers.
>
> Bees fly straight to their food sources.

tps

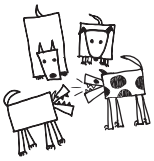
Use **Think-Pair-Share** to ask:

What would be the problem if these four sentences were put in to a paragraph right now?

The ideas do not connect to one another. They are all separate. They do not flow well.

2. Tell students to look at their drafts and see if they can identify similar problems in their writing. Display the following revised passage based on the previous facts. Highlight words or phrases that help to make connections between the ideas.

> Urban bees, just like any other bees, feed on pollen and nectar from flowers. They tend to fly in straight lines, back and forth between the food source and their hive. However, cities often have large areas that do not contain plant life. When people plant green roofs and rooftop gardens, they are providing a ready food source for urban bees, which can then fly straight to other roofs to feed on flowering plants such as bergamot, geraniums, and sedum. With such close foraging, urban bees can provide their keepers with plenty of honey.



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 inform or explain and the writing objective—to explain the connections among facts, events, or ideas.

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 use words or phrases that help the reader make connections between the facts and the topic?**
- **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 difficult to make connections between ideas in your paragraph? How did you work to improve your transitions?

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.

Writing Prompt

How can green roofs and rooftop gardens be beneficial to urban beekeepers? Use information from the text in your response.

Writing to Inform or Explain	
Ideas	• Clearly introduce the topic. • Develop the topic with relevant details.
Organization	• Begin by introducing the topic. • In the middle, provide facts, examples, or events that help a reader understand the information. • End with a closing statement that supports the information.
Style	• Use words and phrases that help a reader understand how the facts or events are related. • Include details or examples that help a reader make a mind movie.
Mechanics	• Use correct punctuation, capitalization, spelling, and grammar.

Lesson 6

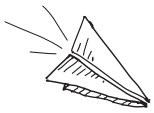
Reading Objective: Analyze problems, and draw conclusions about solutions based on information from the text.

Writing Objective: Explain the connections among facts, events, or ideas.

Teacher Background

Today's cycle test continues to challenge students to analyze problems presented in the text and draw conclusions about the solutions. Students have to think about the information they learned from the text to infer why the solution was selected or what prompted the use of the solution.

Today students will read about Venice, a city famous for its canals and gondolas. While the city's water feature brings it fame, it also brings it problems as sea waters rise. Although the historic buildings can handle some levels of flooding, high water threatens the beauty and history of the city. The government is currently constructing a system of panels on the sea floor that they hope will help to regulate high water without destroying the environment of the lagoon that the city sits on.



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 texts, authors, 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.

Prepare Students for the Test tp

(5 minutes)

tps

Partner Review

1. Remind students that they have been practicing analyzing problems and drawing conclusions about solutions based on information from the text and explaining the connections among facts, events, or ideas. Use **Think-Pair-Share** to ask:

   What should you do to draw a conclusion about a solution?

   First, you should read all the evidence in the article to figure out what the author can tell you about the problem and its solution. Then, you should think about what the author doesn't tell you or can't tell you.

   Tell students that they will use this skill 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, #3, and #4 ask about problems and solutions.
4. Ask students to identify key words or phrases in question #4.

   > 4. What can you conclude from the end of the article if the MOSE panels work to protect Venice from more extreme flooding? Support your thinking. **[RE, DC, SA]**

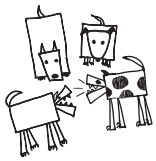
5. Introduce the text that students will read. Tell what it is about, but do not give additional information or details.

   Today you will read about a solution to a flooding problem that could help several cities.

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.
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?

   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 2 Test

Problem and Solution

Directions: Read "Venice: City on the Edge," pages 38–40. 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 = It is about the city of Venice flooding.

   What is the author's intent?

   5 points = To inform readers about how to solve Venice's sinking and flooding problem.

   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 = The city of Venice, Italy, is famous for its canals that wind through the city instead of paved streets. Built at or barely above sea level, the canals experience daily tides in which the water level rises and falls. However, sea levels have caused the worst flooding that Venice has seen in years, which destabilizes ancient buildings made to withstand only small amounts of flooding. Currently, the government is working to protect Venice by installing the MOSE system that will help regulate the level of water in the lagoon.

2. What can you tell about people and their construction projects from the problems that Venice is facing with flooding? Support your thinking. **[RE, DC, SA]**

   *20 points = People do not always **consider** the future **impact** of construction projects when they are completing them. **For example**, the author argues that most of Venice's problems are man-made. Groundwater was pumped out from beneath the city, **which** later caused the ground to settle and sink. In the 1960s, the shipping channels were dug deeper, which increased the speed at which high tide **sweeps** into the city. These show that if people had planned better or thought ahead, Venice might not have as many problems today.*

   15 points = People do not always think about how construction projects will affect cities when they start them. The author argues that most of Venice's problems are man-made. Groundwater was pumped out from beneath the city. This caused the ground to settle and sink. The shipping channels were dug deeper in the 1960s. This made high tide flow into the city faster.

10 points = Projects to remove groundwater from the city and to deepen the shipping channels in the lagoon both contributed to the flooding problems that Venice faces.

3. What can you conclude from the protests to the MOSE system that is designed to ease Venice's flooding problems? Support your response with evidence. **[RE, DC, SA]**

   *20 points = Many protesters believe the government could be wasting money on a solution that will **either** cause other problems or become **obsolete**. **According to their arguments**, the MOSE panels could **stagnate** the lagoon water, causing algae **blooms** and killing fish. **Additionally**, the panels would become **ineffective** if sea levels continue to rise. This shows that people **opposed** to the MOSE system believe it will not really solve the problem, while causing different ones in the process.*

   15 points = Many protesters believe the government could be wasting money on a solution that will cause other problems or become outdated. The MOSE panels could make the lagoon water too still, causing algae to grow and killing fish. The panels would stop working if sea levels continue to rise.

   10 points = Many protesters think that the panels could change the ecosystem of the lagoon too much and that they would stop working when sea levels rise.

4. What can you conclude from the end of the article if the MOSE panels work to protect Venice from more extreme flooding? Support your thinking. **[RE, DC, SA]**

   *20 points = I can conclude that systems similar to the MOSE panels will be used in more locations around the globe. **According to the text**, there are **already** similar systems **in place** in London and Rotterdam, where the panels protect the cities from floods and ocean **storm surges**. **Earlier** the author mentioned that the cities of New Orleans, Mumbai, and Jakarta all experience flooding problems **due to** rising oceans. If these panels help to protect Venice, which is in the worst position, then they may be **considered** to solve problems in New Orleans, Mumbai, and Jakarta.*

   15 points = I can conclude that systems similar to the MOSE panels will be used in more locations around the globe. There are similar systems being used in London and Rotterdam, where the panels protect the cities from floods and surges from ocean storms. The author mentioned that the cities of New Orleans, Mumbai, and Jakarta all experience flooding problems because of rising oceans.

   10 points = If the panels work in Venice, they could be a solution for those other cities.

5. Which of the following best describes what the articles "Heat Islands," "A Little Seed in a Big City," "Cool Roofs," "Beez in the Hood," and "Venice: City on the Edge" have in common? **[RE, MI]**

   A. problems with forcing cities to be ecofriendly
   B. problems with cities being built over fragile ecosystems
   C. problems with keeping nature out of fragile urban areas
   D. problems between cities and the environment

   Provide an example of one of these problems and its solution.

   20 points = *One of the problems from an **earlier** article was how to reduce the heat-island effect in cities. All the concrete and asphalt in a city **absorb the** heat created by the sun, cars, and the appliances that people run in buildings. One solution is planting gardens on the roofs of buildings, **which** help to **not only** reduce cooling costs for the building, **but also** cool the whole city down. This shows that bringing a more natural environment into cities helps to reduce the problems created by human construction.*

   15 points = *One of the problems in an article was how to reduce the heat-island effect in cities. All the concrete and asphalt in a city trap the heat created by the sun, cars, and the appliances that people run in buildings. Planting gardens on the roofs of buildings helps to reduce cooling costs for the buildings and cools the whole city down.*

   10 points = *Cities become heat islands because the concrete and asphalt trap the heat made by the sun and people. Planting gardens on roofs helps to cool everything down.*

Part II. Writing (100 points)

Write at least one paragraph to answer the following question:

Use information from the text to describe how the MOSE panels will help to alleviate Venice's flooding problems when they are completed.

The idea for the Modulo Sperimentale Elettromeccanico (MOSE) panels came from similar systems being used in the Thames River in London and in Rotterdam Harbor in the Netherlands. The system involves seventy-eight hinged steel panels that will be placed on the sea floor between the lagoon and the Adriatic Sea. Normally, the panels will be filled with water so they lie flat, but when water levels rise, they can be filled with air and floated to form a barrier in the water. A lock will be created in the largest lagoon opening so ships can still pass through when the barriers are up. The panels are designed to help protect the city without obstructing the lagoon.

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

Writing to Inform or Explain		
Ideas	• Clearly introduces the topic • Develops the topic with relevant details	**0–25 pts.**
Organization	• Begins by introducing the topic • In the middle, provides facts, examples, or events that help a reader understand the information • Ends with a closing statement that supports the information	**0–25 pts.**
Style	• Uses words and phrases that help a reader understand how the facts or events are related • Includes details or examples that help a reader make a mind movie	**0–25 pts.**
Mechanics	• Uses correct punctuation, capitalization, spelling, and grammar	**0–10 pts.**
Writing Objective	• Explain the connections among facts, events, or ideas.	**0–15 pts.**

Part III. Vocabulary (100 points)

1. | uninitiated | flummoxed |

   Would someone who is uninitiated into a process be easily flummoxed? Why? **[CV]**

   Yes, someone who has not been introduced to a process could be easily confused when presented with it. Sometimes it is difficult to become familiar with a new way of doing something.

2. "At the end of the walk, Nold interviews each participant about the experience, annotating the points where the person was most agitated: 'I got startled by pigeons….'" In this sentence on page 28, the word *agitated* most nearly means— **[CV]**

   A. soothed.
   B. angered.
   C. confused.
   D. flustered.

3. Write a meaningful sentence using the word *hapless*. **[CV]**

   Accept responses that show that the student knows the meaning of the word and can use it correctly. For example: The older dog was a hapless victim of the young puppy's speed as the puppy darted in between his paws to steal the meaty bone.

4. What is a synonym for the word *stagnate*? What is an antonym for the word *stagnate*? **[CV]**

   A synonym for stagnate *is* rot *or* decay. *An antonym for* stagnate *is* refresh *or* grow.

5. Some home designers think that bold _____, such as red or orange, excite people or provide energy to a room.

   Choose the word that belongs in the blank. **[CV]**

   A. agitated
   B. pigments
   C. hapless
   D. forage

6. Write a meaningful sentence using the word *uninitiated*. **[CV]**

   Accept responses that show that the student knows the meaning of the word and can use it correctly. For example: Those that are uninitiated into life in Alaska might be surprised by how the sun never sets during the summer season.

7. In which of the following sentences is the word *forage* used incorrectly? **[CV]**

   A. Most bats leave their roost at dusk to forage for insects, using echolocation in the dark.
   B. With the invention of agriculture, humans had to forage in the wilderness much less.
   C. Families of gorillas can be traced as they forage the forests for fruits and insects each day.
   D. The cat annoyingly got under its owner's feet, waiting to forage for kibble in its bowl.

8. The vocabulary word *interlocking* contains the Latin prefix *inter-*, meaning between. How does the meaning of *inter-* relate to the meaning of *interlocking*? **[CV]**

   The word interlocking *means linked or connected closely together. I think this means that those connections take place between the two items being linked together. Interlocking items have connections between them.*

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]**

   We explored the word permeates*. It means to penetrate or enter through pores in a surface. For example: "We can't take that old tent with us for camping because water permeates every tiny hole in the material," Horace said.*

10. As used in the sentence on page 43 "No doubt, the chance to eat pure, unadulterated, local honey produced by 50,000 small buzzing friends is cool," *unadulterated* most nearly means— **[CV]**

    A. untouched.

    B. polluted.

    C. flavorful.

    D. tainted.

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

    Students will explain their thinking. For example, the word pure *was a clue. This word means that something has not been mixed or is genuine. I think the word* unadulterated *is referring to the same thing, something that has not been changed in any way.*

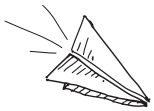
Question Codes			
[DC]	Make inferences; interpret data; draw conclusions.	**[AA]**	Analyze an argument.
[SA]	Support an answer; cite supporting evidence.	**[AP]**	Identify author's intent or purpose.
[MI]	Identify the main idea that is stated or implied.	**[RE]**	Analyze relationships (ideas, story elements,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

Lesson 7

Reading Objective: Analyze problems, and draw conclusions about solutions based on information from the text.

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.

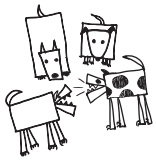
1. Ask students to review their team's goal for this cycle and assess their progress.
2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

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.

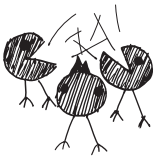
Give students feedback on classwork.

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)



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 the 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.

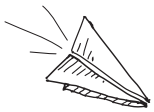
Lesson 8

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.

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)

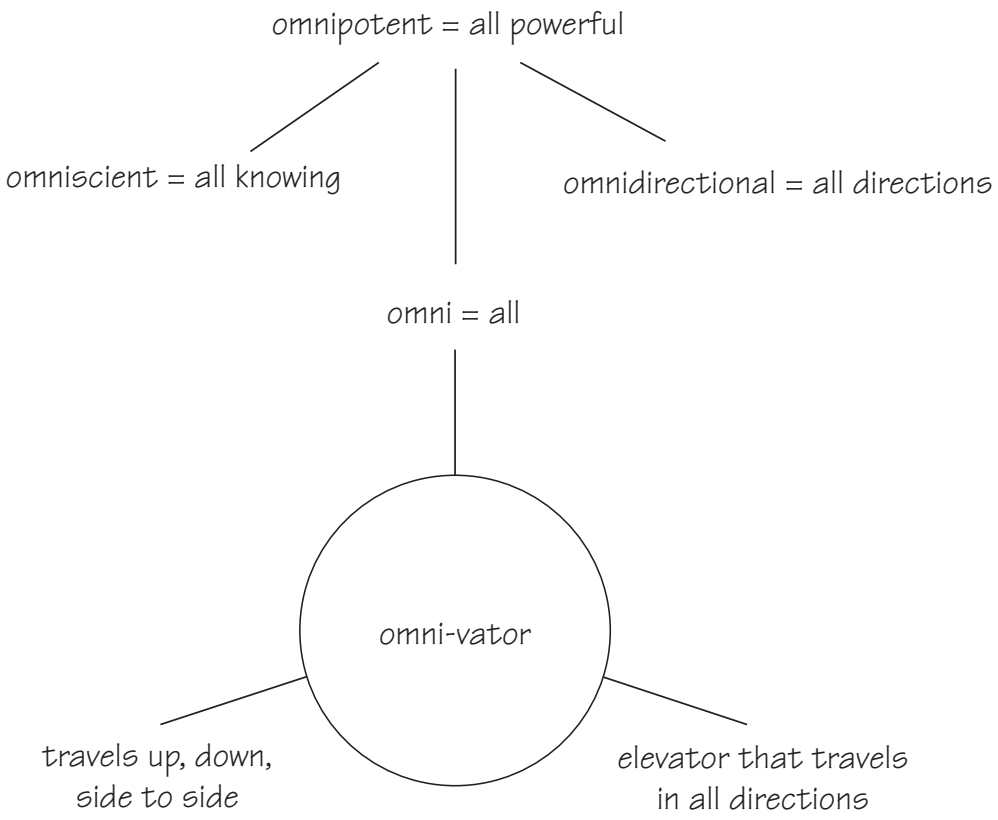
1. Choose a brain game from the card set, and then play the game.
2. Use the following questions to debrief and remind students of self-regulatory strategies:

   What did this game require your brain to do?

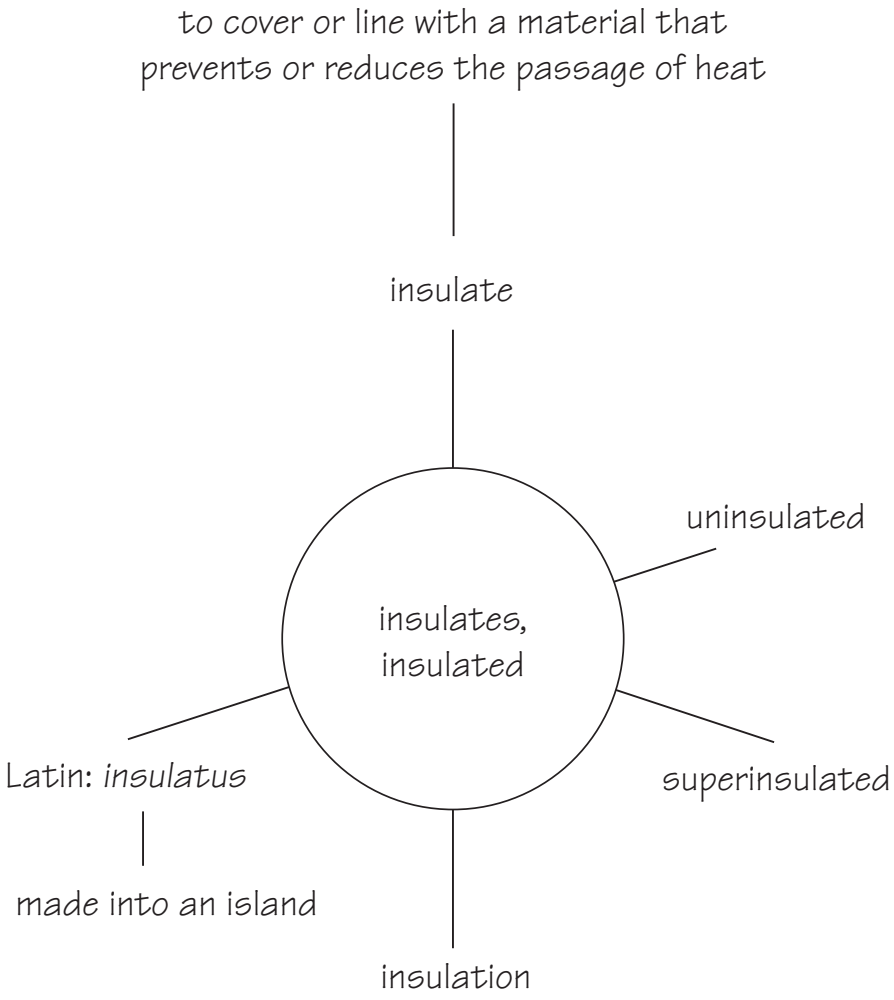
   How will use of this skill improve your success in other classes?

Word Power Journal Sample Entries

Sample Word Map
Cycle 1



Sample Word Map
Cycle 2



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 8 Problem and Solution

English Language Arts Standards: Science and Technical Subjects

Craft and Structure

RST.6-8.5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.

English Language Arts Standards: Reading: Informational Text

Key Ideas and Details

RI.8.1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

RI.8.2. Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.

English Language Arts Standards: Writing

Text Types and Purposes

W.8.2. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.

Media Acknowledgements

We wish to acknowledge the following organizations and individuals for allowing their background videos to be included in the Reading Edge:

Twin Cities Public Television (DragonflyTV)

National Science Foundation (Science Nation online magazine)

The National Park Service

The Maryland Zoo and Gorilla Doctors (gorilladoctors.org)

National Oceanic and Atmospheric Administration, National Ocean Service (Ocean Today video series)

Pardada Pardadi Educational Society and Rohit Ghandi

WNET

Charles R. Smith, Jr.

National Aeronautics and Space Administration and the California Institute of Technology

We would also like to thank Robert Lippencott and Alicia Levi at PBS LearningMedia for their advice and assistance with this project.