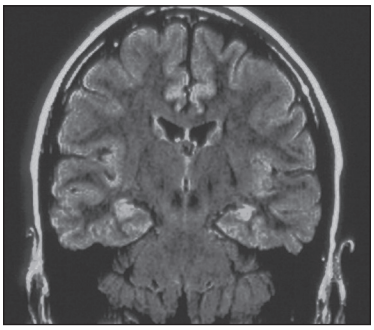

Informational

# Create a Summary

# Study Skills

**The Brain: Our Nervous System**

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***



**Produced by the Reading Edge Middle Grades 2nd Edition Team**

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

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*A Nonprofit Education Reform Organization*

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

# Create a Summary Study Skills

**The Brain: Our Nervous System**

## 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**<br>**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)**<br>**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**<br>**The Random Reporter:** | |
|---|---|
| **100** | gives a 90-pt. response **and expands on the meaning, for example, identifies**<br>**• related words**<br>**• a second meaning**<br>**• a word connotation**<br>**• 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**<br>**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**<br>**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**<br>**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:** Develop an effective summary and practice study skills. |
| **Writing:** Develop the topic with key terms learned from the text. |

# Unit Overview

**Teacher's Note:**

This unit has a slightly different organization from the other units. In cycle 1, students will read *The Brain: Our Nervous System* and practice summarizing. The cycle 1 test will be on a related reading. In cycle 2, students will practice study skills using the information they learned in cycle 1 and reread *The Brain: Our Nervous System* where necessary. The cycle 2 test will be a test of the information in *The Brain: Our Nervous System.* The cycle 2 test is an example of a test given in a content-area class.

In this unit, you will present and model use of the summary rubric to evaluate summaries. Encourage students to use the summary rubric as they create their summaries of the text, and display and use it to evaluate student summaries in the Lightning Round.

| **Summary**<br>**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.** |

### Unit Topic/Content

Students will read *The Brain: Our Nervous System* by Seymour Simon. In this book, the author describes the basic structure and function of the brain and nervous system. The function of the nervous system is to communicate information among the various parts of the body. The nerves gather information from the senses and relay it to the brain. The brain evaluates and interprets the information, makes inferences, and sends back a response. The author also presents information on the senses, parts of the brain, and memory.

# Text and Media Selections

**Internet/Media Options**

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

# At a Glance

**The Brain: Our Nervous System**

| Cycle 1 | | |
|---|---|---|
| **Lesson** | **Text** | **Media** |
| **Lesson 1** | pages 4–11 | |
| **Lesson 2** | pages 12–17 | (Embedded) Background video: "Designers: Brian Sidwell and Mike Lowe" Dragonfly TV |
| **Lesson 3** | pages 18–25 | (Embedded) Background video: "Science Nation: Mind Mappers" |
| **Lesson 4** | pages 26–32 | |
| **Lesson 5** | writing in response to reading | |
| **Lesson 6** | How Does the Brain Change in Childhood? (reading in test edition) | |
| **Lesson 7** | self-selected reading | |
| **Lesson 8** | Getting Along Together | |

**The Brain: Our Nervous System**

| Cycle 2 | | |
|---|---|---|
| **Lesson** | **Text** | **Media** |
| **Lesson 1** | pages 7–13 | |
| **Lesson 2** | pages 16–25 | (Embedded) Background video: "Science Nation: BPS Brain Positioning System" |
| **Lesson 3** | pages 8–17 | |
| **Lesson 4** | pages 28–32 | |
| **Lesson 5** | writing in response to reading | |
| **Lesson 6** | | |
| **Lesson 7** | self-selected reading | |
| **Lesson 8** | Getting Along Together | |

**Cycle 1:**

# Create a Summary

# Lesson 1

**Reading Objective:** Develop an effective summary.

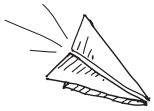
### Teacher Background

The brain is an amazing organ that controls and coordinates most of the body's actions and responses, from heart rate to the ability to understand the words on a page. The brain is well protected inside the skull. As the main organ of the nervous system, it uses nerves to communicate with the rest of the body.

The nervous system is composed of nerves (collections of individual nerve cells or neurons), the senses (sensory receptors), and the brain and spinal cord. The brain and spinal cord is called the central nervous system (CNS) because of both their function and position. Nerves extend from the CNS and carry messages back and forth from all parts of the body, including the senses. These extended nerves are called the peripheral nervous system (PNS). All incoming information is carried to the CNS, which then decides the appropriate response to the information.

The purpose of the Big Question is to have students think about what they know about the brain.

During Set the Stage, you will have a student come to the front of the class and perform a simple activity such as picking up a pencil or a piece of paper. Then you will analyze that action to give students an idea of what the brain does to accomplish a simple task.



## 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:** What does your brain do for you?

### Set the Stage

Discuss the Big Question. tps

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

   **What does your brain do for you?**

   *(Answers will vary.) My brain stores memories and enables me to think about the future. My brain controls body movements.*

   **What questions do you have about your brain?**

   *(Answers will vary.) I would like to know how I make memories.*

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 they earn team celebration points during the Lightning Round.

Post and present the reading objective.

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

Begin the TIGRRS process; review the steps as needed.

4. Distribute copies of *The Brain: Our Nervous System*. Have students preview the text. Use **Think-Pair-Share** to ask:

   **Is this literature or informational text? How do you know?**

   *This text is informational. The title, photographs, and diagrams are evidence that the text is informational.*

Students use text features to help predict topic and intent of the author.

5. Use **Think-Pair-Share** to have students predict the topic and identify clues. Randomly select a few students to share.

6. Prompt students to identify the next step of TIGRRS. Use **Think-Pair-Share** to have them predict the author's intent. Randomly select a few students to share.

Students identify a graphic organizer that they will use to make notes.

7. Point out that the next step in the TIGRRS process is to choose a graphic organizer for making notes. Choices include, but are not limited to:
   - Venn diagram
   - timeline/sequence chain
   - T-chart
   - web
   - outline

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

   **Which graphic organizer(s) will work best with this text? Why?**

   *T-chart or outline. The text has a lot of bold-faced terms, and these could be recorded in a T-chart or an outline.*

   **T:** the human brain
   **I:** to inform the reader about the brain
   **G:** T-chart or outline

Build background about the topic.

8. To involve the class in a discussion of the general functions of the nervous system, have one student come to the front of the class and demonstrate picking up a pencil as the rest of the class watches carefully. Ask:

   **What did** [student's name] **just do?**

   *He or she picked up a pencil.*

   **How complicated a task is this?**

   *Answers will vary. Students will probably say it is a simple task.*

9. Tell students that you will do a task analysis of the student's demonstration—breaking down the task into its component parts and explaining what happened.

   Point out that to pick up a pencil, the student—

   1. hears the prompt to pick up a pencil,
   2. understands what the words mean,
   3. thinks about picking up the pencil,
   4. sees the pencil,
   5. evaluates the distance between himself or herself and the pencil,
   6. extends the hand and arm in the direction of the pencil,
   7. positions the fingers appropriately,
   8. opens the fingers to match the diameter of the pencil,
   9. closes the fingers with the correct amount of force,
   10. moves the hand and arm back toward the body with appropriate speed and force, etc.

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

   **What parts of the body are involved in doing a task like this? How do you know?**

   *Answers will vary but should include at least some of the following: bones, muscles, nerves, eyes, ears, and brain. We know we act, so something must direct us to act, and we must have muscles to do the action.*

   **What do you think controls your actions?**

   *Most students should say the brain.*

   Tell students to do a task analysis the next time they do a simple task.

10. Give students an overview of the whole unit:
    - The cycle 1 skill is to create a summary, and the cycle 2 skill is practicing study skills.
    - In cycle 2, students will practice study skills using the information in *The Brain: Our Nervous System*.
    - The cycle 2 test will be on the content in *The Brain: Our Nervous System* as if students were taking a science test.

## Interactive Read Aloud

1. This cycle our reading objective is: develop an effective summary.

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

   **What is a summary? Why is a summary useful?**

   *(Answers may vary.) A summary is a shortened version of a text that includes main ideas and important details. A summary is valuable because if you have to review information, it is a shorter version of the information.*

   Refer students to the summary rubric.

   Point out that a summary is a condensed version—about one-fourth to one-third of a longer text—the purpose of which is to present the basic ideas of the longer text: what it is about and what information or message the author tries to impart.

   **Writing an effective summary requires a clear understanding of the original text because a summary is to be written in your own words—being able to write something in your own words shows that you understand the text.**

2. Refer students to the summary rubric in their team folders, and review it with students.

| Summary<br>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.** |

3. Provide tips for writing a good summary:
   - Read the article/section of text carefully.
   - Identify and make notes on the main ideas and important details (not all the details); use a suitable graphic organizer, such as an outline, web, or T-chart, to organize the information you will put in the summary.
   - Write your summary in your own words without your opinions:
     – State the original author's main point in the first sentence.
     – Include important supporting details or points in the body of the summary.
     – Include key words and terms.
     – If you use the exact words that the author used, use quotation marks to show the words are not yours.

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

   **Students:** Actively listen.

   Tell students that they will practice writing summaries during this cycle.

4. Refer students to page 4, and read it aloud. Restate the important ideas in the text, and add notes to the graphic organizer. A sample Think Aloud and graphic organizer follow.

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

### Sample Think Aloud

So, what is the author's main point on this page? I think this statement about your brain being the control center for everything the body does is the main point. Important supporting details are that millions of signals pass through the brain that carry messages about what the body is doing and that the brain makes thoughts, memories, and plans for the body's next action. The brain sends the signals that allow you to breathe, see, run, read, etc.

### Sample Graphic Organizer

| Main idea | Important supporting details |
|---|---|
| Brain is control center of the body | • millions of signals pass thru brain<br>• carry messages about what body is doing<br>• makes thoughts and memories<br>• plans body's next action<br>• allows you to breathe, read, run, see, count, etc. |

Point out that notes on the graphic organizer are a good starting point for creating a summary. Display the following summary.

Blackline master provided.

### Summary

At the beginning of *The Brain: Our Nervous System*, the author explains that the brain is the control center of your body. Millions of signals pass through the brain every second that carry messages about what the body is doing. The brain makes thoughts, memories, and plans for the body's next action. The brain sends signals that allow you to breathe, see, run, read, count, etc.

5. Have students evaluate the summary using the summary rubric. Use **Think-Pair-Share** to ask:

   **Looking at the summary rubric, does this summary present the main ideas and important details in my own words without personal opinion?**

   *Students will probably agree that it meets the 80-point criteria.*

   **Does it present these ideas in a logical order?**

   *Students will probably agree that the ideas are in an order that makes sense.*

**Does it include key terms? What are they?**

*Students will probably agree that it does include key terms such as* brain, signals, *and "control center." The summary meets the criteria for a 100-point response on the summary rubric.*

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

6. 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 7 (paragraphs 1 and 2) and make notes on main ideas and important details. Use **Random Reporter** to debrief. Add student responses to the graphic organizer.

Sample Graphic Organizer

| Main idea | Important supporting details |
|---|---|
| Brain is control center of the body | • millions of signals pass thru brain<br>• carry messages about what body is doing<br>• makes thoughts and memories<br>• plans body's next action<br>• allows you to breathe, read, run, see, count, etc. |
| Brain and nervous system made up of many billions of messenger cells called neurons | • neurons carry signals from brain to parts of body and back to brain |
| Two main parts of nervous system | • central nervous system (CNS) brain and spinal cord<br>• peripheral nervous system (PNS) nerves outside the brain |

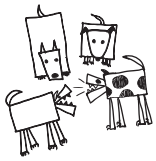
**Partner pairs:** Review, reread to clarify, and add to the graphic organizer.

7. 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.

8. Have partners use their notes to create a summary of the text. Remind them to use the summary rubric to check the quality of their summaries.

   Use **Random Reporter** to debrief and have students share their summaries.

   *According to the author of* The Brain: Our Nervous System, *the brain and nervous system are made of many billions of messenger cells called neurons. These neurons carry signals from the brain to parts of the body and back to the brain. There are two main parts of the nervous system. The central nervous system (CNS) is the brain and spinal cord. The peripheral nervous system (PNS) is all the nerves outside the brain.*



# Teamwork tp

(20 minutes)

### Partner Prep

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

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

   **pages 7 (paragraph 3)–11 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 type of cells make up the majority of cells in the brain? What is the function of these cells? **[MI]** (Team Talk rubric)

   *100 = The majority of cells in the brain are glial cells. There are ten times as many glial cells in the brain compared to neurons. The **function** of glial cells is to provide nutrients and chemicals to neurons, repair the brain, and protect the brain from bacteria. Glial cells support the message-carrying neurons that communicate with other parts of the body.*

   *90 = The majority of cells in the brain are glial cells. They support neurons. Glial cells provide nutrients and chemicals to neurons, repair the brain, and protect the brain from bacteria.*

   *80 = The majority of cells in the brain are glial cells. They support neurons.*

*continued*

## Team Talk Questions *continued*

2. What is a neuron? **[MI, SA]** (Team Talk rubric)

   *100 = A neuron is a nerve cell. Neurons carry electro-chemical signals within the brain and from the brain and spinal cord to different parts of the body. Neurons make up the **network** of nerves in the central nervous **system** and the peripheral nervous **system** of the body.*

   *90 = A neuron is a nerve cell. Neurons carry electro-chemical signals within the brain and from the brain and spinal cord to different parts of the body.*

   *80 = A neuron is a nerve cell.*

3. Describe the parts of a neuron. **[MI, SA]** (Team Talk rubric)

   *100 = The text **describes** three **structures** of a neuron. As shown in the **micrograph**, a neuron has a cell body (the main part), dendrites (extensions that stick out of the cell body), and the axon (a long extension from the cell body). The text also explains that a myelin sheath covers the axon. Dendrites and axons are **structures** that carry signals from one neuron to another.*

   *90 = The parts of a neuron are cell body, axon, and dendrites. The cell body is the main part, dendrites are extensions that stick out of the cell body, and the axon is a long extension from the cell body.*

   *80 = The parts of a neuron are cell body, axon, and dendrites.*

4. Write a summary of the information on page 10. **(Write) [MI]** (summary rubric)

   *100 = On page 10, the author explains how messages move from one neuron to the next. As an electrical impulse gets to the end of an axon on the nerve cell, a chemical is released that jumps across the synapse to the dendrites of another nerve cell. The chemical makes the dendrites produce an electrical signal that moves along that nerve cell to the axon. Messages always move in the same direction, from axon of one nerve cell to dendrite of the next.*

   *90 = This passage says how messages move from one neuron to the next. As an electrical impulse gets to the end of an axon on the nerve cell, a chemical is released that jumps across the synapse to the dendrites of another nerve cell. The chemical makes the dendrites produce an electrical signal that moves along that nerve cell to the axon.*

   *80 = This passage says how messages move from one nerve cell to the next. A chemical is released that jumps between nerve cells.*

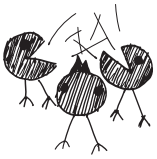
4. Have students thoroughly discuss Team Talk questions before they write individual answers to the skill question marked "(Write)." Allow students to revise their written answers after further discussion if necessary.

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.

# Summary

At the beginning of *The Brain: Our Nervous System*, the author explains that the brain is the control center of your body. Millions of signals pass through the brain every second that carry messages about what the body is doing. The brain makes thoughts, memories, and plans for the body's next action. The brain sends signals that allow you to breathe, see, run, read, count, etc.

# Lesson 2

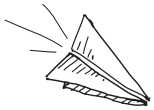
**Reading Objective:** Develop an effective summary.

### Teacher Background

The brain is made up of three main areas, each with its own functions. The three main areas are the cerebrum, cerebellum, and brain stem. The brain is also made of two hemispheres, each with specific functions.

Many brain functions are localized. There are areas for interpreting each of the senses, controlling specific muscle groups, such as in the right arm, understanding speech, generating speech, and many others. The brain is organized into the right and left hemispheres. The right hemisphere receives sensation and controls movement in the left side of the body, and the left hemisphere controls the right side of the body. No one is sure why the brain is arranged this way.

In Set the Stage, show the video about the bike helmet designers whose goal is to protect the brain from injury.



## Active Instruction tp

(25 minutes)

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

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

### Partner Vocabulary Study

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

### Vocabulary

Teams discuss their vocabulary ratings.

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

Introduce vocabulary.

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

| Word | Pronunciation | Definition | Sample Sentence |
|---|---|---|---|
| **peripheral** (adjective) page 7 | pe-riph-er-al (puh-RIF-er-ul) | 1) near the edges or outside 2) irrelevant or minor | 1) He has several *peripheral* devices connected to his computer, such as a monitor and a keyboard. 2) At the meeting we were trying to stay on the main point, but Lucas kept bringing up *peripheral* issues. |
| **insulation** (noun) page 8 | in-su-la-tion (in-su-LAY-shun) | a barrier to stop heat, electricity, or sound | Mr. Anderson's house was drafty, so he put plastic on his windows as *insulation* from the cold. |
| **stimulus** (noun) page 12 | stim-u-lus (STIM-u-lus) | something that causes a response | The closing of the public library was the *stimulus* for many people to attend the rally to protest the budget cuts. |
| **function** (verb) page 14 | func-tion (FUNK-shun) | work or operate | They couldn't figure out why the microwave would not *function* until they discovered it was unplugged. |
| **dominant** (adjective) page 18 | dom-in-ant (DOM-uh-nent) | controlling, strongest, or most important | The fast food restaurant was the *dominant* one in this region until a new restaurant with healthier food opened its doors. |
| **posture** (noun) page 20 | pos-ture (POS-chur) | stance or position of parts of the body | His mother was always telling him to stand up straight to improve his *posture* and not to slouch. |
| **vertebrate** (noun) page 26 | ver-te-brate (VER-tuh-brit) | animal with a spinal cord and backbone | A horse or fish is an example of a *vertebrate*; however, a slug is not because it does not possess a backbone. |
| **paralysis** (noun) page 30 | pa-ral-y-sis (pur-AL-uh-sis) | inability to move | His *paralysis* was caused by an accident that injured his spine. |

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

Review Vocabulary Vault.

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

## Set the Stage

Teams review their cycle goal.

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

Post and present the reading objective.

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

Show the video.

4. Introduce the video that features bike helmet designers and the challenge of protecting the brain from injury. Show the video "Designers: Brian Sidwell and Mike Lowe," and use **Think-Pair-Share** to debrief.

Build background about protecting the brain.


**Why is it important for the designers to test their product?**

*Their bike helmet is supposed to protect a biker's head from injury in case of an accident. By testing the helmet, they can find out whether it will withstand the impact. They need to test it out to see how well it works.*

**What did you learn from the dropping experiment about the importance of wearing a helmet?**

*The representation of the brain without a helmet hit the ground and was damaged. The one in the helmet was protected. The designers were trying to make the point that head protection is important and can save you from getting a smashed skull and brain injury.*

5. Refer students to today's reading, pages 12–17 in *The Brain: Our Nervous System*.
6. Remind students to use their graphic organizer to note important ideas that they find in the text. Review the graphic organizer that students selected in the previous lesson.

## Interactive Read Aloud

Review the skill as necessary.

1. Refer students to the reading objective. Remind students that writing summaries of what they read helps them to remember information because they have to process the information and use their own words to summarize it.

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

**Students:** Actively listen.

Refer students to pages 12–17 in the text.

2. Refer students to page 12, and read paragraphs 1 and 2 aloud. Restate the important ideas in the text, and add notes to the graphic organizer. A sample Think Aloud and graphic organizer follow.

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

### Sample Think Aloud

So, what is the main point in these paragraphs? The author tells me that this section of text is going to follow a single message as it travels through nerve cells from finger to brain. The diagram seems to be showing that too. So, what happens first? First there is a stimulus that makes a nerve cell respond. In the diagram, it looks like touch or temperature is the stimulus, but other stimuli are sound, light, and smell. The sensory neurons in the skin respond to the stimulus. According to the text, there are millions of these sensory neurons in the skin.

### Sample Graphic Organizer

| Main idea | Important supporting details |
|---|---|
| Messages travel thru nerve cells, finger to brain | |
| 1) Stimulus makes sensory neuron in skin respond and send message | types of stimuli—touch, temp, light, sound, smell, taste<br>• millions of sensory neurons in skin |

| Summary |
|---|
| Messages travel through millions of nerve cells from finger to brain. This begins with a stimulus that makes a sensory neuron in the skin respond and send a message. Different types of stimuli include temperature, touch, light, smell, taste, and sound. |


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

   **What key vocabulary terms did I use in my summary?**

   *Answers may include: the word* stimulus, *the term* sensory neuron.

**Partner pairs:** Read aloud/think aloud with the next passage to practice the skill or 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 paragraph 3 on page 12, and then have them identify the key terms they would use in their summaries.

   *Answers may include the terms* spinal cord, motor nerves, muscle cells.

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

Use **Random Reporter** to debrief.

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.

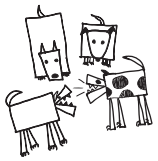
   Use **Random Reporter** to debrief. Add student responses to the graphic organizer.

   A sample graphic organizer follows.

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

## Sample Graphic Organizer

| Main idea | Important supporting details |
|---|---|
| Messages travel thru nerve cells, finger to brain | |
| 1) Stimulus makes sensory neuron in skin respond and send message | types of stimuli—touch, temp, light, sound, smell, taste<br>• millions of sensory neurons in skin |
| 2) Message travels along sensory nerves to spinal cord then to brain | • travels 400 fps |
| 3) Brain sends message—travels spinal cord to motor nerves | |
| 4) Motor nerves carry to muscle cells—arm moves | |



# Teamwork tp

(20 minutes)

### Partner Prep

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

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

   **pages 13–17 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 is a stimulus? Give at least three examples of stimuli. **[MI, SA]** (Team Talk rubric)

   *100 = A stimulus is something that causes a reaction. Examples of stimuli are sounds, texture, and light. The fact that the body can **detect** stimuli means we can know about the world outside of our bodies.*

   *90 = A stimulus is something that causes a reaction. Examples of stimuli are sounds, texture, and light.*

   *80 = A stimulus is something that causes a reaction.*

2. What is the cerebrum? What is its function? **[MI]** (Team Talk rubric)

   *100 = The cerebrum is the largest part of the brain and is **referred** to in the text as the "thinking brain." It is **responsible** for being able to use language, remember, make decisions, and feel sensations. The cerebral cortex on the surface of the cerebrum has billions of neurons, so it must be a very active part of the brain.*

   *90 = The cerebrum is the largest part of the brain and is the "thinking brain." It is working when we use language, remember, make decisions, and feel sensations.*

   *80 = The cerebrum is the largest part of the brain and is the "thinking brain."*

3. Write a summary of the information on page 14. **(Write) [MI]** (summary rubric)

   *100 = The skull is made of bones that fit together to make the braincase, a structure that protects the brain from injury. The brain is also surrounded by a cushion of liquid that protects it from shocks. The adult brain weighs three pounds, is the size of a grapefruit, and has the appearance of wrinkled gray jelly. Blood vessels supply the brain with oxygen, water, and nutrients. The brain grows until age seven. In relation to body size, the human brain is the largest of all animals.*

   *90 = The skull is made of bones that fit together and protect the brain. It is also surrounded with liquid to protect it. An adult brain weighs three pounds and looks like wrinkled gray jelly. Blood vessels bring it what it needs. The brain grows until age seven. In comparing body size to brain size, human brains are bigger than other animals' brains.*

   *80 = The skull is made of bones that fit together and protect the brain. The adult brain weighs three pounds and looks like wrinkled gray jelly. It stops growing at age seven. A whale's brain is bigger, but compared to body size, the human brain is bigger than other animals' brains.*

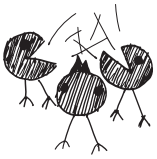
4. Choose a word from the vocabulary list, and write a meaningful sentence using the word correctly. **[CV]**

   *Accept a sentence that shows the student knows the meaning of the word and can use it correctly. For example: With its record of wins, there was no question that the Tigers were the* dominant *team in the league.*

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.

### 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 |
|---|---|---|---|
| **peripheral** (adjective) page 7 | pe-riph-er-al (puh-RIF-er-ul) | 1) near the edges or outside 2) irrelevant or minor | 1) He has several *peripheral* devices connected to his computer, such as a monitor and a keyboard. 2) At the meeting we were trying to stay on the main point, but Lucas kept bringing up *peripheral* issues. |
| **insulation** (noun) page 8 | in-su-la-tion (in-su-LAY-shun) | a barrier to stop heat, electricity, or sound | Mr. Anderson's house was drafty, so he put plastic on his windows as *insulation* from the cold. |
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| **dominant** (adjective) page 18 | dom-in-ant (DOM-uh-nent) | controlling, strongest, or most important | The fast food restaurant was the *dominant* one in this region until a new restaurant with healthier food opened its doors. |
| **posture** (noun) page 20 | pos-ture (POS-chur) | stance or position of parts of the body | His mother was always telling him to stand up straight to improve his *posture* and not to slouch. |
| **vertebrate** (noun) page 26 | ver-te-brate (VER-tuh-brit) | animal with a spinal cord and backbone | A horse or fish is an example of a *vertebrate*; however, a slug is not because it does not possess a backbone. |
| **paralysis** (noun) page 30 | pa-ral-y-sis (pur-AL-uh-sis) | inability to move | His *paralysis* was caused by an accident that injured his spine. |

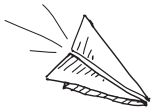
# Lesson 3

**Reading Objective:** Develop an effective summary.

### Teacher Background

In today's lesson, students will read more about the cerebral cortex and about the other two parts of the brain: the cerebellum, which controls muscle coordination and balance, and the brain stem, which controls breathing and other involuntary activities.

In Set the Stage, show the video "Science Nation: Mind Mappers" about scientists studying the structure of the brain.



## 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.

Model exploring a word in the word power journal.

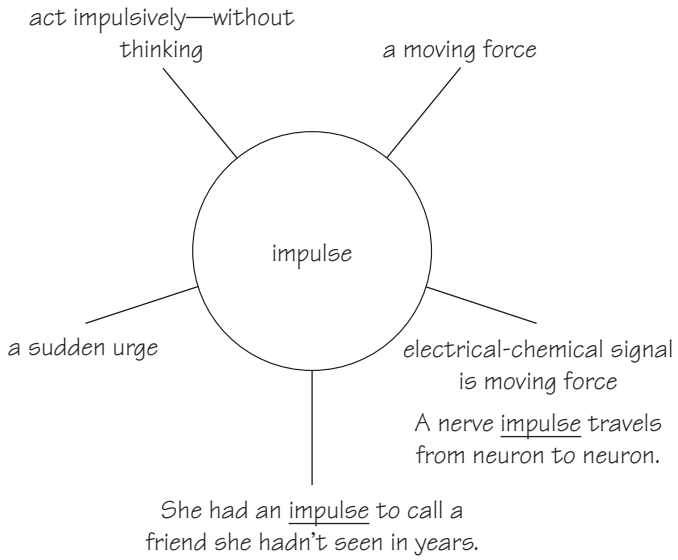
3. Choose an important word from the text or class discussion, and model how to explore it in a word power journal entry. A sample Think Aloud and word map follow.

### Sample Think Aloud

On page 8, the author writes about nerves, "They carry tiny electrical-chemical signals called nerve impulses." I've heard the word *impulse* used to mean a sudden urge. For example: "She had an impulse to call a friend she hadn't seen in years." I'm going to see if the word has more than one meaning.

(Model consulting the dictionary for other meanings.) One meaning of *impulse* is a sudden inclination. An inclination is like an urge, so that meaning matches what I thought. People can act impulsively or without really thinking. Another meaning is a moving force. I think this is the meaning related to nerve impulse because the electrical-chemical signal is a moving force traveling from one neuron to the next.

### 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 goals.

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

Post and present the reading objective.

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

Show the video.

4. Show the video "Science Nation: Mind Mappers." Use **Think-Pair-Share** to debrief the video.

   **Why do the scientists at the Brain Observatory study the patterns of behavior of living donors?**

   *The scientists want to find out if the structure of their brains is connected to their patterns of behavior. They want to find out if they can see if or how behavior affects the structure of the brain to learn more about treating brain injuries and diseases.*

Refer students to pages 18–25 in the text.

5. Refer students to today's reading, pages 18–25 in *The Brain: Our Nervous System*.

6. Remind students to use their graphic organizer to note important ideas that they find in the text. Review the graphic organizer that students selected in the previous lesson.

## Interactive Read Aloud

**Teacher:** Read aloud.

**Students:** Practice the skill or strategy.

1. Read page 18 (paragraphs 1 and 2) aloud. Use **Think-Pair-Share** to prompt use of the skill or strategy.

   **What information would you include in a summary of these paragraphs?**

   *I would include that the cerebrum has two hemispheres connected by a bundle of nerves. The left hemisphere controls muscles on the right side of the body, and the right hemisphere controls muscles on the left side of the body. For most people, one side is dominant.*

**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 18 (paragraphs 2 and 3), and then have them identify information they would include in a summary.

   *The left hemisphere controls speaking, reading, and math, while the right hemisphere controls creativity in art and music, etc.*

   Use **Random Reporter** to debrief.

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

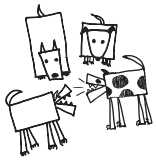
3. Ask partners to review this section of text, check their understanding with each other, reread what they need to clarify, and add notes to their graphic organizers.

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

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

Sample Graphic Organizer

| Main idea | Important supporting details |
|---|---|
| Cerebrum has 2 hemispheres connected by bundle of nerves | • left hemis. controls muscles on right side of body<br>• right hemis. controls left side<br>• most people have dominant side<br>• left hemis: speaking, reading, math<br>• rt. hemis: creativity—art, music, humor |



# Teamwork tp

(20 minutes)

### Partner Prep

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

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

   **pages 19–25 aloud with partners.**

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

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

### Team Discussion

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

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

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

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

## Team Talk Questions

1. Why is the hypothalamus an important part of the brain? **[MI]** (Team Talk rubric)

   *100 = The hypothalamus is important because it controls **vital** functions of the body. **For example**, it **maintains** body temperature at 98.6 degrees. The hypothalamus is also involved in emotions and in **regulating** the body's growth. Although it is a small part of the brain, the hypothalamus is important to **overall** body functions.*

   *90 = The hypothalamus is important because it controls functions of the body. It keeps body temperature at 98.6 degrees. The hypothalamus is also involved in emotions and in the body's growth.*

   *80 = The hypothalamus is important because it controls functions of the body.*

2. Write a summary of the information on page 20. **(Write) [MI]** (summary rubric)

   *100 = The cerebellum looks like a smaller version of the cerebrum and is located underneath the cerebrum. It controls the body's movement and coordination, for example, allowing you to throw a ball. The cerebellum receives messages about the body's position and sends messages to the muscles telling them how to adjust movement.*

   *90 = The cerebellum looks like a smaller version of the cerebrum and is located underneath the cerebrum. It controls the body's movement and coordination.*

   *80 = The cerebellum looks like a smaller version of the cerebrum and is located underneath the cerebrum.*

3. You see out of the corner of your eye (peripheral vision) an object flying toward your head. Explain what part of the brain causes you to duck. **[DC, MI]** (Team Talk rubric)

   *100 = The brain stem is what causes you to duck. **According to the text**, the brain stem controls reflexes such as ducking or pulling your hand away from a hot pot. The reflex is an immediate reaction that protects the body from injury before the cerebrum tells the body what to do next.*

   *90 = The brain stem is what causes you to duck. The brain stem controls reflexes such as ducking or pulling your hand away from a hot pot.*

   *80 = The brain stem is what causes you to duck.*

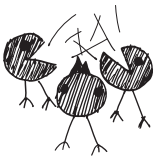
4. The committee decided to stick to the main issue for discussion instead of wasting time on _____ issues. **[CV]**

   A. insulation
   B. stimulus
   C. posture
   *D. peripheral*

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

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

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



## Class Discussion tp

(15 minutes)

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

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

### Lightning Round

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

### Celebrate

Celebrate team successes!

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

   **How many points did your team earn today?**

   **How can your team earn more points?**

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

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

The top team chooses a cheer.

Remind students of the Read and Respond homework assignment.

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

# Lesson 4

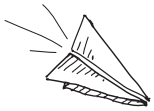
**Reading Objective:** Develop an effective summary.

### Teacher Background

Today's reading describes the structure of the spinal cord and discusses short-term and long-term memory and how memories are stored in the brain. There is still a lot to be learned about memory. Memories seem to be stored in various places in the brain, but there are specific locations involved in forming memories. In addition to procedural and declarative memory, some researchers would add episodic memory and emotional memory. Episodic memory allows people to remember the episodes in their lives and the places where they were during a particular episode. Emotional memory allows people to remember things that have strong emotional significance.

Memory can also be thought of as short-term memory or long-term memory. Short-term memory is the ability to remember small bits of information, like phone numbers, for a few minutes or up to a half hour, as long as we are not distracted. Things that enter our short-term memory are either forgotten or transferred to long-term memory. To transfer information to long-term memory, a person must both pay attention when the experience is occurring and relate the new information to something her or she already knows.

The author also describes tools used to learn how the brain works. PET scans, CAT scans, and MRIs are ways to study brain activity and brain structure without having to do surgery. PET stands for positron emission tomography. For a PET scan, a tiny amount of radioactive sugar is injected into a vein, and it concentrates in the active areas of the brain. The resulting scan detects the radioactivity and shows which areas of the brain are being used at the time of the scan. MRI stands for magnetic resonance imaging. MRIs can be done on any part of the body. An MRI uses the magnetic properties of hydrogen atoms to make a detailed picture of an area. In an MRI scanner (a large magnet with a tube that a person can lie in), the hydrogen nuclei line up with the magnetic field of the magnet. The direction of the magnetic field is switched briefly; when it is switched back, the nuclei realign. In doing so, they emit radio waves that are used to make a picture of the body. CAT stands for computed axial tomography. It is also sometimes referred to as a CT scan. CAT scans are a special type of X-ray image displayed as a slice through the body (similar to a slice of bread). These images show more structural detail than typical X-rays.



# 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.

Review Vocabulary Vault.

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

### Set the Stage

Teams review their cycle goal.

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

Post and present the reading objective.

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

Refer students to pages 26–32 in the text.

4. Refer students to today's reading, pages 26–32 in *The Brain: Our Nervous System*.
5. Remind students to use their graphic organizer to note important ideas that they find in the text. Review the graphic organizer that students selected in the previous lesson.

### Interactive Read Aloud

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


1. Read page 26 (paragraphs 1 and 2) aloud. Use **Think-Pair-Share** to prompt use of the skill or strategy.

   **What information would you include in a summary of these paragraphs?**

   *The spinal cord is the main path for messages between the brain and the rest of the body. It has thirty-one pairs of spinal nerves made up of sensory and motor neurons protected by thirty-three bones called vertebrae. The neurons carry messages from the brain to the rest of the body and back again.*

**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 26 (paragraph 3), and then have them identify key terms they would use in a summary.

   *Answers may include: the term* spinal cord, *the words* backbone, vertebrate, invertebrate.

   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

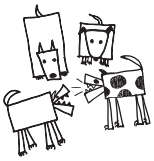
| Main idea | Important supporting details |
|---|---|
| Spinal cord main path b/w brain and rest of body | • 31 pairs of spinal nerves<br>• made of sensory and motor neurons<br>• protected by 33 bones—vertebrae<br>• carry messages to and from the brain<br>• animals with spinal cds and backbones: vertebrates; no sp.cd. or backbone: invertebrates |

4. Refer to the reread and review step of the TIGRRS process. Reread page 17 (paragraph 2) aloud. Model this step with the text. A sample Think Aloud follows.

**Teacher:** Reread to clarify, and review notes.

### Sample Think Aloud

I reread this paragraph to clarify the information about the cerebral cortex. I wasn't really clear on the comparison the author was making about the piece of cardboard on the kitchen table, so I just skipped over it. Now that I've reread it, I figured out that the cardboard refers to the thickness of the cerebral cortex. The kitchen table refers to the size of this part of the brain if the wrinkles were flattened out. So now I'm picturing a table cloth and bunching it up into a wrinkled ball. That is how so much surface area fits into a small space inside the skull.



# Teamwork tp

(20 minutes)

### Partner Prep

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

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

   **pages 28–32 aloud with partners.**

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

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

### Team Discussion

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

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

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

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

| Team Talk Questions |
| --- |
| 1. What section of text did you choose to reread, and why? What new connection did you make by rereading and reviewing your notes?<br>*(Answers will vary.)*<br>*100 = I reread paragraph 2 on page 25 because I wanted to clarify the structure of the brain stem. When I reread and looked at the labeled illustration of the brain stem, it helped me understand the arrangement of the medulla, pons, and midbrain and how the brain and the spinal cord connect.*<br>*90 = I reread paragraph 2 on page 25 because I wanted to understand what the brain stem is. When I reread, it helped me understand the connection between the brain and spinal cord.*<br>*80 = I reread paragraph 2 on page 25 because I wanted to understand what the brain stem is.* |

*continued*

## Team Talk Questions *continued*

2. Which of the following is an example of a vertebrate? Explain why. **[CV]**

   *A. monkey*
   B. slug
   C. worm
   D. oyster

   *A monkey is an example of a vertebrate because it has a spinal cord and backbone while the other three animals do not.*

3. Suppose a friend tells you his phone number and you repeat it back. Are you using long-term or short-term memory? How do you know? **[MI, DC]** (Team Talk rubric)

   *100 = I'd be using short-term memory because the time the number is remembered is very short. Short-term memory **involves** the front part of the cerebral cortex. If I remember the number a day or week later, I would be using long-term memory.*

   *90 = I'd be using short-term memory because the time the number is remembered is very short. Short-term memory has to do with the front part of the cerebral cortex.*

   *80 = I'd be using short-term memory because the time the number is remembered is very short.*

4. Write a summary of the information on page 30. **(Write) [MI]** (summary rubric)

   *100 = Problems with the nervous system can be signaled by mild symptoms, such as a headache, to serious ones, such as paralysis due to spinal cord injury. Neurologists use tools such as an EEG to track brain waves, CAT scans to see brain tissue, and MRI scans to get a picture of the brain. Positron computed tomography reveals brain activity.*

   *90 = When there are problems with the nervous system, it can result in a headache or worse, like paralysis from spinal cord injury. Doctors use tools like EEG, MRI, and PCT to get a picture of the brain.*

   *80 = When there are problems with the nervous system, it can result in a headache or worse, like paralysis from spinal cord injury. Doctors use tools to get a picture of the brain.*

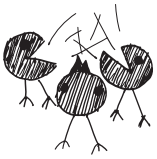
5. In which of the following sentences is the word *insulation* used incorrectly? **[CV]**

   A. The electrical wires were wrapped in insulation to keep them from touching each other.
   B. The builder had insulation installed throughout the house to keep it warm in winter and cool in summer.
   C. The recording studio had special insulation to keep out the sound of passing traffic.
   *D. He included insulation in the recipe for pasta to give it extra flavor.*

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

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

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



## Class Discussion tp

(15 minutes)

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

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

### Lightning Round

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

### Celebrate

Celebrate team successes!

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

   **How many points did your team earn today?**

   **How can your team earn more points?**

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

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

The top team chooses a cheer.

Remind students of the Read and Respond homework assignment.

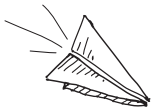
2. As a reminder, refer students to the Read and Respond homework assignment described in their student editions.

# Lesson 5

**Writing Objective:** Develop the topic with key terms learned from the text.

### Teacher Background

Today's writing project objective is for students to use key terms to develop a topic. The writing prompt is typical of a question they might see on a science or social studies test. The goal is to use key terms and precise language to answer the question. You may wish to remind or review what you expect in the way of academic language in their writing. Remind students that the point of their writing is to inform someone of something and clearly relay how much they know about it. Remind students that they will have a similar writing prompt on the test in lesson 6.



## Active Instruction tp

(10 minutes)

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

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

### Partner Vocabulary Study

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

### Vocabulary

Teams discuss their vocabulary ratings.

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

Review Vocabulary Vault.

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

### Set the Stage

Teams review their cycle goal.

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

Post and present the writing objective.

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

Introduce the writing project.

4. Remind students that this cycle they read a science text about the brain and that the text used many science terms. Tell students that they will get a chance to write something that will include some of these terms.

Read the prompt aloud.

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

| Writing Prompt |
| --- |
| Explain the structure and function of neurons. |


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?**

*The prompt is asking me to explain information because the prompt uses the word* explain.

Students identify the purpose for writing.

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

6. Refer students to the following writer's guide in their student editions. Point out that this Writing to Inform or Explain writer's guide is the criteria for writing. Point out that using the writer's guide will help them write a quality response.

| Writing to Inform or Explain | |
| --- | --- |
| **Ideas** | • Clearly introduce the topic.<br>• Develop the topic with relevant details. |
| **Organization** | • Begin by introducing the topic.<br>• In the middle, provide facts, examples, or events that help a reader understand the information.<br>• 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.<br>• 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: develop the topic with key terms learned from the text?**

*The guidelines for Organization and Style relate to the writing objective.*

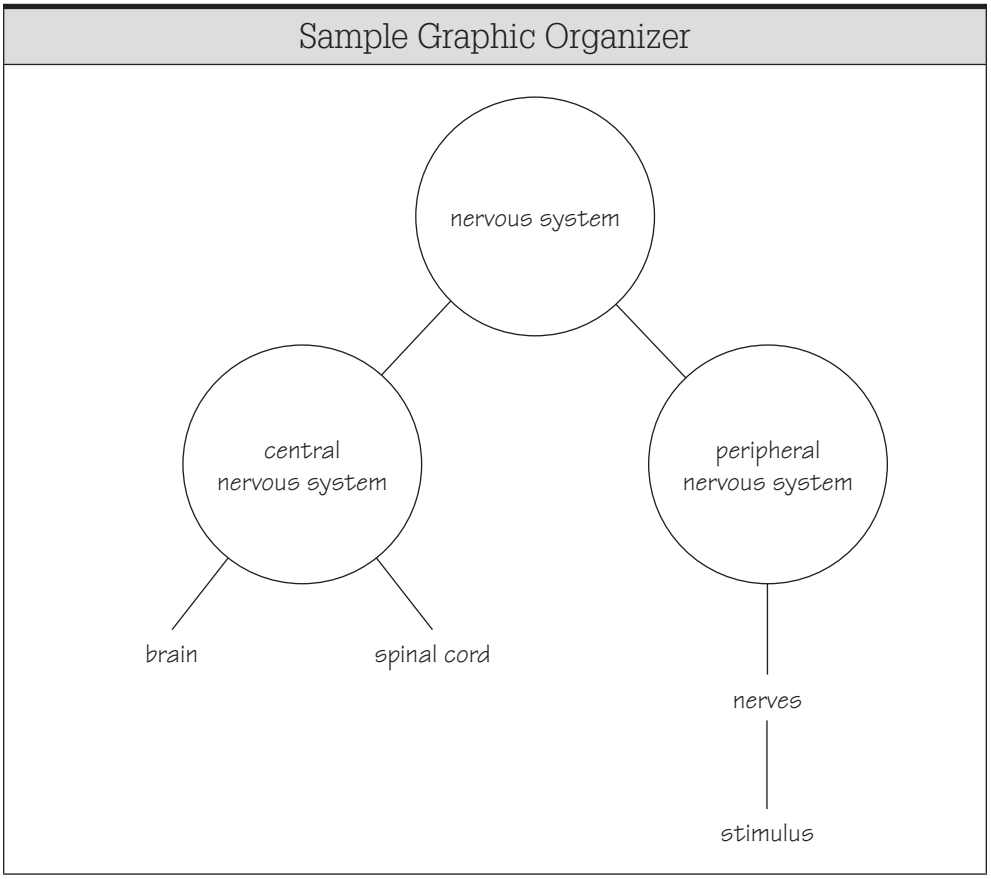
7. Tell students that this 10-minute writing project is practice to prepare them to write a quality answer for the writing section (part II) of the cycle test. Remind them that this section of the test is worth one third of their test score.

## Model a Skill

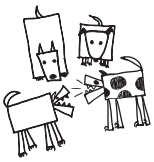
Model planning using a graphic organizer.

1. Refer students to page 8. Tell students that you have to write something about the structure and function of the nervous system. Tell students that one way to begin planning is to list the important terms. Use **Think-Pair-Share** to have students identify the key terms and precise language that relate to the structure and function of the nervous system and arrange them in a graphic organizer.

Sample Graphic Organizer




2. Tell students that a good place to start planning for a writing project like this is to review and list the precise language necessary to inform or explain something.



## 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—develop the topic with key terms learned from the text.

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

For example, ask:

- **Does the writer introduce the topic clearly?**
- **Does the writer include facts and examples to help a reader understand the information?**
- **Does the writer end with a closing statement that supports the information?**
- **Does the writer 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 key terms in your writing? Explain.**

*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

Explain the structure and function of neurons.

| Writing to Inform or Explain | |
|---|---|
| **Ideas** | • Clearly introduce the topic.<br>• Develop the topic with relevant details. |
| **Organization** | • Begin by introducing the topic.<br>• In the middle, provide facts, examples, or events that help a reader understand the information.<br>• 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.<br>• Include details or examples that help a reader make a mind movie. |
| **Mechanics** | • Use correct punctuation, capitalization, spelling, and grammar. |

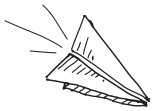
# Lesson 6

| |
|---|
| **Reading Objective:** Develop an effective summary. |
| **Writing Objective:** Develop the topic with key terms learned from the text. |

### Teacher Background

Today's cycle test challenges students to write a summary of the information that they read.

Today's reading describes how the brain experiences great growth during childhood and adolescence. When you use neurons, they make connections among themselves at synapses; neurons that are not used either lose their connections or die in a natural process called pruning. During adolescence, growth occurs in areas for planning, organizing, and decision-making. The best advice is to use your brain to the fullest in childhood.



## Active Instruction tp

(5 minutes)

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

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

### Partner Vocabulary Study

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

Teams review their cycle goal.

### Set the Stage

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

Post and present the reading and writing objectives.

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

Review Vocabulary Vault.

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

# Prepare Students for the Test tp

(5 minutes)

tps

### Partner Review

1. Remind students that they have been practicing developing an effective summary. Use **Think-Pair-Share** to have students discuss what they have been doing to practice the reading objective.

   *We have been writing summaries about portions of the text that we read every day.*

   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 #1 asks about developing an effective summary.
4. Ask students to identify key words or phrases in question #1.

   1. What is the topic?

      What is the author's intent?

      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]**

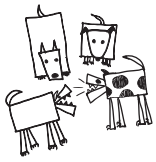
5. Introduce the text that students will read. Tell what it is about, but do not give additional information or details.

   **Today you will read more about the brain.**

## Test tp

(30 minutes)

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



## Teamwork tp

(10 minutes)

### Team Discussion

Teams discuss the answers to the test questions.

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

## Class Discussion tp

(10 minutes)

### Lightning Round

Random Reporters share team discussion of a test question.

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

   **What would life be like without a nervous system?**

   *I think there would be no life if you didn't have a nervous system. You wouldn't know what is going on around you, and you couldn't respond to changes. You couldn't move or think.*

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

## Celebrate

Celebrate team successes!

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

   **How many points did your team earn today?**

   **How can your team earn more points?**

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

   The top team chooses a cheer.

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

Remind students of the Read and Respond homework assignment.

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

**Cycle 1 Test**

# Create a Summary

**Directions:** Read "How Does The Brain Change in Childhood?" on page 5. Use the TIGRRS process, and answer the following questions on a separate piece of paper.

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

**Part I. Comprehension** (100 points)

1. What is the topic?

   *5 points = The topic is the brain changes that happen in childhood.*

   What is the author's intent?

   *5 points = The author wants to inform readers about the growth of the brain during childhood and adolescence.*

   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 = Childhood and adolescence are times of great brain growth. Neurons that are used make connections at synapses among themselves; neurons that are not used either lose their connections or die in the natural process called pruning. Certain skills, like learning language, must be done in childhood, or these neurons are pruned away. During adolescence, growth in areas for planning, organizing, and decision-making occurs. The best advice is to use your brain to the fullest in childhood, and if you do, it will help you later in life.*

2. What is the best advice for your brain? Support your answer. **[MI, SA]**

   *20 points = The best advice for your brain is "use it or lose it." When you use your brain, more **connections** are made between **dendrites at synapses**. This makes your brain stronger. **Neurons** you don't use either lose their connections or die. To have a good brain, you must use it.*

   *15 points = The best advice for your brain is "use it or lose it." When you use your brain, more links are made between brain cells. This makes your brain stronger. Brain cells you don't use either lose their links or die.*

   *10 points = The best advice for your brain is "use it or lose it."*

3. Where does a lot of brain growth occur during the teenage years? Describe what this area controls. **[MI, SA]**

   *20 points = During the teenage years, and into the twenties, brain growth occurs in the **prefrontal cortex** of the **cerebrum**. This area controls the ability to plan, organize, and make decisions. Brain growth during the teenage years is important for adult life.*

   *15 points = During the teenage years, and into the twenties, brain growth occurs in the area behind the forehead. This area controls the ability to plan, organize, and make decisions.*

   *10 points = Brain growth occurs in the area behind the forehead.*

4. What is the main function of the nervous system? Describe the network. **[MI, SA]**

   *20 points = The main function of the nervous system is **communication**. The nervous system extends through the whole body. There are two main parts: the central nervous system, made up of the brain and spinal cord, and the peripheral nervous system, which is made up of nerves that branch out from the spinal cord. By extending throughout the body, the nervous system can communicate information among the various parts.*

   *15 points = The main function of the nervous system is sending messages to all parts of the body. The nervous system extends through the whole body. There are two main parts: the central nervous system, made up of the brain and spinal cord, and the peripheral nervous system, which is made up of nerves that branch out from the spinal cord.*

   *10 points = The main function of the nervous system is sending messages to all parts of the body.*

5. Which would help improve your brain: listening to the same piece of music over and over or listening to new, different kinds of music? Support your answer. **[DC, SA]** (Team Talk rubric)

   *20 points = Listening to new, different kinds of music would improve my brain. The text **states** that you can improve your brain by learning new things. Listening to music that is unfamiliar is a **stimulus** that would make my brain more active. When music is familiar to me, I don't have to pay as much attention to it. New experiences can improve my brain by making it more active.*

   *15 points = Listening to new, different kinds of music would improve my brain. The text says that you can improve your brain by learning new things. Listening to music that is unfamiliar would make my brain more active.*

   *10 points = Listening to new, different kinds of music would improve my brain.*

**Part II. Writing** (100 points)

Write at least a paragraph to answer the following question:

Explain the value of doing lots of different things during childhood.

*During childhood, many changes occur in the brain. Parts of the brain that are used develop more. More connections at synapses are made among the neurons involved. This strengthens existing connections. Parts of the brain that are not used have weakened connections. Neurons in these areas may even die. This process is called pruning. So to have a healthy brain that is capable of doing many things, do lots of different things during childhood.*

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

| Writing to Inform or Explain | | |
|---|---|---|
| **Ideas** | • Clearly introduces the topic<br>• Develops the topic with relevant details | **0–25 pts.** |
| **Organization** | • Begins by introducing the topic<br>• In the middle, provides facts, examples, or events that help a reader understand the information<br>• 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<br>• 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** | • Develop the topic with key terms learned from the text. | **0–15 pts.** |

**Part III. Vocabulary** (100 points)

1. Which of the following is NOT a vertebrate? Explain why. **[CV]**

   A. monkey
   B. lizard
   *C. worm*
   D. fish

   *A worm is not a vertebrate because it does not have a spinal cord and backbone.*

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

   *Accept responses that show the student knows the meaning of the word and can use it correctly. For example: Hanna repaired the* insulation *on the electrical cord so the wires were not exposed.*

3. The quarterback threw a _____ pass down the sidelines. **[CV]**

   Choose the word that belongs in the blank.

   A. slow
   B. fast
   *C. peripheral*
   D. social

4. An injury to the spinal cord can result in _____. **[CV]**

   Choose the word that belongs in the blank.

   *A. paralysis*
   B. function
   C. posture
   D. stimulus

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

   *A synonym for* dominant *is the word* strongest*. An antonym for* dominant *is* weakest*.*

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

   *Accept responses that show the student knows the meaning of the word and can use it correctly. For example: The drawing showed the man in a sitting* posture *with other people standing around him.*

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

   A. The engine could function when the proper fuel was used.
   B. I find it difficult to function if I don't get enough sleep.
   C. I was glad to have the air conditioner function on that really hot day.
   *D. Tell us where to function so we don't get lost trying to find your house.*

8. Give an example of a stimulus. **[CV]**

   *An example of a stimulus is a sound (or light, texture, smell, taste).*

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* associates*.* Associates *means connects or joins. Wanda* associates *getting ready for the first day of school with getting new clothes.*

10. As used in the sentence "This part [the cerebellum] coordinates muscle activity and helps you keep your balance," *coordinates* most nearly means— **[CV]**

    A. unmatched.
    B. releases.
    C. stops.
    *D. organizes.*

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

    *Students will explain their thinking. For example, I used the context. The passage talks about muscle activity keeping you in balance. The muscles would have to work in an organized fashion, so* coordinates *must mean organizes.*

| 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 |

**From Test Edition**

**Assessment Reading**

# How Does the Brain Change in Childhood?

A good saying to remember for brain growth in childhood is "use it or lose it." The neurons in the brain that children use the most create more connections (synapses) among themselves. The neurons that are in charge of a skill or area of knowledge grow more dendrites to connect with each other. Additional neurons are also brought in to help.

Here is an interesting fact that scientists have discovered. Adults who have played the violin since they were children have many more neurons (and thus more space in their brains) for moving their fingers than people who started playing the violin as adults.

The neurons that children don't use gradually lose their connections with other neurons. They can even die. The loss of neurons that don't get used is called *pruning*. Most pruning is normal. A child's brain starts out with as many as 200 billion neurons, many more neurons than it needs. Adults have only half that many.

There are many skills that people can never learn properly if they don't learn them when they are children. If a child is not exposed to language by the age of six or seven, he or she will never be able to use more than the simplest sentences and will have a tiny vocabulary. For the same reason, it is harder for adults to learn foreign languages than it is for children.

Childhood is a time when a great deal of brain growth occurs. Scientists have recently realized that another big spurt of growth occurs when you are a teenager. This growth can last well into your twenties. The area that grows at this time is the prefrontal cortex of the cerebrum (the region behind your forehead). This is the part of the brain that helps us plan, get organized, and make decisions.

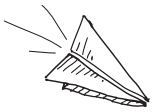
Now is the time when you can help your brain develop by choosing and practicing useful skills. Read. Do sports. Learn new information. Solve problems. By continually learning new things, staying physically active, and working to stay organized, you can improve your brain. What you do and learn now will have a big effect on the rest of your life.

# Lesson 7

**Reading Objective:** Develop an effective summary.

### 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

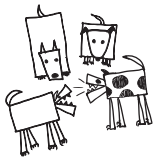
Teams review their cycle goal.

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.

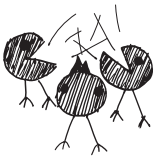
Give students feedback on classwork.

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.

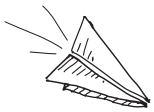
# Lesson 8

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

### 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.



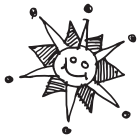
## Active Instruction tp

(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?**

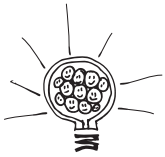
   **What can the team do to improve that score?**

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?**

**Cycle 2:**

# Study Skills

# Lesson 1

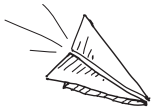
**Reading Objective:** Practice study skills.

### Teacher Background

**Teacher's Note:**

In this cycle, students will learn some study skills and use them to learn the information in the text read in cycle 1. Where necessary, they will reread sections of *The Brain: Our Nervous System*. Some adjustments will be made to the lesson format.

Today you will provide instruction on note-taking and organizing notes for study. You will also demonstrate using a diagram as a graphic organizer to highlight the structure and function of neurons.



## 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:** What is your most effective technique for learning and remembering information?

### Set the Stage tp

Discuss the Big Question. tps

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

   **What is your most effective technique for learning and remembering information?**

   *Answers will vary. For example, my most effective technique is to write down the information. Or my most effective technique is to make notes about the information and then read the notes aloud to myself.*

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.

### Interactive Read Aloud

1. Refer to the reading objective.

   Tell students that they will practice study skills with the information in *The Brain: Our Nervous System* and that they will take a test on the content of the book, just as they might in a science class. They will reread, review, and study the information in the book during this cycle.

   Point out that practicing these study skills will help them in all of their subjects.

2. Provide instruction on study skills.
   - Identify the purpose or goal for studying.

     First, students should identify the reason for reading and studying a certain text. Point out that the reader's purpose may not always be the author's intent. Tell students that for this cycle the purpose for studying the information in *The Brain: Our Nervous System* is to learn about the structure and function of the nervous system and successfully take a test on this information.
   - Formulate basic questions.

     Have students think about basic questions they have about the topic relating to their purpose: to learn about structure and function.

     For example, relating to function: What is the nervous system? What is its purpose and value? How does it work?

     Relating to structure: What are its parts, and what do they do?
   - Reread and take notes.

     Use a graphic organizer to take notes on the main ideas and details that relate to the purpose: in this case, main ideas and important details that relate to the structure and function of the nervous system.
   - Write summaries of notes to help you process the information and remember it.

3. Refer students to page 7 (paragraphs 1 and 2) in *The Brain: Our Nervous System* and to their notes for this section of text. Model reviewing the information and organizing it for study. A sample graphic organizer follows.

## Sample Graphic Organizer

**Nervous System**

| Function: What is its purpose? How does it work? | Structure: What are its parts? What do they do? |
|---|---|
| **NS**—communication with body | **NS**—made up of many billions of messenger cells called neurons<br>central nervous system **(CNS)** brain and spinal cord<br>peripheral nervous system **(PNS)** nerves outside the brain |
| **Neurons**—carry signals from brain to parts of body and back to brain<br>• carry messages about what body is doing<br>• make thoughts and memories<br>• plan body's next action<br>• allow you to breathe, read, run, see, count, etc. | |

**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 review the text and their notes and organize the information in this paragraph for study.

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

## Sample Graphic Organizer

**Nervous System**

| Function: What is its purpose? How does it work? | Structure: What are its parts? What do they do? |
|---|---|
| **Glial cells**—support neurons in brain<br>• bring nutrients, repair injuries, protect from bacteria | |

5. Tell students that they can use any graphic organizer for their notes and invent graphic organizers as needed, but that the main idea is that the organizer should suit the purpose of the reading and the user.

6. Refer to page 8. Model using a diagram of neurons as a graphic organizer to take notes: sketch the neurons on the board (artistic ability is not required) and write the notes; see sample graphic organizer below.

   tps

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

   **What is the value of taking notes with a diagram?**

   *(Answers may vary.) If you use a diagram, then you don't have to describe what the structure looks like; you have a picture of it along with what it does.*

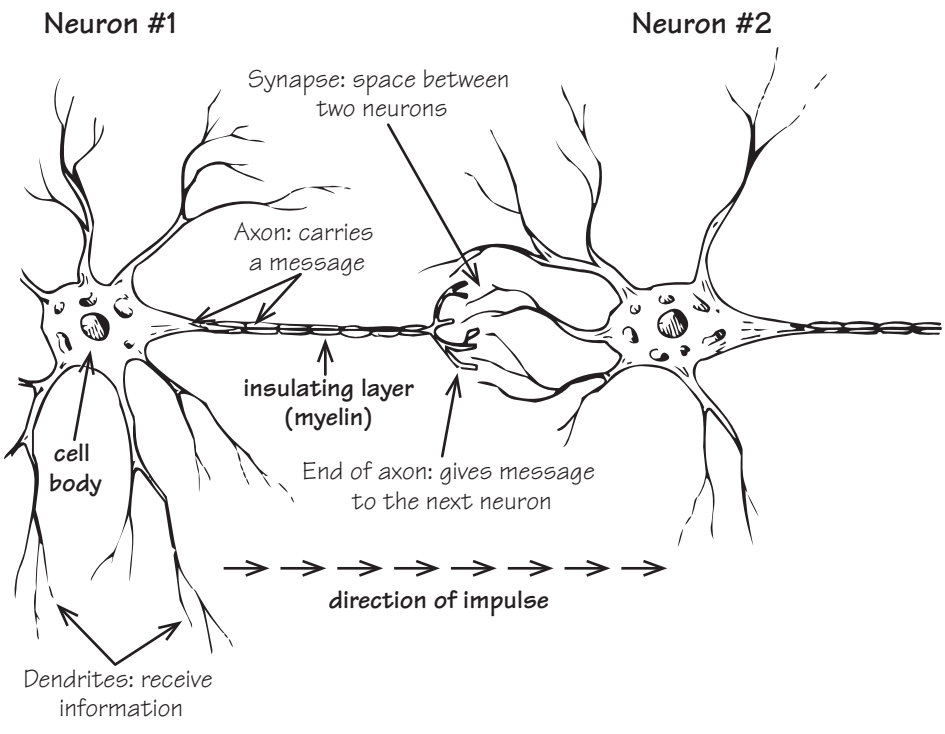
7. Partner Practice: Student partner pairs use the read-aloud/think-aloud process to practice the skill or strategy with the next passage in the text. Have students reread page 8, sketch a diagram of neurons and take notes as needed. Use **Think-Pair-Share** to ask:

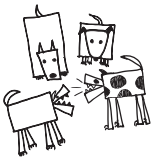
   **How would you write the notes if you used a diagram?**

   *(Answers may vary.) I would write the parts of the neurons and what they do. For example, I would label the synapse on the diagram and tell what it is: the space between two neurons.*

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

Sample Graphic Organizer





# 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 reread, review, and organize their notes for study. sr

   Have partners review:

   **pages 7–13 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. Using your notes and diagram, write a summary of information that describes the function and structure of neurons. **[MI, RE, SA]** (summary rubric)

   *100 = The function of neurons is to carry nerve impulses to other neurons. A neuron has dendrites and an axon. Dendrites on the neuron stick out in all directions so the neuron can receive electrical signals from other neurons. The neuron also has a long extension called the axon. An electrical impulse travels from a dendrite and down the length of the axon.*

   *90 = The function of neurons is to carry messages to other neurons. A neuron has dendrites that stick out and a long axon. An electrical impulse travels from a dendrite and down the length of the axon.*

   *80 = The function of neurons is to carry messages to other neurons. A neuron has dendrites and an axon.*

*continued*

## Team Talk Questions *continued*

2. What is a synapse? **[MI, SA]** (Team Talk rubric)

   *100 = A synapse is the space between two neurons. Chemicals are released at the end of the axon and move across the synapse to start a nerve impulse in the next neuron. Synapses are important for the **transmission** of messages in the nervous system.*

   *90 = A synapse is the space between two neurons. Chemicals are released at the end of the axon and move across the synapse to start a nerve impulse in the next neuron.*

   *80 = A synapse is the space between two neurons.*

3. Using your notes and the illustration on page 13, describe the path of a message through the nervous system. **[MI, SA]** (Team Talk rubric)

   *100 = A **stimulus produces** a signal that is sent through sensory nerves to the spinal cord and then to nerves in the sensory area of the brain. The brain sends messages back to the motor nerves that cause muscle fibers in the arm to move away from the hot pot.*

   *90 = A message travels from the finger through nerves to the brain. The brain sends a message back to the motor nerves that move the arm muscle.*

   *80 = A message travels from the finger through nerves to the brain and back to the motor nerves.*

4. Which would be more serious, damage to the brain stem or damage to the speech area of the brain? Why? **[DC, SA]** (Team Talk rubric)

   *100 = Damage to the brain stem would be more serious because it **regulates** many **functions** that keep us alive, such as breathing, blood pressure, and heartbeat. Damage to the speech area, **on the other hand**, would prevent a person from talking, but he or she would still be alive.*

   *90 = Damage to the brain stem would be more serious because it controls things that keep us alive, such as breathing, blood pressure, and heartbeat.*

   *80 = Damage to the brain stem would be more serious because it controls things that keep us alive.*

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

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

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

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

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

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

# Class Discussion tp

(18 minutes)

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

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

## Lightning Round

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

## Celebrate

Celebrate team successes!

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

   **How many points did your team earn today?**

   **How can your team earn more points?**

   The top team chooses a cheer.

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

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

Remind students of the Read and Respond homework assignment.

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

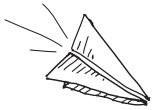
# Lesson 2

**Reading Objective:** Practice study skills.

### Teacher Background

In today's lesson, students will continue rereading and taking notes. They will also practice using a diagram to take notes on the structure and function of parts of the brain. The vocabulary introduced in this cycle includes key terms from *The Brain: Our Nervous System*.

In Set the Stage, show the video "Science Nation: BPS Brain Positioning System" about scientists studying which parts of the brain are most active in different types of learners.



## 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

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

Teams discuss their vocabulary ratings.

Introduce vocabulary.

| Word | Pronunciation | Definition | Sample Sentence |
|---|---|---|---|
| **neurons** (noun) page 10 | neu-rons (NOOR-ons) | individual nerve cells | *Neurons* carried the impulse to the spinal cord. |
| **dendrites** (noun) page 10 | den-drites (DEN-drights) | extensions of the neuron cell body that receive impulses | The nerve impulse was given to the *dendrites* of the next neuron. |

*continued*

| Word | Pronunciation | Definition | Sample Sentence |
|---|---|---|---|
| **axon** (noun) page 10 | ax-on (AX-on) | long extension in a neuron | If the *axon* is cut, then the impulse can't be given to the next neuron. |
| **synapses** (noun) page 11 | syn-apses (SIN-apses) | spaces between axon and dendrites of next neuron | Nerve impulses must cross the *synapses* to trigger the next neuron. |
| **cerebrum** (noun) page 12 | cer-e-brum (seh-REE-brum) | largest part of brain | The *cerebrum* controls voluntary muscle movement. |
| **cerebellum** (noun) page 13 | cer-e-bel-lum (sar-a-BELL-um) | part of brain that coordinates muscles for balance | If a gymnast had damage to the *cerebellum*, walking on a balance beam would be impossible. |
| **cortex** (noun) page 17 | cor-tex (KOR-tex) | surface of the cerebrum | The *cortex* is involved in thinking, reading, sensing, and movement. |
| **sensory** (adjective) page 18 | sen-so-ry (SENS-uh-ree) | relating to the senses | The eye is a *sensory* receptor for light. |

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

Review Vocabulary Vault.

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

### Set the Stage

Teams review their cycle goal.

1. Ask students to review their team's goal for this cycle and assess their progress.

2. Review the Team Celebration Points poster, and challenge teams to build on their successes.

Post and present the reading objective.

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

Show the video.


4. Show the video "Science Nation: BPS Brain Positioning System." Use **Think-Pair-Share** to debrief the video.

   **How was the scientist able to tell what type of learner a subject was?**

   *The scientist used MRI to find out what part of the brain had the greatest blood flow. She found that some people are place learners and the hippocampus is active. These people make mental maps and take shortcuts. Response learners just follow the same path they always take. They show activity in a different part of the brain.*

**Students:** Practice the skill or strategy.

## Interactive Read Aloud

1. Remind students that they can use any graphic organizer for their notes and invent graphic organizers as needed, but that the main idea is that the organizer should suit the purpose of the reading and the user.
2. Refer to pages 16 and 17. Model using a diagram of the brain as a graphic organizer to take notes: sketch the brain on the board (artistic ability is not required) and write the notes; see sample graphic organizer below.

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

   **What is the value of taking notes with a diagram?**

   *(Answers may vary.) If you use a diagram, then you don't have to describe what the structure looks like; you have a picture of it along with what it does.*

**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 reread page 18 and take notes as needed. Use **Think-Pair-Share** to ask:

   **How would you write the notes if you used a diagram?**

   *(Answers may vary.) I would write the functions in each half of the brain.*

   Use **Random Reporter** to debrief.

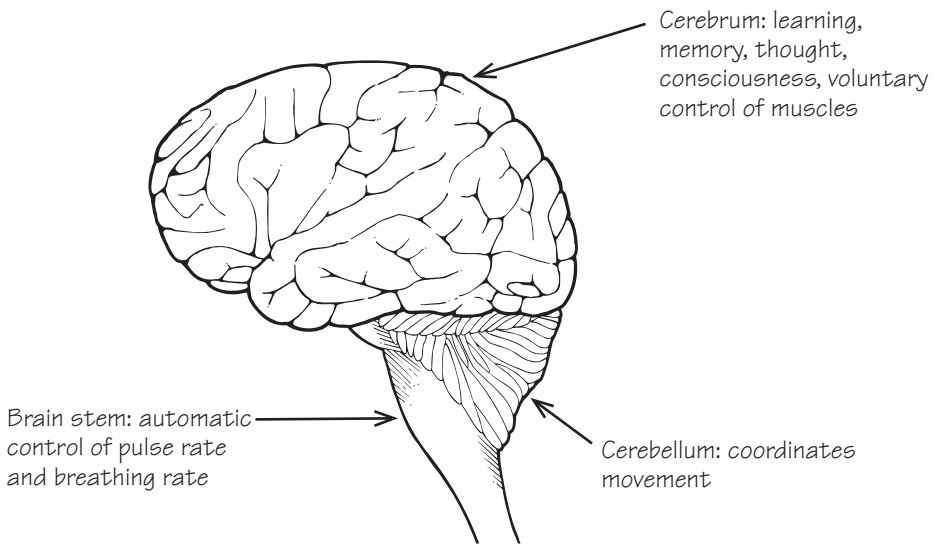
**Partner pairs:** Review, reread to clarify, and add to the graphic organizer.

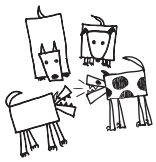
4. Ask partners to review this section of text, check their understanding with each other, reread what they need to clarify, and add notes to their graphic organizers.

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

   A sample graphic organizer follows.

### Sample Graphic Organizer





# 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 reread, review, and organize their notes for study. sr

   Have partners review:

   **pages 20–25 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. Using your notes and diagram, write a brief summary of the information that explains the three main parts of the brain and what each part controls. **(Write) [MI, RE]** (summary rubric)

   *100 = The three main parts of the brain are the cerebrum, cerebellum, and brain stem. The cerebrum is involved in thinking and decision making, language, and memory. It is also the part of the brain that controls body movement and the senses, such as touch, smell, sight, and taste. The cerebellum controls the coordination of muscles and posture. The brain stem transfers messages from the spinal cord to the brain and regulates heart rate, breathing, and digestion.*

   *90 = The three main parts of the brain are the cerebrum, cerebellum, and brain stem. The cerebrum is the thinking part of the brain and also gets information on the senses. The cerebellum controls the coordination of muscles and posture. The brain stem controls the heart and breathing.*

   *80 = The three main parts of the brain are the cerebrum, cerebellum, and brain stem. The cerebrum is the thinking part of the brain. The cerebellum controls coordination. The brain stem controls the heart and breathing.*

*continued*

## Team Talk Questions *continued*

2. If a person receives an injury to the left side of his brain, what abilities might be affected? Why? **[MI, SA]** (Team Talk rubric)

   *100 = If a person receives an injury to the left side of the brain, his ability to read and speak might be **affected** because these abilities are controlled by the left **cerebral hemisphere**. It could also affect movement of the right arm or right leg because the left hemisphere controls movement in the right side of the body.*

   *90 = If a person receives an injury to the left side of the brain, he might not be able to read and speak because these abilities are controlled by the left side of the brain.*

   *80 = If the left side of a person's brain is injured, he might not be able to speak or read.*

3. Mr. A. had a motorcycle accident. He was not wearing a helmet. His breathing rate and heart rate are very irregular. Explain what part of the brain may be injured and why you think so. **[DC, SA]** (Team Talk rubric)

   *100 = I think Mr. A. has damage to his brain stem. He wasn't wearing a helmet, so his brain stem wasn't protected. His **symptoms** point to damage in the brain stem because that is where the brain controls **automatic functions** like breathing and heartbeat. A patient's symptoms give clues as to where injuries have occurred.*

   *90 = I think Mr. A. has damage to his brain stem. He wasn't wearing a helmet, so his brain stem wasn't protected. The brain stem is where the brain controls breathing and heartbeat.*

   *80 = I think Mr. A. has damage to his brain stem because that is where the brain controls breathing and heartbeat.*

4. What is the location and function of the hypothalamus? Why is it important? **[MI]** (Team Talk rubric)

   *100 = The hypothalamus is **located** inside the cerebrum. The hypothalamus is important because it **regulates** body temperature and growth. It is also involved in the body's experience of hunger, thirst, fear, etc. Without the hypothalamus, a person would not feel hunger or thirst and in turn wouldn't eat or drink to survive.*

   *90 = The hypothalamus is inside the cerebrum. The hypothalamus is important because it keeps body temperature steady. It is also involved in a person's feeling hunger, thirst, fear, etc.*

   *80 = The hypothalamus is inside the cerebrum. The hypothalamus is important because it keeps body temperature steady.*

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

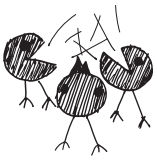
   The _____ is the long part of a neuron that carries a nerve impulse.

   Axon. *I know because the sentence describes what an axon is and does.*

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

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

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



## Class Discussion tp

(15 minutes)

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

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

### Lightning Round

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

### Celebrate

Celebrate team successes!

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

   **How many points did your team earn today?**

   **How can your team earn more points?**

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

   The top team chooses a cheer.

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

Remind students of the Read and Respond homework assignment.

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

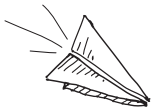
| Word | Pronunciation | Definition | Sample Sentence |
|---|---|---|---|
| **neurons** (noun) page 10 | neu-rons (NOOR-ons) | individual nerve cells | *Neurons* carried the impulse to the spinal cord. |
| **dendrites** (noun) page 10 | den-drites (DEN-drights) | extensions of the neuron cell body that receive impulses | The nerve impulse was given to the *dendrites* of the next neuron. |
| **axon** (noun) page 10 | ax-on (AX-on) | long extension in a neuron | If the *axon* is cut, then the impulse can't be given to the next neuron. |
| **synapses** (noun) page 11 | syn-apses (SIN-apses) | spaces between axon and dendrites of next neuron | Nerve impulses must cross the *synapses* to trigger the next neuron. |
| **cerebrum** (noun) page 12 | cer-e-brum (seh-REE-brum) | largest part of brain | The *cerebrum* controls voluntary muscle movement. |
| **cerebellum** (noun) page 13 | cer-e-bel-lum (sar-a-BELL-um) | part of brain that coordinates muscles for balance | If a gymnast had damage to the *cerebellum*, walking on a balance beam would be impossible. |
| **cortex** (noun) page 17 | cor-tex (KOR-tex) | surface of the cerebrum | The *cortex* is involved in thinking, reading, sensing, and movement. |
| **sensory** (adjective) page 18 | sen-so-ry (SENS-uh-ree) | relating to the senses | The eye is a *sensory* receptor for light. |

# Lesson 3

**Reading Objective:** Practice study skills.

### Teacher Background

In this lesson, students will learn some tips for test preparation. You will also remind students about information they learned about the brain and memory in *Getting Started* ("Research shows that most students have a lot to learn about how to learn" and "Do you need a personal trainer for your brain?").



## 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.

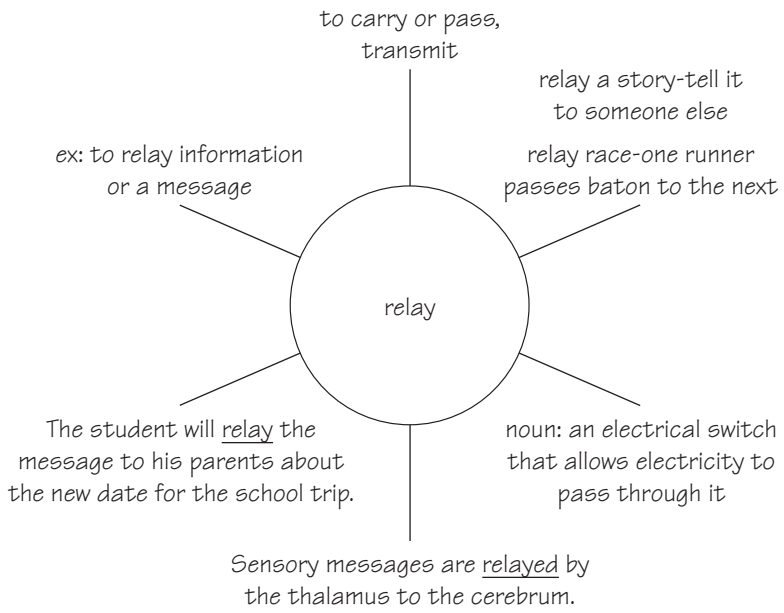
3. Choose an important word from the text or class discussion, and model how to explore it in a word power journal entry. A sample Think Aloud and word map follow.

#### Sample Think Aloud

A word that has been repeated several times in the text is the word *relay*. I've heard this word used to mean pass on or tell, as in "He relayed the story." I've also heard the word *relay* used to describe a type of race in which there is a team of runners; each runner covers a distance and then passes a baton to the next runner on the team. I'll check the dictionary for the meaning of *relay*. (Model looking up the word in the dictionary.)

I was right. *Relay* means to carry or pass. A synonym is *transmit*. The dictionary also explains that a relay is an electrical switch that allows electricity to pass through it.

Sample Word Map




Review Vocabulary Vault.

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

### Set the Stage

Teams review their cycle goal.

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

Post and present the reading objective.

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

### Interactive Read Aloud

tps

1. Remind students that they learned about preparing for tests in *Getting Started*. Use **Think-Pair-Share** to ask:

   **What is the important thing that your brain needs to remember information?**

   *It needs repeated review of the information. My brain needs to practice remembering it.*

2. Display the following blackline master, and review with students.

Blackline master provided.

## 10 Tips for Successful Studying

1. **Work with a study partner** and ask each other questions. Get immediate feedback on your answers so you can improve them.
2. **Connect new information** to what you already know.
3. **Take notes when you read.** Pick out the most important information and put it in your own words. Copying someone else's notes is not as useful as making your own. Review your notes every night.
4. **Ask yourself questions as you read.** If you are reading a textbook that has questions at the end of the chapter, use those to test yourself.
5. **Draw a picture or use a graphic organizer** to show relationships between words and meanings, parts of a process, or big ideas and details or create a story using the information.
6. **Make a mind movie.** Try to picture what you are learning about.
7. **Reorganize your notes as you learn more** about the information and see new connections or better understand the structure of the topic. Make flash cards, lists, etc.
8. **Space your study sessions.** Frequent studying is better than cramming all the studying into one big session.
9. **Test yourself over and over again** until you get every question right. Once you get everything right, keep practicing. This makes it easier for you to remember information when you get to the real test.
10. **Be intent on studying**—have your mind on your task, have your body ready to study. Learn how to listen—practice focusing on your teacher or your study partner when they are explaining something to you.

Point out that there are multiple ways to process the information—physically, by rewriting information, orally, by quizzing in partner pairs, and rereading. Explain that the more ways they use to process information, the more likely they will convert short-term memory to long-term memory.

Remind students that the article "Do You Need a Personal Trainer for Your Brain?" states that the brain should be exercised like a muscle to get stronger—"the more we think and study and try different ways to learn something, the smarter we will be."

3. Remind students that the article "Research shows that most students have a lot to learn about how to learn" tells us to take practice tests with partners, or test themselves if a partner is not available, to prepare for real tests. Tell students that they can turn their notes and key terms into questions and prepare flash cards for quizzing each other—a term on one side of the card and the definition or example on the other side.

**Partner pairs:** Quiz each other.

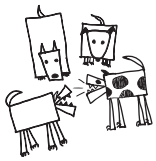
4. Partner Practice: Have students use their notes from page 7 and quiz each other on the information. Use **Think-Pair-Share** to ask:

   **Which of the studying tips do you think will be the most valuable?**

   *(Answers will vary.) I think quizzing each other because we get a chance to clarify things and look something up if we forget.*

   Use **Random Reporter** to debrief.

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



## Teamwork tp

(20–30 minutes)

### Partner Prep

1. Have students reorganize their notes, if necessary, and quiz each other on the information on:

   **pages 8–17 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. Look at the illustration on page 13. Suppose that there was damage to the peripheral nervous system in your left arm. What do you think could be the result? **[DC]** (Team Talk rubric)

   *100 = The peripheral nervous system carries signals to the central nervous system—the brain and spinal cord. If there were damage to the peripheral nervous system in the left arm, the sensory nerves might not be able to send signals to the spinal cord and then to the sensory area of the brain. The brain would not send back messages to the motor nerves in the muscles to move the arm.* ***As a result****, I would not be able to feel* ***sensations*** *or move my left arm. Damage to the peripheral nervous system could break communication between the brain and the left arm.*

   *90 = If there were damage to the peripheral nervous system in the left arm, the sensory nerves might not be able to send signals back and forth to the brain. I would not be able to feel or move my left arm.*

   *80 = I would not be able to feel or move my left arm.*

2. Describe the structure and function of the skull. **[MI]** (summary rubric)

   *100 = The function of the skull is to protect the brain. The skull has eight bones that fit together and form the braincase or cranium. Inside the cranium, the brain is surrounded by a liquid that further protects it from sudden blows. Because the brain keeps growing, the cranium does not fully develop until a person is seven years old.*

   *90 = The function of the skull is to protect the brain. The skull has eight bones that fit together. Inside the cranium, the brain is surrounded by a liquid that further protects it from sudden blows.*

   *80 = The purpose of the skull is to protect the brain. The skull has eight bones that fit together.*

3. Mr. C. had a stroke in his left hemisphere. What part of the brain is this? Describe symptoms Mr. C. might have as a result of the stroke. **[DC, SA]** (Team Talk rubric)

   *100 = If Mr. C. had a stroke in his left hemisphere, it would have happened in the cerebrum. Some symptoms that Mr. C. could have are damage to* ***language skills****, and maybe being unable to talk. He also might not be able to control his right arm or leg because the left hemisphere controls actions on the right side of the body. Damage to different parts of the brain can cause different effects depending on where the damage is* ***located****.*

   *90 = If Mr. C. had a stroke in his left hemisphere, it would have happened in the cerebrum. A symptom that Mr. C. could have is damage to speech. He also might not be able to control his right arm or leg because the left hemisphere controls actions on the right side of the body.*

   *80 = If Mr. C. had a stroke in his left hemisphere, it would have happened in the cerebrum.*

*continued*

## Team Talk Questions *continued*

4. What is the largest part of the brain? What does this part of the brain allow you to do? **(Write) [MI]** (Team Talk rubric)

   *100* = *The largest part of the brain is the cerebrum. **According to the text**, the cerebrum is nine-tenths of the entire brain. This part of the brain allows you to think, talk, remember, move your body, make decisions, and see, hear, touch, smell, and taste. It is probably the largest part of the brain because it is the part with the most activity.*

   *90* = *The largest part of the brain is the cerebrum. The cerebrum is nine-tenths of the entire brain. This part of the brain allows you to think, talk, remember, move your body, make decisions, and see, hear, touch, smell, and taste.*

   *80* = *The largest part of the brain is the cerebrum. This part of the brain allows you to think, talk, and remember.*

5. "These cells on the skin that gather information are called _____." What word from the vocabulary list belongs in the blank? **[CV]**

   *A. sensory*
   B. cortex
   C. axon
   D. cerebrum

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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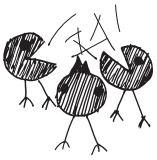

# Class Discussion tp

(20 minutes)

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

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

## Lightning Round

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

## Celebrate

Celebrate team successes!

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

   **How many points did your team earn today?**

   **How can your team earn more points?**

   The top team chooses a cheer.

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

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

Remind students of the Read and Respond homework assignment.

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

# 10 Tips for Successful Studying

1. **Work with a study partner** and ask each other questions. Get immediate feedback on your answers so you can improve them.
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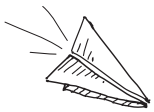
3. **Take notes when you read.** Pick out the most important information and put it in your own words. Copying someone else's notes is not as useful as making your own. Review your notes every night.
4. **Ask yourself questions as you read.** If you are reading a textbook that has questions at the end of the chapter, use those to test yourself.
5. **Draw a picture or use a graphic organizer** to show relationships between words and meanings, parts of a process, or big ideas and details or create a story using the information.
6. **Make a mind movie.** Try to picture what you are learning about.
7. **Reorganize your notes as you learn more** about the information and see new connections or better understand the structure of the topic. Make flash cards, lists, etc.
8. **Space your study sessions.** Frequent studying is better than cramming all the studying into one big session.
9. **Test yourself over and over again** until you get every question right. Once you get everything right, keep practicing. This makes it easier for you to remember information when you get to the real test.
10. **Be intent on studying**—have your mind on your task, have your body ready to study. Learn how to listen—practice focusing on your teacher or your study partner when they are explaining something to you.

# Lesson 4

**Reading Objective:** Practice study skills.

### Teacher Background

In this lesson, you will explain various memory techniques. Partner pairs will continue quizzing each other on the rest of the information in the book.



## Active Instruction tp

(15–25 minutes)

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

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

### Partner Vocabulary Study

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

Teams discuss their vocabulary ratings.

### Vocabulary

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

Review Vocabulary Vault.

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

### Set the Stage

Teams review their cycle goal.

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

Post and present the reading objective.

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

### Interactive Read Aloud

**Students:** Practice the skill or strategy.

1. Explain to students that they use two types of memory to learn: procedural memory and declarative memory.

   **When you practice something over and over, like throwing baseball pitches or playing a piece on the piano, you are developing your procedural memory. Doing something over and over again helps you remember it for a long time. It becomes part of your long-term memory.**

**You use declarative memory to remember facts, events, or ideas you hear or read about. You use declarative memory when you reread and review your notes to study for a test. The trouble is that declarative memory is quick to disappear. You might cram for a test one day and forget everything by the next day.**

tps

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

**What makes procedural memory effective? Do you think that process relates to declarative memory? Explain.**

*Procedural memory is effective when you practice a lot. Yes, I think practicing a lot with facts and information will help my declarative memory.*

Remind students of the old adage "practice makes perfect." Point out that to convert short-term declarative memory to long-term, you have to process the memory many times, like practicing remembering a phone number or a locker combination.

2. Present some memory techniques that can help students learn and remember information. Tell students that in addition to the ten study tips in lesson 2, there are a few more memory techniques they can use when learning information for a test. Display the following blackline master, and review with students:

Blackline master provided.

### Memory Techniques

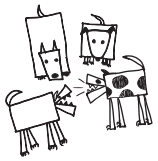
1. Link new information to what you already know.
2. Link the memory to the place where you first heard the information.
3. A *mnemonic device* is a memory association technique that makes a phrase out of something to remember. A common example is the sentence "Every good boy does fine" to remember the notes on the lines on a sheet of music, E, G, B, D, F.
4. Find patterns in the new information.
5. Explain information to a partner or team.
6. Use music or rhyme.
7. Put the new information in context.
8. Chunk the information.

Have students suggest other mnemonic devices they know.

*(Answers may vary.) Arithmetic = A rat in Tom's house might eat Tom's ice cream. HOMES for the Great Lakes—Huron, Ontario, Michigan, Erie, Superior.*

Remind students that the test in lesson 6 will be similar to a test they might take in a science class and will cover the factual information about the structure and function of the nervous system.

3. Partner Practice: Have students reorganize their notes for page 26, if necessary, and then quiz each other.
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.



## Teamwork tp

(20–30 minutes)

### Partner Prep

1. Have students reorganize their notes, if necessary, and quiz each other on the information on:

   **pages 28–32 with partners.**

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

### Team Discussion

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

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

## Team Talk Questions

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

   *(Answers will vary.)*

   *100 = I reread the passage about the brain and memories because I thought the text was explaining what part of the brain controls memory, but it really didn't. By rereading, I figured out that scientists don't really know how memories are stored. One theory is that they are stored in chemicals in nerve cells. We know a lot about the brain's structure and function, but there is still a lot to find out.*

   *90 = I reread the passage about the brain and memories because I thought the text was explaining what part of the brain controls memory, but it really didn't. By rereading, I figured out that scientists don't really know how memories are stored.*

   *80 = I reread the passage about the brain and memories because I thought the text was explaining what part of the brain controls memory, but it really didn't.*

2. Which of the memory techniques have you used before? Explain how it helped you. **[DC]** (Team Talk rubric)

   *(Answers will vary.)*

   *100 = One memory **technique** I have used is explaining the information to my partner. This has helped me in several ways. First, I have to understand the information to explain it to someone else. It also makes me organize my ideas so someone else can understand them. When I'm taking a test, I think back to how I explained it to my partner, so it helps me remember the information.*

   *90 = I have used explaining the information to my partner to help me remember information. I have to understand the information to explain it to someone else. It also makes me organize my ideas so someone else can understand them.*

   *80 = I have used explaining the information to my partner to help me remember information.*

3. If your partner asked you "What part of the brain stores memories?" how would you answer? **(Write) [MI]** (Team Talk rubric)

   *100 = **According to the text**, scientists are not sure where memories are stored. The front part of the cortex may be involved in short-term memory. One idea is that memories are in chemicals in the nerve cells. There are still details about the brain that are not well understood, like memory.*

   *90 = Scientists are not sure where memories are stored. The front part of the cortex may be involved in short-term memory. One idea is that memories are in chemicals in the nerve cells.*

   *80 = Scientists are not sure where memories are stored.*

*continued*

## Team Talk Questions *continued*

4. In which of the following sentences is the word *cerebrum* used incorrectly? **[CV]**
   - *A. The cerebrum is the smallest part of the human brain.*
   - B. The cerebrum stores memories.
   - C. The cerebrum allows you to read and write.
   - D. The cerebrum allows you to solve problems.

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

(20 minutes)

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

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

## Lightning Round

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

## Celebrate

Celebrate team successes!

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

   **How many points did your team earn today?**

   **How can your team earn more points?**

   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.

# Memory Techniques

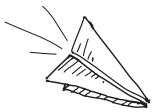
1. Link new information to what you already know.
2. Link the memory to the place where you first heard the information.
3. A *mnemonic device* is a memory association technique that makes a phrase out of something to remember. A common example is the sentence "Every good boy does fine" to remember the notes on the lines on a sheet of music, E, G, B, D, F.
4. Find patterns in the new information.
5. Explain information to a partner or team.
6. Use music or rhyme.
7. Put the new information in context.
8. Chunk the information.

# Lesson 5

**Writing Objective:** Develop the topic with key terms learned from the text.

### Teacher Background

Today's writing project provides another opportunity for students to use key terms to develop a topic.



## Active Instruction tp

(10 minutes)

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

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

### Partner Vocabulary Study

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

Teams discuss their vocabulary ratings.

### Vocabulary

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

Review Vocabulary Vault.

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

### Set the Stage

Teams review their cycle goal.

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

Post and present the writing objective.

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

Introduce the writing project.

4. Remind students that science has its own language and that understanding science terminology is crucial to understanding the information. Also remind students that when they can use science terms correctly in their own context, it demonstrates that they have learned the words.

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

Read the prompt aloud.

| Writing Prompt |
| --- |
| Explain the relationship between the senses and the peripheral nervous system. |

tps

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

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

*The prompt is asking me to explain information because it has the word* explain *in the prompt.*

Students identify the purpose for writing.

6. Refer students to the following writer's guide in their student editions. Point out that this writing to inform or explain writer's guide is the criteria for writing. Point out that using the writer's guide will help them write a quality response.

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

| Writing to Inform or Explain | |
| --- | --- |
| **Ideas** | • Clearly introduce the topic.<br>• Develop the topic with relevant details. |
| **Organization** | • Begin by introducing the topic.<br>• In the middle, provide facts, examples, or events that help a reader understand the information.<br>• 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.<br>• Include details or examples that help a reader make a mind movie. |
| **Mechanics** | • Use correct punctuation, capitalization, spelling, and grammar. |

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

Highlight the writing objective.

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

**Which guideline relates to our writing objective: develop the topic with key terms learned from the text?**

*The guidelines for style relate to the objective.*

Remind students that their vocabulary words for this cycle included key terms from *The Brain: Our Nervous System*.

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 identifying key terms.

Model identifying key terms in the text and writing their definitions as preparation for writing using the terms associated with memory.

| Sample Think Aloud |
| --- |
| If I was answering a question on a test about the structure and function of the spinal cord, for example, I'd identify and jot down the key terms associated with the spinal cord. (Refer students to pages 26 and 27.) |

tps

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

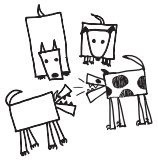
**What are some of the key terms associated with the spinal cord that I should include in my answer?**

*Key terms include* vertebrae, spinal nerves, vertebrate.

Model creating a graphic organizer with the key memory terms.

| Sample Graphic Organizer | |
| --- | --- |
| **Spinal Cord** | |
| vertebrae | Bones in the spinal cord |
| spinal nerves | Branch out to diff. parts of body<br>31 pairs |
| vertebrate | Animal with spinal cord and backbone |

Once I have all of my terms correct, then I can move on to writing.



## 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.

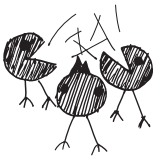
### Team Discussion

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 and the writing objective—develop the topic with key terms learned from the text.

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 use key terms correctly?**
- **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 key terms in your writing? Explain.**

*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?**

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

   The top team chooses a cheer.

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

Remind students of the Read and Respond homework assignment.

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

# Writing Prompt

Explain the relationship between the senses and the peripheral nervous system.

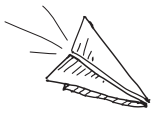
| Writing to Inform or Explain | |
|---|---|
| **Ideas** | • Clearly introduce the topic.<br>• Develop the topic with relevant details. |
| **Organization** | • Begin by introducing the topic.<br>• In the middle, provide facts, examples, or events that help a reader understand the information.<br>• End 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.<br>• Include details or examples that help a reader make a mind movie. |
| **Mechanics** | • Use correct punctuation, capitalization, spelling, and grammar. |

# Lesson 6

| |
|---|
| **Reading Objective:** Practice study skills. |
| **Writing Objective:** Develop the topic with key terms learned from the text. |

### Teacher Background

The test today is typical of a test given on this information in a science class. There is no additional reading for the test.



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

## Prepare Students for the Test tp

(5 minutes)

tps

### Partner Review

1. Remind students that they have been practicing study skills and developing the topic with key terms learned from the text. Use **Think-Pair-Share** to have students identify what they have been doing to practice the skill.

   *(Answers may vary.) We have been taking better notes and organizing them. We have been quizzing each other.*

   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 #1, #2, #4, and #5 ask about structure and function.
4. Ask students to identify key words and phrases in question #4.

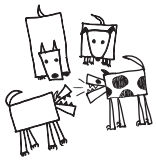
> 4. What are the three main parts of the brain? Give at least one example of what each main part of the brain allows you to do. **[MI]**

5. Remind students that they will not have a reading for the test and that the test will cover information on the structure and function of the nervous system as explained in *The Brain: Our Nervous System*.

## 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)

Teams discuss the answers to the test questions.

### Team Discussion

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.

   **Which of the study skills did you find the most effective in preparing you for the test? Explain.**

   *(Answers may vary.) I think quizzing each other was the most effective. By working with a partner, I could see things a little differently and learned more.*

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**

# Study Skills

**Directions:** Answer the following questions on a separate piece of paper.

**Part I. Comprehension** (100 points)

1. What is a synapse? Explain what happens at a synapse. **[MI]**

   *20 points =* *A synapse is the space between two neurons. At the synapse, a nerve impulse (electricity) causes the end of the axon to release chemicals that move across the synapse and start an impulse in the next neuron. Without the action at the synapse, the neurons wouldn't be able to* ***communicate*** *with each other.*

   *15 points =* *A synapse is the space between two neurons. At the synapse, a nerve impulse (electricity) causes the end of the axon to release chemicals that move across the synapse and start an impulse in the next neuron.*

   *10 points =* *A synapse is the space between two neurons.*

2. What is an axon? Explain what it does. **[MI]**

   *20 points =* *An axon is the long extension of a neuron. It is covered by the myelin sheath. Axons can be up to three feet long. The axon carries the impulse from the dendrites and cell body to the dendrites of the next neuron in the chain. The impulse is a tiny pulse of electricity. Axons have a* ***specific*** *function in the nervous system* ***communication*** *system.*

   *15 points =* *An axon is the long extension of a neuron. It is covered by the myelin sheath. Axons can be up to three feet long. The axon carries the impulse from the dendrites and cell body to the dendrites of the next neuron in the chain. The impulse is a tiny pulse of electricity.*

   *10 points =* *An axon is the long extension of a neuron.*

3. You stub your toe. How does the nervous system communicate that information? Explain the value of knowing that you stubbed your toe. **[MI, SA]**

   *20 points = The nerves in your toe pick up the stimulus and carry the information to your spinal cord, which relays it to the brain. Knowing you have stubbed your toe can prevent you from further injury. You will stop what you are doing and take care of the toe.* ***Therefore****, if the nervous system didn't work as it does, you could really injure yourself.*

   *15 points = The nerves in your toe pick up the stimulus and carry the information to your spinal cord, which relays it to the brain. Knowing you have stubbed your toe can prevent you from further injury. You will stop what you are doing and take care of the toe.*

   *10 points = The nerves in your toe pick up the stimulus and carry the information to your spinal cord, which relays it to the brain.*

4. What are the three main parts of the brain? Give at least one example of what each main part of the brain allows you to do. **[MI]**

   *20 points = The three main parts of the brain are the cerebrum, cerebellum, and brain stem. The cerebrum is the largest part of the brain and is involved in thinking, reading, language, and the senses. The cerebellum controls the coordination of your body so you are able to throw a ball or walk. The brain stem regulates automatic body functions, such as breathing, heartbeat, or swallowing.*

   *15 points = The three main parts of the brain are the cerebrum, cerebellum, and brain stem. The cerebrum allows you to think. The cerebellum gives you balance and coordination. The brain stem allows you to breathe and keeps your heart beating.*

   *10 points = The three main parts of the brain are the cerebrum, cerebellum, and brain stem.*

5. What is the location and function of the hypothalamus? Why is it important? **[MI]**

   *20 points = The hypothalamus is* ***located*** *inside the cerebrum. The hypothalamus is important because it* ***regulates*** *body temperature and growth. It also is involved in the body's experience of hunger, thirst, fear, etc. Without the hypothalamus, a person would not feel hunger or thirst and so wouldn't eat or drink to survive.*

   *15 points = The hypothalamus is inside the cerebrum. The hypothalamus is important because it keeps body temperature steady. It also is involved in a person feeling hunger, thirst, fear, etc.*

   *10 points = The hypothalamus is inside the cerebrum. The hypothalamus is important because it keeps body temperature steady.*

**Part II. Writing** (100 points)

Write at least a paragraph to answer the following question:

Ms. B has lost feeling in her left hand. What can you conclude about the places where an injury could have happened? Provide a reason for each of your possible diagnoses.

*Ms. B's injury could be caused by damage in the right hemisphere because the right hemisphere controls the left side of the body. Her symptoms could also be caused by damage to the skin receptors. Then the skin would not pick up any feelings. Her symptoms could also be caused if there was damage to the peripheral nerves that take the information to the brain. If the peripheral nerves aren't working, then the information doesn't get through to the brain. The nervous system is like a chain of communication with many links. Breaks in the communication can occur at any link.*

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

| Writing to Inform or Explain | | |
|---|---|---|
| **Ideas** | • Clearly introduces the topic<br>• Develops the topic with relevant details | **0–25 pts.** |
| **Organization** | • Begins by introducing the topic<br>• In the middle, provides facts, examples, or events that help a reader understand the information<br>• 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<br>• 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** | • Develop the topic with key terms learned from the text. | **0–15 pts.** |

**Part III. Vocabulary** (100 points)

1. Write a meaningful sentence using the word *cortex*. **[CV]**

   *Accept responses that show the student knows the meaning of the word and can use it correctly. For example: The cerebral* cortex *is part of the brain that involves thinking and decision making.*

2. In which of the following sentences is the word *axon* used incorrectly? **[CV]**
   A. An axon is part of a neuron.
   B. An axon carries a nerve impulse.
   *C. An axon makes a physical connection with the next neuron.*
   D. An axon doesn't make a physical connection with the next neuron.

3. "Between the axon of one neuron and the dendrites (or cell body) of the next neuron, there are tiny spaces called _____." **[CV]**

   Choose the word that belongs in the blank.

   *A. synapses.*
   B. chemicals.
   C. electricity.
   D. impulses.

4. Write a meaningful sentence using the word *dendrites*. **[CV]**

   *Accept responses that show the student knows the meaning of the word and can use it correctly. For example: Dendrites branch off from the cell body of a neuron.*

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

   *A. The cerebellum is the largest part of the human brain.*
   B. The cerebellum helps with balance.
   C. The cerebellum lies below the cerebrum.
   D. The cerebellum coordinates muscle activity.

6. The right hemisphere of your _____ controls your left hand. **[CV]**

   Choose the word that belongs in the blank.

   A. receptors
   *B. cerebrum*
   C. brain stem
   D. spinal cord

7. "Some neurons have tens of thousands of synapses where they can exchange messages with thousands of other neurons." In this sentence, the word *neurons* most nearly means— **[CV]**

   A. neutrons.
   B. neutrals.
   C. nerds.
   *D. nerve cells.*

8. The ear picks up sound _____ information. **[CV]**

   Choose the word that belongs in the blank.

   A. taste
   B. smell
   C. light
   *D. sensory*

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* relay*. The coaches on the field* relay *messages from the head coach to the players so they will know what they are supposed to do.*

10. "This positron computed tomography (PCT) photo uses radioactive tracers in blood sugar to show two different levels of visual stimulation in the brain." In this sentence, the word *stimulation* most nearly means— **[CV]**

    *A. response.*

    B. damage.

    C. sleep.

    D. fear.

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

    *Students will explain their thinking. For example, I figured it out by relating it to the word* stimulus*. A stimulus causes a nerve to respond, so stimulation must be the causing response.*

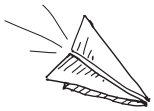
| Question Codes | | | |
|---|---|---|---|
| **[DC]** | Make inferences; interpret data; draw conclusions. | **[AA]** | Analyze an argument. |
| **[SA]** | Support an answer; cite supporting evidence. | **[AP]** | Identify author's intent or purpose. |
| **[MI]** | Identify the main idea that is stated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

# Lesson 7

**Reading Objective:** Practice study skills.

### 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

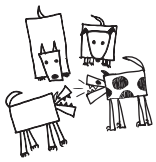
Teams review their cycle goal.

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.

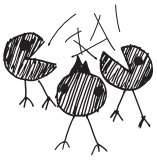
Give students feedback on classwork.

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.

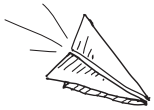
# Lesson 8

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

### 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.



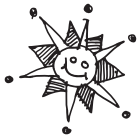
## Active Instruction tp

(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?**

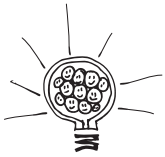
   **What can the team do to improve that score?**

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)

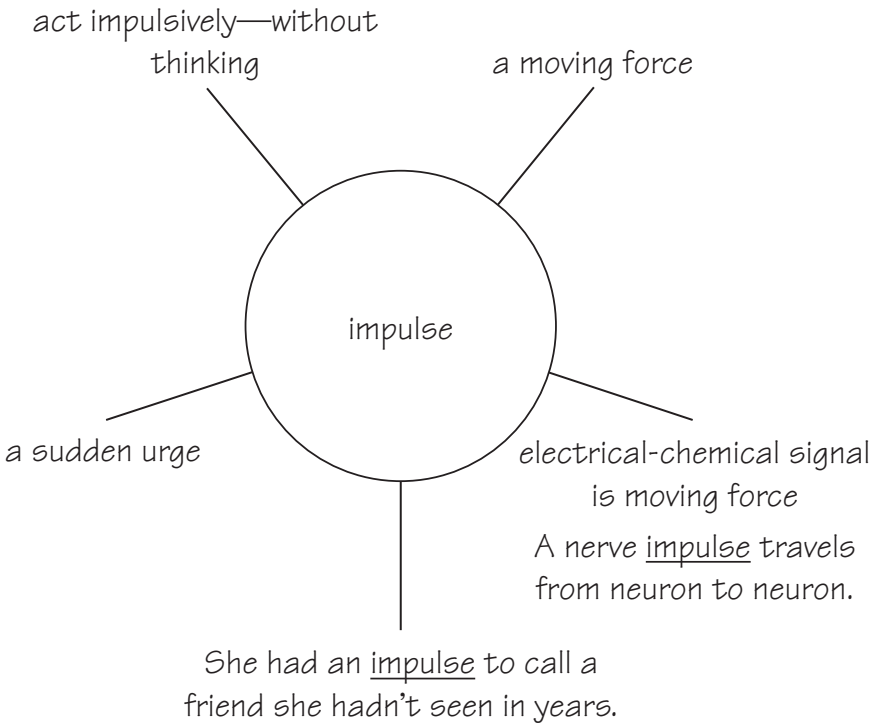
1. Choose a brain game from the card set, and then play the game.
2. Use the following questions to debrief and remind students of self-regulatory strategies:

   **What did this game require your brain to do?**

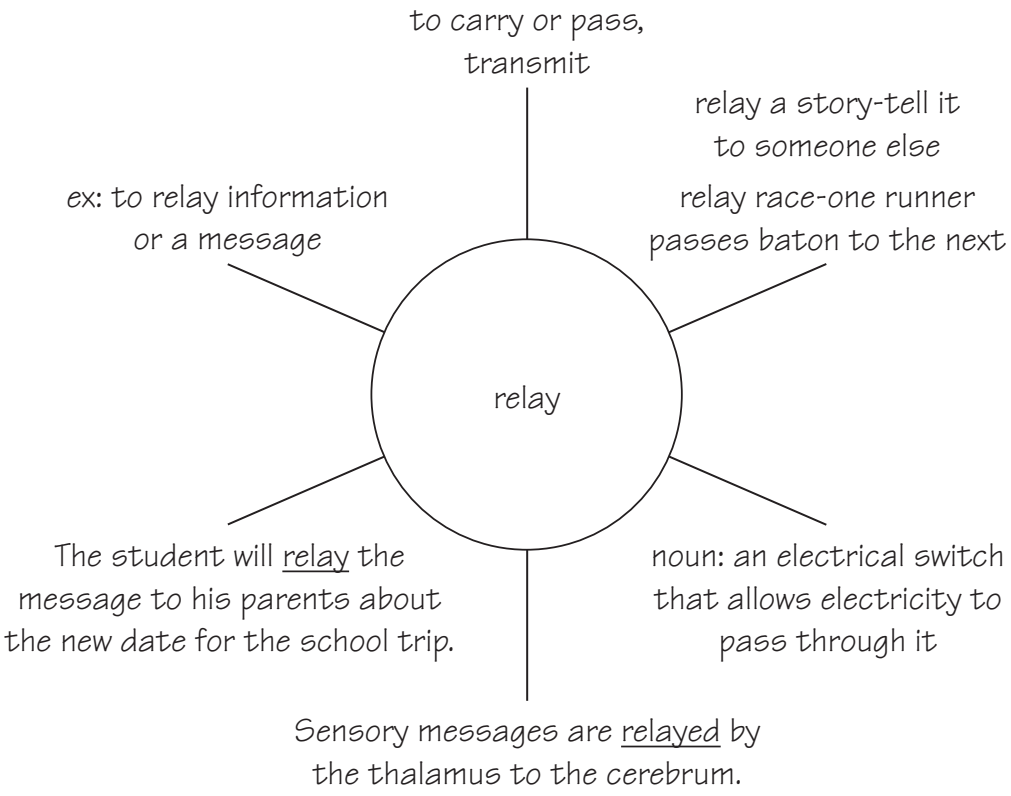
   **How will use of this skill improve your success in other classes?**

# 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 6 Study Skills

**English Language Arts Standards: Science and Technical Subjects**

**Key Ideas and Details**

RST.6-8.2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

RST.6-8.1. Cite specific textual evidence to support analysis of science and technical texts.

**Craft and Structure**

RST.6-8.4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.

**Integration of Knowledge and Ideas**

RST.6-8.7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

**English Language Arts Standards: Writing in History/Social Studies/Science**

**Text Types and Purposes**

WHST.6-8.2-4. Use precise language

## Media Acknowledgements

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WNET

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