

SREB

SREB Readiness Courses  
*Transitioning to college and careers*

# Ready for High School: Literacy

**English Unit 1**

How the Brain Functions and  
What It Means To Be Human

*Informational Text*

Southern  
Regional  
Education  
Board

592 Tenth Street, NW  
Atlanta, GA 30318  
(404) 875-9211

[www.sreb.org](http://www.sreb.org)



# Unit 1

# Contents

Course Overview.....	2
Unit Objectives and Suggested Pacing.....	3
Lesson 1: Using Your Brain: A Gateway Activity.....	4
Lesson 2: It Takes a Village to Study the Brain.....	21
Lesson 3: A Basis for Comparison.....	27
Lesson 4: The Nitty Gritty of the Brain.....	36
Lesson 5: Taking Sides.....	42
Lesson 6: Putting the Pieces Together.....	52
Lesson 7: Deepening Our Understanding.....	63
Lesson 8: Further Research into Phineas.....	73
Lesson 9: Drafting Proposals for the Brain Health Symposium.....	83
Lesson 10: Completing the Proposal.....	90
References.....	98

## Unit 1

# Content: Informational Text

### Overview

The first unit involves students in reading John Fleischman's book *Phineas Gage: A Gruesome but True Story About Brain Science* as well as a number of related supplemental texts. Students will examine the central text for its main idea and will evaluate the sources and evidence used to support that idea. Students will learn the skills of annotation and close reading, sentence construction and type with a focus on parallelism, and text organization with a focus on comparison and contrast. Students will study content-rich vocabulary pulled from the central text and will learn important word learning strategies, including deciphering meaning from context, prefix/suffix/root word study, and figurative, denotative and connotative meanings. The conclusion of the unit will involve students in writing a project proposal using the central text, supplemental texts, and other sources found through library research to support their writing.

### Teacher Notes

1. At the end of every lesson in this unit you will find a **checklist** of the important activities to cover. Refer to this as you teach the unit, as a way to ensure that the essential parts of the lesson have been covered.
2. **Literacy Design Collaborative** – If you have been trained in the framework known as the Literacy Design Collaborative (LDC), instructional modules consist of a series of skill clusters with specific skills attributed to each. These units have been constructed to comply with this model. In each lesson you will see the specific clusters identified along with specific skills as a reference for LDC-trained teachers. If you have not been trained in LDC, merely follow the Teacher Guide instructions. The skill clusters can reinforce for you what reading and writing skills have been identified.
3. Each activity is accompanied by a formative or summative **assessment**. Most assessments consist of a rubric that identifies an observable action by students and a range of student performance (No, Somewhat and Yes). As the teacher, you have control over what value to ascribe to the assessments. For example you may assign a 6 for a student's successful completion of a task (Yes), 3 for a performance that approaches success (Somewhat) and a 0 if the student does not exhibit this behavior (No). You may use the points in between 3 and 6 and 0 and 3 to provide a range of points based on how well the student's performance meets your expectations. Keep a log of your students and assign points throughout the unit as a grade for participation, engagement, etc. You may also wish to assign your own values to the assessment to provide a range based on varied performance. This system allows for flexibility in teacher grading practices across schools and states. Most teachers have expressed a need to provide points as incentives for the struggling students to complete the work. Because students struggle with the rigor of the course, the performance points along the way help to reward students who put forth effort in each activity. In the end, how the performance is "scored" is a teacher decision.

## Unit Objectives (Students Will Be Able To)

---

1. Recognize the disciplinary constructs that influence how reading and writing take place in English classes.
2. Develop reading endurance or the ability to read lengthy complex texts independently.
3. Summarize complex texts and to see structural patterns and/or modes of development, such as comparison and contrast, process analysis, and cause and effect in those texts.
4. Read complex texts closely. This involves annotation and inferencing as well as the ability to read critically and to distinguish between what is in the text (plot, information, etc.) and the larger picture (theme, connection to society, etc.).
5. Read multiple texts, including non-print texts, and compare their content, style and genre.
6. Begin to examine the essential question, “What can we do to keep our brains healthy and functioning?” which students will address by writing a proposal for a science symposium.
7. Study content-rich vocabulary pulled from the central text.
8. Participate in meaningful small and whole group discussions using their readings and activities as a basis for those discussions.

## Suggested Pacing

---

<b>Week 1</b>	Lesson: 1	Using Your Brain: A Gateway Activity
<b>Week 2</b>	Lesson: 2	It Takes A Village to Study the Brain
<b>Week 3</b>	Lesson: 3	A Basis for Comparison
	Lesson: 4	The Nitty Gritty of the Brain
	Lesson: 5	Taking Sides
<b>Week 4</b>	Lesson: 6	Putting the Pieces Together
	Lesson: 7	Deepening Our Understanding
	Lesson: 8	Further Research into Phineas
<b>Week 5</b>	Lesson: 9	Drafting Proposals for Brain Health Symposium
<b>Week 6</b>	Lesson: 10	Completing the Process

## Lesson 1

# Using Your Brain: A Gateway Activity

### Overview

In this introductory lesson for the English unit, focusing on the complexities of the human brain and what it means to be human, students will be introduced to the notion of disciplinary literacy and to the purpose of and assignments for this course. They will be asked to follow the story of Phineas Gage and understand the events that led to his accident. Students will participate in a four-corner discussion using left/right brain dominance statements and a personal brain dominance inventory as a gateway activity to develop an understanding of their own and their classmates' brain dominance. They will then read pages 1-10 of John Fleischman's *Phineas Gage: A Gruesome but True Story About Brain Science*, focusing their reading on an understanding of the organization of the text and completing an activity on steps in a process with both a supplemental text and the central text. Next, students will annotate a passage from this part of the text using annotating symbols with actions. In the next activity, students will examine parallel structures in the text to understand how this technique is used as a rhetorical device. Finally, students will analyze a newspaper account about Gage's accident from 1848 and compare it to Fleischman's account as well as a newspaper story about a modern-day Phineas Gage. This introductory work will help both students and teacher to develop a class community. In addition, students need to have an understanding of the big ideas of the course and the purpose of the module, in order to understand how this course might be different from other English courses they have taken. Students will begin to see how a writer uses modes, sentence construction, organization, and details to structure a piece of writing. This lesson will also introduce the critical focus question and prompt for the final writing assignment — a proposal for a symposium station at a Brain Health Symposium.

### Outcomes

1. Students participate in an activity designed to engage them with the content of the unit, and to assist them with understanding the complexities of the human brain.
2. Students draw conclusions and make predictions based on their reading.
3. Students read informational text so as to recognize central idea and steps in a process.
4. Students begin to examine the essential question, "What can we do to keep our brains healthy and functioning?" which they will address by writing a proposal for a science symposium.

5. Students learn and practice the skills of annotation.
6. Students learn parallel structures and identify them in the central text.
7. Students read two accounts of the same event and identify similarities and differences in those accounts.
8. Students draw conclusions based on evidence found in both a supplemental text and the central text.

## College and Career Readiness Standards (CCRS)

### Reading

---

- 1 Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
- 2 Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.
- 3 Analyze how a text makes connections among and distinctions between individuals, ideas, or events
- 5 Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.
- 9 Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.
- 10 By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6–8 text complexity band independently and proficiently.

### Writing

---

- 2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
  - a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
- 9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

### Speaking and Listening

---

- 1 Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
  - c. Build on the ideas of others by asking relevant questions and contributing appropriate and essential information.
  - d. Review the key ideas expressed and extend their own thinking in light of new information learned.

- 4 Present information, emphasizing salient points with pertinent descriptions and details and using appropriate eye contact, adequate volume, and clear pronunciation.

## Language

---

- 1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

## LDC

### Skills Activity List

#### Skill Cluster 1: Preparing for the Task

---

- 1 Ability to engage in the content of the unit
- 2 Ability to understand the concept of Disciplinary Literacy
- 3 Ability to analyze the prompt for the unit and the assessment
- 4 Ability to demonstrate how to be successful on the task

#### Skill Cluster 2: Reading Process

---

- 1 Ability to annotate essential elements of a text
- 2 Ability to make predictions and draw conclusions based on reading of text
- 3 Ability to identify the central idea and steps in a process
- 4 Ability to identify similarities and differences in multiple accounts of the same event
- 5 Ability to recognize the use of parallel structure in a text

#### Skill Cluster 4: Writing Process

---

- 1 Ability to identify correct parallel structure and to write sentences with parallel structure

### Materials

- Academic Notebook
- Copies of *Phineas Gage: A Gruesome but True Story About Brain Science*
- Paper copies of head silhouettes
- Article “What Happens in the Brain After a Concussion”  
Source: Reynolds, Gretchen. “Phys Ed: Looking at How Concussions When Young Influence Later Life.” The New York Times, 22 Sept. [http://well.blogs.nytimes.com/2010/09/22/can-concussions-in-kids-cause-problems-later-in-life/?\\_r=0](http://well.blogs.nytimes.com/2010/09/22/can-concussions-in-kids-cause-problems-later-in-life/?_r=0)
- Annotation checklist
- Parallel structures PowerPoint
- Newspaper account from 1848 (SREB website resources) mounted on a large piece of paper
- Butcher paper or other large pieces of paper
- CBS News article on Eduardo Leite <http://www.cbsnews.com/news/brazilian-construction-worker-survives-6-foot-metal-bar-through-skull/>
- Highlighters (6 different colors per group)

**Time frame:** 220 minutes

### Activity One

#### Left vs. Right (Approximately 25 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI8.1; ELA Speaking & Listening – SL8.1**

**Some experts claim that our brain dominance (left or right) determines a good deal about our personalities and even learning styles. The right brain is associated with being intuitive, thoughtful, and subjective while the left brain is associated with being logical, analytical, and objective). How well do you really know your brain? Take two minutes to make a rough guess as to what brain dominance you think you have and provide two pieces of evidence. You can jot this down in your notebook.**

Students will fill out this portion of the notebook.

**Now that you have had a chance to make your brain prediction, turn to your partner and attempt to guess what brain dominance he/she might maintain. Explain to your partner how you made that conclusion.**

Allow students three minutes to converse with their partners regarding their predictions.

**Let’s take a class poll. Raise your hand if you think you are left-brained.** Teacher notes number. **Now, raise your hand if your think that you are right-brained.** Teacher notes number. **Raise your hand if your partner made the same brain dominance prediction about you.** Allow students to see the poll of hands shown. Teacher notes number.

**Now, take the brain dominance quiz in your notebook. Respond to each scenario/question honestly. Once you conclude the questionnaire, review your results.**



**Now use the EEK! Strategy to draw a conclusion about the validity of your results. Refer to your test results and the text titled “FUN FACTS ABOUT YOUR SIDES.”**

**Now that we have all taken the quiz and know our results, let’s retake the class poll to reflect those results. Raise your hand if you are indeed left-brain dominant.** Teacher notes number. **Raise your hand if you are right brain dominant after all.** Teacher notes new number. **Now, raise your hand if your friend accurately guessed your dominance.** Teacher notes number while allowing students to reflect on the difference between polls.

**Let’s add some personal touches to our brain dominance. Using the head silhouette in the Academic Notebook on page 10, add at least five illustrations that make your brain dominance meaningful to you. Think of this as your personal brain dominance reflection or mirror.**

Post student silhouettes in classroom so that the students may view other silhouettes. Now ask students to turn to the course overview section of the Academic Notebook on page 8. Read aloud the first two paragraphs (see below).

### Course Overview

**Welcome to the first English literacy unit of the SREB Readiness Course - Ready for High School: Literacy. What does English literacy mean? English literacy is based on an understanding that texts – both literary and informational – enable us to understand human experiences and that literary texts are open to dialogue between and among readers and texts. In this course, you will take part in several activities aimed at improving your literacy, specifically as literacy is used in English. While certainly the content covered in this course is important, a principal purpose of this course is to equip you with the tools necessary to be more successful in your high school coursework. To that end, the creators of the course have developed this Academic Notebook.**

Explain to students that the theme for this six-week English course is: “How the Brain Functions.” The reading text for this course will be John Fleischman’s *Phineas Gage: A Gruesome but True Story About Brain Science*. Explain to students that this course focuses on the kinds of disciplinary literacy they will be expected to undertake in a high school setting. The course includes six units, with two each in English, science, and history. Students may take from one to all of the units, depending on what their state and school district makes available to them.

In this unit, students will be expected to:

- Read and analyze *Phineas Gage* and supplemental readings.
- Learn vocabulary from the text.
- Determine sequences of events in the book and in additional readings.
- Summarize ideas from the reading selections.
- Develop stances on ideas from the central text.
- Write a symposium proposal.

## Assessment

### Outcome 1:

Students will participate in an activity designed to engage them with the content of the unit, and to assist them with understanding the complexities of the human brain.

Evaluation Rubric			
Participates in the left vs. right brain activity.	No	Somewhat	Yes
Includes five illustrations in the brain summary.	No	Somewhat	Yes
<b>Total Points</b>	<b>12</b>		

### Activity Two

### Reading the Text (Approximately 30 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI8.1, 8.10; Writing – W8.2**

Read aloud the first three paragraphs of *Phineas Gage*. At the end of the third paragraph, ask students to make a prediction answering the question, “**Was Phineas lucky or unlucky?**” Tell them to answer this question based on the short amount of material they have just read. Assign students to read the remainder of pages 2–10, ending with the paragraph “His death seems just a matter of time now” and to complete the graphic organizer on page 11 in the Academic Notebook.

## Assessment

### Outcome 2:

Students will draw conclusions and make predictions based on their reading.

Evaluation Rubric			
Participates in the left vs. right brain activity.	No	Somewhat	Yes
Includes five illustrations in the brain summary.	No	Somewhat	Yes
<b>Total Points</b>	<b>12</b>		

Activity Three

Steps in a Process (Approximately 35 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.5; ELA Speaking and Listening – SL.8.1**

Have students read the article “What Happens in the Brain After a Concussion” in the Academic Notebook on pages 12–13. This article describes the process that occurs after a head injury. **As you read, note the steps in the process the scientists at the National Institutes of Health used to see what happens to the brain during a concussion. Then list the steps in the process of what happens after a concussion to the chart on page 14. The first step is included for you.**

Monitor students’ work, assisting as needed. When students have finished, ask them to share their steps with a shoulder partner. Then, as a class, have students share their answers. Complete the chart together using a projector or white board.

Next, tell students, **Revisit page 3 in *Phineas Gage* where the author describes the process Phineas follows for blasting. List the steps he follows when creating a blast.** Again, monitor students’ work, assisting as needed. When all students are finished, complete the chart together using a projector or white board.

Keys to the graphic organizer are provided below.

Steps in the process of a concussion	
<b>Step 1</b>	Scientists created microscopic layers of a mouse’s skull so thin that they could be seen through a microscopic lens.
<b>Step 2</b>	Scientists recreated the effects of an injury to the brain by compressing the skull.
<b>Step 3</b>	Using real-time, microscopes located on top of the mouse’s brain recorded what happens.
<b>Step 4</b>	The concussion creates rips and tears in membranes, allowing molecules called “reactive oxygen species” to appear.
<b>Step 5</b>	The body sends specialized immune cells from the blood and the brain to repair the membranes.
<b>Step 6</b>	The body doesn’t respond quickly enough, so excess free radicals get into the brain tissue and kill brain cells.

After students complete the graphic organizer, direct them to answer this inference question below the graphic organizer: Based on the steps you identified, what can you infer about the consequences of concussions? Next, direct students to complete the graphic organizer on page 15 of the Academic Notebook. A key is provided on the next page.

Phineas' steps in the process of a creating a blast	
<b>Step 1</b>	Drill a hole in the bedrock at the right angle and depth.
<b>Step 2</b>	Fill the bottom of the hole with gunpowder.
<b>Step 3</b>	Press a fuse into the powder.
<b>Step 4</b>	Fill up the rest of the hole with loose sand.
<b>Step 5</b>	Tamp the sand tightly.
<b>Step 6</b>	Shout to warn others.
<b>Step 7</b>	Light the fuse.
<b>Step 8</b>	Run fast.

After students complete the graphic organizer, direct them to answer this inference question located below the graphic organizer: Based on the steps you identified, what can you infer about the nature of this process?

Discuss the steps in both processes for accuracy, and emphasize the need for accuracy in a sequence of events when reading about processes or events in a story line. Explain to students that identifying and following steps in a sequence is an important skill in both reading and writing. Explain that they will be following steps to create a brain health station for a class symposium, which will be discussed in the next activity.

## Assessment

### Outcome 3:

Students will read informational text so as to recognize central idea, steps in a process, and cause and effect.

Evaluation Rubric			
Completes charts accurately.	No	Somewhat	Yes
Makes accurate inferences based on texts.	No	Somewhat	Yes
Participates in partner and class discussion.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

**Activity Four**

**Examining the Prompt for the Symposium Proposal (Approximately 25 minutes)**

**College and Career Readiness Standards: ELA Writing – 8.2; ELA Speaking and Listening – SL 8.1**

Ask the class to examine the prompt for the Brain Health Symposium, which can be found on the page titled “Brain Health Symposium Proposal” in the Academic Notebook and is seen below. With the class, read through the assignment description and brain health station task sheet. Ask students to write a short response to the two questions that follow.

“What can we do to keep our brains healthy and functioning?” After reading *Phineas Gage: A Gruesome but True Story About Brain Science* and other informational texts on brain research, write a proposal for a station at a Brain Health Symposium that will allow participants to learn and engage in a brain health activity in which you demonstrate the value of the activity in brain health. Support your station concept with evidence from the texts.

FROM THE STUDENT ACADEMIC NOTEBOOK p 16

**Guiding Task:** You are responsible for researching, designing, and creating a station at a Brain Health Symposium. Your station should allow participants learn and engage in a brain health activity. Your driving question is “What can we do to keep our brains healthy and functioning?”

Use the chart below to ensure that your brain health station meets the criteria in the left column.

Criteria	Pre-Planning/Checklist
1. Approved proposal	
2. Valid research consisting of three sources	
3. Engaging activity	
4. Attractive expo board (digital or tri-fold) highlighting related information	
5. Appealing to audience interest	

Discuss the rubric for the assignment, as well. It also appears in the Academic Notebook on page 17.

Based on Argumentation Teaching Task Rubric for Collection 3.0							
Scoring Elements	Emerging		Approaches Expectations		Meets Expectations		Advanced
	1	1.5	2	2.5	3	3.5	4
<b>Controlling Idea</b>	Attempts to address the prompt and make a claim, but it is unclear or unfocused.		Addresses the prompt appropriately and makes a claim, with an uneven focus.		Addresses all aspects of the prompt appropriately and establishes and maintains a clear claim.		Addresses all aspects of the prompt appropriately and establishes and maintains a clear, generally convincing claim.
<b>Development/ Use of Sources</b>	Refers to details from sources, with irrelevant, incomplete, or inaccurate elements.		Includes relevant details, examples, and/or quotations from sources to support and develop the argument, with minimal explanation or minor errors in explanation.		Accurately explains relevant details, examples, and/or quotations from sources to support and develop the argument.		Thoroughly and accurately explains well-chosen and relevant details, examples, and/or quotations from sources to effectively support and develop the argument.
<b>Organization</b>	Lacks an evident structure. Makes unclear connections among claim, reasons, and evidence.		Uses a basic organizational structure to develop argument. Attempts to use transition words to connect ideas, with minor lapses in coherence or organization.		Uses an appropriate organizational structure to develop argument. Uses transitional phrases to clarify the relationships among claim(s), reasons, and evidence.		Maintains an appropriate, logical organizational structure to develop a cohesive argument. Uses varied syntax and transitional phrases that clarify the precise relationships among claim(s), reasons, and evidence.
<b>Conventions</b>	Lacks control of grammar, usage, and mechanics. Uses inappropriate language or tone. Rarely or never cites sources.		Demonstrates an uneven command of standard English conventions. Uses language and tone with some inaccurate, inappropriate, or uneven features. Inconsistently cites sources.		Demonstrates a command of standard English conventions, with few errors. Uses language and tone appropriate to the audience and purpose. Cites sources, with minor formatting errors.		Demonstrates and maintains a well-developed command of standard English conventions, with few errors. Consistently uses language and tone appropriate to the audience and purpose. Cites sources using appropriate format.

Now that you have reviewed the prompt and the task sheet, answer the following questions (Academic Notebook, p. 18):

**What kind of ideas and thoughts do you have in response to this prompt? What have you seen so far in Fleischman’s text or in the other texts you have read that seems to connect to this prompt and task?**

Review each student’s response to ensure she/he understands the task. Have students share responses so that students can hear/know what each other is doing, and encourage them to help each other when appropriate.

Share the scoring rubric for the writing assignment (Academic Notebook page 17). Review each of the scoring elements in the rubric. Ask students to discuss what each element means in terms of their preparation for and writing of the proposal.

Divide students into groups and assign one of the rubric indicators to each group. Tell the groups to rewrite their assigned indicator on chart paper to explain what it means for a score of 3 or higher. Have students post their chart paper on the wall, and conduct a Gallery Walk by having the students rotate among the charts and add comments or changes to the indicators. Groups should edit and present their final definitions of the indicators. Save the charts or keep them posted for the students to use when editing their proposals later.

## Assessment

### Outcome 4:

Students will begin to examine the essential question, which they will address by writing a proposal for a science symposium.

Evaluation Rubric			
Demonstrates understanding of prompt by responding to Academic Notebook questions.	No	Somewhat	Yes
Completes re-planning checklist.	No	Somewhat	Yes
Rewrites assigned indicator in own words.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

### Activity Five

### Annotating Text (Approximately 25 minutes)

#### College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.3

**When a reader annotates a text (written words or visual texts like diagrams and charts; anything that can be interpreted for meaning), she adds notes regarding meaning, structure, point of view, and connections to other texts and events.**

**Now that you know how to annotate, describe a situation where a reader would want to annotate; name type of text and describe purpose. For example, an actor may annotate a script to include different types of emotions at certain parts, to connect some of the events to other movies/shows as a reference of comparison, and to define some complex words or phrases.**

**Today, we are going to annotate and discuss a small passage from the first chapter of *Phineas Gage*. Using the six symbols provided on page 19 of the Academic Notebook before the passage, mark each symbol, adding its corresponding notes in the margins or between lines. Feel free to use a dictionary or thesaurus to assist you. As you are annotating your personal copy, add a few of your annotations to the class copy projected by the ELMO/projector. Model the process as needed.**

At this time, students will follow through with the directions above; teachers can walk around, noting common annotating errors and encouraging students to add particularly good annotations to the class copy. Students may wish to use different colored pens or highlighters to assist with annotating.

After students have completed personal annotations of text and contributed to the class copy, allow the students a few minutes to read over the class copy taking into consideration the annotations.

**Now that you have examined our class annotations, let's discuss some of the new interpretations and meanings you have gained through this experience. Using the provided discussion questions stems on page 20, compose two questions that can be used in our class discussion; you can also create your own questions. Just remember that discussion questions require more than a "Yes" or "No" response and can elicit varying responses from the group. After you have composed your questions, we will take volunteers to open their questions on page 21 to the class.**

## Assessment

### Outcome 5:

Students will learn and practice the skills of annotation.

Evaluation Rubric			
Annotates text based on directions.	No	Somewhat	Yes
Discusses annotations with class.	No	Somewhat	Yes
Creates open-ended questions.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

## Activity Six

### Parallel Structures (Approximately 30 minutes)

#### College and Career Readiness Standards: L8.1; ELA Speaking & Listening – SL.8.1

**Today you will be learning to identify parallel structures in a sentence.** By identifying these structures and the way a writer uses them to convey meaning or to emphasize points, and by practicing writing sentences using parallelism, students will develop the ability to write clear and balanced sentences. Additionally, students will be expected to use parallelism in the final writing piece for the unit. To learn how to identify parallel



structures, students will view a PowerPoint and then work with exercises provided in the Academic Notebook. They will then examine two passages from *Phineas Gage* and identify examples of parallel structures in those passages. You may need to refresh or review the identification of subject, predicate and phrases, as needed.

Show the PowerPoint explaining parallelism (found on the SREB resources page).

Write or project the following sentence on the board:

All day, Phineas must keep an eye on his drillers to make sure they stay ahead.

With students, identify the subject, predicate, and phrases. Label these parts and ask students to label them in their Academic Notebooks.

Tell students, **now look at the sentence that follows that one:**

All day, Phineas must keep an eye on his diggers to make sure they keep up.

Read the sentence aloud, and ask students to identify the subject, predicate, and phrases. Which parts are the same as the previous sentence?

**Now turn to page 22 in your Academic Notebook. For each of the sentences in the exercise, identify which parts are parallel.**

Model the first sentence in the Academic Notebook, underlining the parallel phrases. Ask students to complete the remaining sentences. Once students have completed their analysis of the sentences, have them compare their answers with a partner. As a class, have students report out their answers.

**You will work with a partner or small group to create two sentences that have parallel structures.** Instruct students to write their sentences on butcher or chart paper and place them on the wall. Have students present their sentences to the class, explaining the parallel structures in the sentences.

**You will now apply what you have learned to two passages from *Phineas Gage*.** Direct students to the Academic Notebook where the passages have been provided to them. **Highlight any sentence that you believe uses parallelism. Next, underline the parallel parts of those sentences.**

Once students have completed their analysis of the sentences, have them compare their answers with a partner. As a class, have students report out their answers.

Key:

“They follow a strict routine. His assistant ‘charges’ each new hole by filling the bottom with coarse-grained gunpowder. Phineas uses the narrow end of his iron to carefully press the ropelike fuse down into the powder. The assistant then fills up the rest of the hole with loose sand to act as a plug. Phineas will tamp the sand tight to bottle up the explosion, channeling the blast downward into the rock to shatter it. While his assistant is pouring the sand, Phineas flips his tamping iron around from the pointy end to the round end for tamping. When it’s damp, nothing will set it off. When it’s too dry or mixed in the wrong formula, almost anything can set it off, without warning. But Phineas and his assistant have done this a thousand times – pour the powder, set the fuse, pour the sand, tamp the sand plug, shout a warning, light the fuse, run like mad.”

## Assessment

### Outcome 6:

Students will learn parallel structures and identify them in the central text.

Evaluation Rubric			
Participates in parallel structure activity with partner/group.	No	Somewhat	Yes
Discusses annotations with class.			
Correctly highlights and underlines parallel structures.	No	Somewhat	Yes
<b>Total Points</b>	<b>13</b>		

## Activity Seven

### One Event, Two Accounts (Approximately 40 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.9; ELA Writing – 8.9; ELA Speaking & Listening – SL.8.1, SL 8.4**

Students should be seated in quads or groups no larger than four; each station should have a copy of the newspaper article adhered to the center of a larger piece of paper that would allow students to write additional information around the article.

**Now that you have read author John Fleischman’s researched version of Phineas’ accident, we are going to analyze a newspaper account from 1848. Listen and follow along as I read the newspaper account to you.**

Read the brief newspaper account from 1848, located in the Academic Notebook on page 23, to students.

**Does that account match what we read in our books? Why would the journalist or newspaper choose to leave out details of the story? That is the mystery we are going to solve today. In your small groups, you will rotate to four stations. Each station has a copy of the article centered on a larger piece of white paper. With the assistance of your group, you will arrow in and add two details (in complete sentences) to the article; however, you can’t repeat any additions that your group has added in previous stations or what groups have already added to the current copy of the article. Don’t forget to cite your additions by quoting text and including the page numbers. You will have access to your books at each six-minute station.**

Student groups will rotate to four stations, adding details.

**Now that we have rotated to four stations, your group needs to determine why details were left out the newspaper account. Using the newly remodeled article at your current station, discuss reasons why the journalist or newspaper left these details out. Once your group has resolved this mystery, we will share our theories with the class.** Monitor the groups’ abilities to add more sentences after a couple of

rotations and note if there are more things to say, in order to avoid student frustration as the groups reach the last rotation.

## Assessment

### Outcome 2:

Students will draw conclusions and make predictions based on their reading.

### Outcome 7:

Students will read two accounts of the same event and identify similarities and differences in those accounts.

Evaluation Rubric			
Participates in the station rotation and assists group with details.	No	Somewhat	Yes
Participates in small-group discussion of reasons why details were left out.	No	Somewhat	Yes
Identifies relevant and important information and draws appropriate conclusions.	No	Somewhat	Yes
Participates in whole-class discussion.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

## Activity Eight

### A Modern-Day Phineas (Approximately 35 minutes)

**College and Career Readiness Standards: Reading Informational Text – RI.8.1, RI.8.2, RI.8.3; ELA Speaking & Listening – SL.8.1, SL 8.4**

**Now that we have studied the series of unfortunate (or perhaps fortunate) events that led to Phineas’ brain injury, let’s take a look at a modern-day Phineas. In 2012, a man by the name of Eduardo Leite would make the news for nearly escaping paralysis by millimeters.**

**We will be doing a small case study comparison between Gage and Leite. First, let’s get to the facts of Leite’s case by conducting a highlighted reading of the CBS News article on page 24 in the Academic Notebook.** Assign a highlighter color for each item: Who, What, Where, When, Why, and How. Cluster students together in order to share a set of colors for their reading. **Independently read and highlight your article.**

Allow approximately 10 minutes for this task. During this time, walk around and ask students to justify their highlights.

**Now, partner up with a peer sitting close to you. Together, you will be comparing your highlights and having a small discussion about any highlights that didn’t match. Can you come to an agreement?**

Allow students three to five minutes to discuss their highlighted reading.

**Let's move on to analyzing this case further and comparing it with our original case of Phineas Gage. Using the graphic organizer in your Academic Notebook on page 25, illustrate Phineas' injury as well as Leite's injury side by side.**

Allow students approximately five minutes to sketch both injuries using both texts as a reference point.

**Now, let's fill in the individuals' case specifics in the corresponding columns of the comparison (Academic Notebook, p. 26). You may do this with your case study partner. For Phineas' side, please remember to cite information from the text by quoting text and including page numbers.**

Allow students approximately seven to 10 minutes to complete this task.

**It is time for our group meeting and discussion regarding these two cases. Let's talk about each row's criteria and our evidence from each case, and determine similarities and differences between the cases. We will fill in this analysis column together through our discussion.**

The teacher may choose to project responses using an ELMO/projector. Discuss the graphic organizer once it is completed, focusing on connections between the text and the analysis.

## Assessment

---

### Outcome 8:

Students will draw conclusions based on evidence found in both a supplemental text and the central text.

Evaluation Rubric			
Highlights relevant material.	No	Somewhat	Yes
Completes graphic organizer.	No	Somewhat	Yes
Participates in partner and group discussions, making connections between text and analysis.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

Teacher  
Checklist

Use this list to ensure that you have completed all of the lesson components

1. Guided students through the brain dominance activity.
2. Conducted the class polls on brain dominance and discussed the results.
3. Instructed students to complete the head silhouettes and posted student silhouettes in the classroom.
4. Discussed the overview and expectations for the course.
5. Read aloud the first three paragraphs of *Phineas Gage* and asked students to make a prediction answering the question “Was Phineas lucky or unlucky?”
6. Assigned students to read the remainder of pages 2-10, ending with the paragraph “His death seems just a matter of time now” and to complete the reading log for those pages in the Academic Notebook.
7. Had students read the article “What Happens in the Brain After a Concussion” in the Academic Notebook and complete the chart independently and as a class.
8. Asked students to revisit page 3 in *Phineas Gage* where the author describes the process Phineas follows for blasting and to complete the chart independently and together using a projector or white board.
9. Discussed the prompt for the Brain Health Symposium, including the assignment description and brain health station task sheet.
10. Discussed annotation and modeled annotating a passage from *Phineas Gage*.
11. Discussed new interpretations and meanings students gained through the annotation experience.
12. Shown the Power point on parallelism and modeled the first sentence in the Academic Notebook.
13. Discussed the answers to the parallelism practice in the Academic Notebook.
14. Conducted the parallel structure activity in which students write and share original sentences that follow parallel structure.
15. Asked students to apply their knowledge of parallelism to two passages from *Phineas Gage* and to discuss their answers.
16. Read and discussed the newspaper account from 1848 and conducted the group activity.
17. Had students read and highlight the CBS news article on Eduardo Leite and complete the graphic organizer in the Academic Notebook.
18. Discussed the specifics of Gage’s and Leite’s cases.

## Lesson 2

# It Takes A Village to Study the Brain

### Overview:

In this lesson, students will focus on reading pages 10 through 15 of *Phineas Gage*, as well as develop active reading strategies that connect the central text to supplemental texts, research domain-specific vocabulary, perform mini presentations to the class, and compose writing comparing texts. In Activity 1, students will community read from the central text, pulling key terms from the reading and noting them on a T-chart. They will conference with other students to obtain other key terms they may have overlooked; then, they will read the supplemental text “Antibiotics Can’t Keep Up with Nightmare Superbug” placing key terms on the right side of the T-chart. Students will then compare terms from both texts and compose a paragraph to reflect that comparison. Next, in Activity 2, students will research and present on scientific discoveries and corresponding leaders in science. Using the Limelight Card task, they will work collaboratively to provide their peers with additional information regarding domain-specific terms mentioned in a passage from *Phineas Gage*. Overall, this lesson will start building the groundwork for the summative activity — the symposium.

### Outcomes:

1. Students actively read informational text, highlighting key terms and annotating text.
2. Students compare central ideas in two informational texts.
3. Students compose writing that uses domain-specific vocabulary from informational texts, cite informational texts within that writing, and compare ideas presented in informational texts.
4. Students work collaboratively to read texts and employ active reading strategies.
5. Students research domain-specific ideas from texts.
6. Students collaborate on mini presentations to whole-class audiences.

## College and Career Readiness Standards (CCRS)

### Reading:

---

- 1 Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- 2 Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.

### Writing:

---

- 4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- 7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

### Speaking and Listening

---

- 4 Present information, emphasizing salient points with pertinent descriptions and details and using appropriate eye contact, adequate volume, and clear pronunciation.

LDC

Skills Activity List

### Skill Cluster 2: Reading Process

---

- 1 Ability to actively read and annotate informational texts
- 2 Ability to define and understand the context of domain-specific vocabulary
- 3 Ability to compare central ideas from two informational texts
- 4 Ability to apply collaborative reading strategies

### Skill Cluster 4: Writing Process

---

- 1 Ability to compose writing that correctly uses domain-specific vocabulary
- 2 Ability to compare ideas from multiple texts

### Materials

- Academic Notebook
- Copies of *Phineas Gage: A Gruesome but True Story About Brain Science*
- Website article titled “Antibiotics Can’t Keep Up With ‘Nightmare’ Superbug”  
<http://www.npr.org/2013/10/22/239247134/antibiotics-cant-keep-up-with-nightmare-superbugs>
- Research materials (Internet , books, etc.)
- Cloze Note Guide
- Limelight Activity Instructions (SREB website resources)

**Time frame:** 230 minutes

### Activity One

All Together Now Informational Text Reading and Summaries (Approximately 90 minutes)

**College and Career Readiness Standards: ELA Reading Informational Texts – RI.8.1, RI.8.2; Writing – W.8.4; Language – L.8.4**

**How much can the science community help Phineas? Well, not too much right now. During our reading of pages 10 to 15 in our text, we will learn the stance of science at the time regarding Phineas’ injury. As you are reading, make a list of five words or phrases that could be considered key to understanding the text. Also as you read, annotate your text using the chart on page 28 of the Academic Notebook.**

Students may read pages 10 to 15 (“...harm with postsurgical infections”) with a partner or in a small group. Students should annotate as they read and also write down five key terms or phrases in the left side of the T-chart in their Academic Notebooks.

**Let’s share words or phrases we collected from our reading. Add two new words or phrases from your peers to your list.**

Students share words or phrases and add two new words or phrases to their personal list on the left side of the T-chart in their Academic Notebooks.

Place students in partner pairs or in groups of three; have them read the article titled “Antibiotics Can’t Keep Up With ‘Nightmare’ Superbug” in their Academic Notebooks (pages 29-30).

**In the portion of text we read in *Phineas Gage*, we learned how science was developing regarding some of the medical issues that Phineas is encountering or may encounter during his time. In this article about antibiotics, we connect the bridge between Phineas’ time and our time in regard to some of the same science concerns.**

**With your partner/group, alternate reading the article by paragraph. When you finish, write as many words or phrases from the article that represent key ideas/ main points as you can find; write these on the right side of the T-chart.**

Students will read article in groups/pairs and note key words and phrases on blank paper.

**Now that you have both columns filled out in your T-chart, let’s talk about some of the similar words or phrases you collected from both texts. Circle and draw connecting lines to those similar words or phrases.**



Students share similar words/phrases/concepts that they may have collected from both texts.

**Let's compare the information in these texts. What does it mean to compare? Can anyone describe the process of comparing using a personal example?**

Students share responses. **Good examples. Remember, comparing is when you note the differences and similarities of two or more items. Using your T-chart and circled items, compose a paragraph using the template on page 31 comparing the advancements of science in Phineas' time to our time. Use the key words/phrases that you collected from your readings; be sure to cite your information.**

Students compose paragraph using the template on page 31 and share responses.

## Assessment

### Outcome 1:

Students will actively read informational text highlighting key terms and annotating.

### Outcome 2:

Students will compare central ideas in two informational texts.

### Outcome 3:

Students will compose writing that uses domain-specific vocabulary from informational texts, cite informational texts within that writing, and compare ideas presented in informational texts.

Evaluation Rubric			
Highlights key terms and annotates text, making connections to self, text, and world.	No	Somewhat	Yes
Completes T-chart for two texts, with key ideas and main points.	No	Somewhat	Yes
Composes complete comparison paragraph.	No	Somewhat	Yes
Participates in partner and group discussions.	No	Somewhat	Yes
<b>Total Points</b>	<b>24</b>		

## Activity Two

### Limelight Science Presentations (Approximately 140 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI8.1; Writing W8.7; ELA Language – L8.4; ELA Speaking & Listening – SL8.4**

**So far in our text, we have been introduced to several science terms that will be important in the rest of the text. In order to better understand these science terms and concepts, we need to become experts; therefore, in groups, you will be taking the limelight on a certain topic. Limelight means that you are the center of attention for your presentation.**

**Each group will receive a topic related to our reading from pages 10 to 15. Use the graphic organizer on page 32 to focus your work and research. You will have today and tomorrow to prepare for your three-minute Limelight presentation. Review expectations and assessments for the presentations to ensure understanding and boost engagement.**

**Let’s assign groups of three to four students a topic.**

Teacher will group students in small groups of three to four students; assign each group one of the following topics: blood-brain barrier, bacteria, infection/sepsis, microscope/ Robert Hooke, cells, Anton van Leeuwenhoek/Animalcules, antibiotic, Louis Pasteur/ germs, Joseph Lister/sterile surgery.

Allow students the remainder of the class and the next class (total of 90 minutes) to research and prepare for their Limelight presentations. Suggest they practice their presentations prior to speaking in front of the class.

**At the beginning of the next class, say, “We will listen to each group as you show us your expert knowledge in the Lime Light! While we are listening to each group, we will fill in the Cloze Note Guide.”**

Allow students 7 to 10 minutes to prep for Limelight presentations. Randomly draw topics to determine order of presentation. Students should be able to complete presentations within a 45-minute period. Pause between each presentation for students to complete Cloze Note Guide in their Academic Notebooks (pages 33-34) for that presentation.

## Assessment

### Outcome 4:

Students will work collaboratively to read texts and employ active reading strategies.

### Outcome 5:

Students will research domain-specific ideas from texts.

### Outcome 6:

Students will collaborate on mini presentations to whole-class audiences.

Evaluation Rubric			
Participates in group reading of assigned texts.	No	Somewhat	Yes
Contributes to research for Limelight presentation.	No	Somewhat	Yes
Contributes to planning Limelight presentation.	No	Somewhat	Yes
Completes Limelight graphic organizer.	No	Somewhat	Yes
Successfully presents Limelight topic.	No	Somewhat	Yes
<b>Total Points</b>	<b>30</b>		

**Teacher  
Checklist**

Use this list to ensure that you have completed all of the lesson components

1. Assigned students to community read pages 10 to 15 and to write down five key terms or phrases in the left side of the T-chart in their Academic Notebooks.
2. Had students share words or phrases and add two new words or phrases to their personal list on the left side of the T-chart in their Academic Notebooks.
3. Placed students in partner pairs or in groups of three and asked them to read the article “Antibiotics Can’t Keep Up With ‘Nightmare’ Superbug” and note key words and phrases.
4. Discussed similar words or phrases collected from both texts as well as the process of comparison.
5. Asked students to compose a paragraph using their T-chart and circled items and using the key words/phrases that they collected from their readings.
6. Explained the Limelight presentations.
7. Grouped students in small groups of three to four and assigned each group one of the following topics: blood-brain barrier, bacteria, infection/sepsis, microscope/Robert Hooke, cells, Anton van Leeuwenhoek/Animalcules, antibiotic, Louis Pasteur/germs, Joseph Lister/sterile surgery.
8. Discussed the Cloze Note Guide.
9. Had students give their Limelight presentations.
10. Asked students to read pages 15-19 of the central text and to complete the reading log in the Academic Notebook for those pages.

## Lesson 3

# A Basis for Comparison

### Overview

In the third lesson for the English unit focusing on the complexities of the human brain and what it means to be human, students will read pages 15-22 of the central text and complete a reading log based on their reading. Next, they will read a primary source document and use it to examine two accounts of Phineas' accident and the events that occur immediately after it, with particular attention paid to purpose and audience and to the skill of annotation. Students will consider why each author chose to include or omit details based on his purpose and audience. To further their understanding of Phineas' injury, students will read a newspaper article titled "Frontal Lobe Dysfunction Explains Some Behaviors, Doctors Told" and highlight information regarding behaviors. Using a graphic organizer, they will then compare Phineas' behavior as it is explained in the central text with the behaviors mentioned in the article, and discuss their findings in both small-group and whole-class discussions. Students will then study both teacher- and student-selected vocabulary words, collecting both definitional and contextual information from the central text, and will participate in a process of teaching the words to other students, sorting them into categories, and developing rationales for those categories.

### Outcomes

1. Students read pages 15-22 of the central text and complete a reading log based on those pages.
2. Students read and annotate a primary source document and then compare and contrast its content to information in the central text so as to understand the role that audience and purpose play in informational text.
3. Students read and discuss informational text in order to better understand the nature of Phineas' injury.
4. Students apply strategies for locating words in an informational text that are unfamiliar to them and determine the meaning of those words, using both context clues and dictionaries.

## College and Career Readiness Standards (CCRS)

### Reading

---

- 1 Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- 2 Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.
- 3 Analyze how and why individuals, events, or ideas develop and interact over the course of a text.
- 4 Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
- 9 Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
- 10 Read and comprehend complex literary and informational texts independently and proficiently.

### Writing

---

- 2 Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

### Speaking and Listening

---

- 1 Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

### English Language

---

- 4 Determine or clarify the meaning of unknown and multiple meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general specialized reference materials, as appropriate.

LDC

Skills Activity List

### Skill Cluster 2: Reading Process

---

- 1 Ability to annotate primary source documents
- 2 Ability to compare details from a primary source document to another source
- 3 Ability to define words from informational texts and identify their purpose

### Materials

- Academic Notebook
- *Phineas Gage: A Gruesome but True Story About Brain Science*
- The letter “Recovery From the Passage of an Iron Rod Through the Head” Harlow, John. “Passage of an Iron Rod Through the Head.” - Wikisource, the Free Online Library. 1 Jan. 1848. Web. 1 Apr. 2015. <[https://en.wikisource.org/wiki/Passage\\_of\\_an\\_Iron\\_Rod\\_Through\\_the\\_Head](https://en.wikisource.org/wiki/Passage_of_an_Iron_Rod_Through_the_Head)>
- The article “Frontal Lobe Dysfunction Explains Some Behaviors, Doctors Told” Discoe, Connie Jo. “Frontal Lobe Dysfunction Explains Some Behaviors, Doctors Told.” *McCook Gazette*. 21 November 2007. Web. 15 May 2015. <<http://www.mccookgazette.com/story/1292496.html>>
- Highlighters
- Index cards and markers
- Chart paper

**Time frame:** 140 minutes

### Activity One

#### Gathering Details (Approximately 20 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text --RI.8.1, RI.8.2, RI.8.10; ELA Writing – W.8.2**

**Read pages 15-22 of *Phineas Gage*. Complete the graphic organizer in the Academic Notebook on page 36.**

Students can do this in class or as a homework assignment.

### Assessment

#### Outcome 1:

Students will read pages 15-22 of the central text and complete a reading log based on those pages.

Evaluation Rubric			
Includes significant details from the text in the reading log.	No	Somewhat	Yes
Accurately identifies central idea in the summary.	No	Somewhat	Yes
<b>Total Points</b>	<b>12</b>		

Activity Two

Comparing Two Accounts (Approximately 20 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.3, RI.8.9, RI.8.10; ELA Speaking & Listening – SL.8.1**

**Accounts of the same event or person often have conflicting or additional details and facts. An author chooses details based on his or her purpose and audience. Whenever we speak or write, we should always have a specific purpose and audience in mind. You will examine two accounts of Phineas’ accident and the events that occur immediately after it. The first is an excerpt from a letter that Dr. Harlow wrote to the *Bulletin of the Massachusetts Medical Society* in 1868. The second is from the central text.**

Tell students they will now read the excerpt from the letter “Recovery From the Passage of an Iron Rod Through the Head,” located in the Academic Notebook on page 37.

**Use the annotating skills you learned in Lesson 1 to identify important information that Dr. Harlow shares with the editor of the *Boston Medical and Surgical Journal*. Look specifically for information about the medical treatment Dr. Harlow provides as well his notes about Phineas’ behavior.**

Allow approximately 10 minutes for this task; during this time, circulate and assist students as they annotate the excerpt. Ask students to justify their highlights.

**Now re-read pages 15–19 in the central text, beginning with the paragraph that begins “None of the progress...” and ending with “...to regain his full powers.” Pay close attention to the specific details that recount Dr. Harlow’s actions and Phineas’ behavior.**

When they finish reading, direct students to their Academic Notebooks (page 38) where they are to identify at least five details that are included in Dr. Harlow’s account in the *Bulletin of the Massachusetts Medical Society* that are not in the Fleischman text. When they finish, ask them to discuss their details with a shoulder partner. Allow students about five minutes to complete their discussion. Ask students to report out to the class the details they found. List responses using an ELMO, projector, or white board. Allow about 10 minutes for the whole-class discussion.

Next, refer students to the questions in the Academic Notebook on page 39 and lead a class discussion on these questions.

- **What is Fleischman’s purpose in describing Phineas’ accident? Who is his audience?**
- **What is Harlow’s purpose in writing a letter to the *Bulletin of the Massachusetts Medical Society*? Who is his audience?**
- **Considering his audience and purpose, why do you think Fleischman left these details out of his text?**
- **Why did Harlow include them?**
- **How do these additional details impact your understanding of the central text?**

Allow approximately 10 minutes for this discussion.

## Assessment

### Outcome 2:

Students will read and annotate a primary source document and then compare and contrast its content to information in the central text so as to understand the role that audience and purpose play in informational text.

Evaluation Rubric			
Annotates text based on directions, making connections to self, text, and world.	No	Somewhat	Yes
Identifies details in Harlow’s account that are not in the Fleischman text.	No	Somewhat	Yes
Participates in partner and group discussions.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

### Activity Three

### A Deeper Understanding (Approximately 65 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.3, RI.8.9, RI.8.10; ELA Speaking & Listening – SL.8.1**

**Phineas’ story has provided doctors with a great deal of information about the function of the frontal lobe. Since Dr. Harlow’s initial articles and analysis, more research and understanding has come about regarding frontal lobe dysfunction, which can be caused by a variety of conditions, not just injuries.**

Tell students they will now read the excerpt from the article “Frontal Lobe Dysfunction Explains Some Behaviors, Doctors Told” located in the Academic Notebook pages 40-41. Direct them to look specifically for information about the behaviors exhibited by people who have this condition. Ask them to highlight any behaviors they find mentioned in the text. Allow approximately 20 minutes for this task.

**Now re-read pages 19–22 in the central text, beginning with the paragraph that begins “Ten weeks after the accident...” and ending with “...for 20 years.” Pay close attention to the specific behaviors Phineas exhibits as revealed by the author and the quotes from Dr. Harlow.**

When they finish reading, divide students into small groups. Assign each group either the article or the central text. Direct students to page 42 in their Academic Notebooks, where they are to complete the top half of the table that compares Phineas’ behavior with the behavior mentioned in the article. They are only to complete the list for the text their group is assigned. Allow 15 minutes for this activity.

Create new groups with representatives from both texts. Ask the students to share their lists so that the top half of the chart is completed. Then ask them to discuss the two questions at the bottom of the table on page 42. Allow about 20 minutes for this activity.



Lead a class discussion on these questions.

- **What behaviors do people with frontal lobe damage have that are similar to Gage’s strange behavior?**
- **How does this article help us understand what Gage’s doctors did not understand?**

Allow approximately 10 minutes for this discussion.

## Assessment

### Outcome 3:

Students will read and discuss informational text in order to better understand the nature of Phineas’ injury.

Evaluation Rubric			
Highlights specific behaviors that Phineas exhibits in the text.	No	Somewhat	Yes
Completes table in Academic Notebook.	No	Somewhat	Yes
Participates in small-group and whole-class discussion.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

### Activity Four

### Vocabulary (Approximately 50 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.4; ELA Speaking and Listening – SL.8.1; ELA Language L.8.4**

Ask students to open their Academic Notebooks to page 43 titled “Vocabulary from “Horrible Accident” in Vermont.” Tell students that they will now work with a list of vocabulary pulled from this chapter, as well as their own self-selected vocabulary words from the chapter, to reinforce the importance of using the context to help them understand how the word is being used in the text.

FROM THE STUDENT ACADEMIC NOTEBOOK p 43

Choose ONE of the words from the list in the box below and ONE unfamiliar word from “‘Horrible Accident’ in Vermont.” For each of your words, complete the chart below. Remember to use the context of the word (the sentence in which it is found) to help you understand the dictionary definition.

Choice words and the page numbers on which they can be found:

foreman p. 1	forge p. 3	laterally p. 8	dresses p. 9
delirious p. 10	fundamental p. 11	gangrene p.13	colonize p. 13
array p. 13	carbolic acid p. 15	imbalance p.17	intrigued p. 20
vulgar p. 20	irreverent p. 22	deference p. 22	

**Model Word:**

**List Word:**

Word from the list:	Rate My Understanding (circle one):
foreman	Know It    Sort of Know It Don't Know It at All
<b>My Guess On Meaning:</b>	
<i>It has the word “man” in it, so I guess it has something to do with a person. The prefix “fore” often means something that is in the front, so perhaps this person is in the front part of something.</i>	
<b>Dictionary Definition (include the part of speech):</b>	
<i>Noun: A worker, especially a man, who supervises and directs other workers.</i>	
<b>Context (the sentence in which the word appears and the page number):</b>	
<i>“Phineas is the foreman of a track construction gang that is in the process of blasting a railroad right-of-way through granite bedrock near the small town of Cavendish, Vermont.”</i>	
<b>Does the dictionary definition fit the context of the word? If not, what definition does fit? What clues are in the sentence to help you understand the meaning of the word from context?</b>	
<i>Yes, it fits because Phineas is working on the railroad. The words “construction gang” are a clue.</i>	
<b>Restate or explain the new word in your own words:</b>	
<i>A foreman is a person who is basically in charge of other people, like a boss.</i>	
<b>Create a representation of the word (a picture or symbolic representation):</b>	

After modeling this vocabulary work for students, ask them to work on their own in their Academic Notebooks to complete the chart for each of the two words that they have chosen. Remind students that they should choose two words that are unfamiliar to them: one from the list provided and one from the chapter.

When students have completed their charts, ask them to write their two words on index cards and to write both the definition and the context (i.e., the sentence from the chapter in which the word is provided) on the back. Students will then work with a small group of approximately three to four students to introduce their group members to the meaning of the words they collected, by presenting the word, its context from *Phineas Gage*, and its definition, as well as their own understanding of the word in its context. After each student in the small group has presented his or her words, ask the students to participate in an open sort.

Give students a large sheet of chart paper or other material on which they can write their categories and the words they placed in those categories. This sorting process requires that students talk about the meanings of the words and gives them meaningful exposure to the words and their use in the text.

Ask each group to report out to the whole class on the categories they developed and how the words they have selected fit in those categories.

Remind students they will continue to collect vocabulary words from the texts they read and that it is important they learn to notice how word knowledge can contribute to their comprehension of texts and how to find the meanings of words unfamiliar to them.

Ask students to review the words they studied in their small group and to pull from those words their TOP FIVE words. The words they choose as their TOP FIVE should be those that carry particular importance in terms of the content of Chapter One. Ask each group to report out the words they chose and why they chose them, i.e., in what way do their TOP FIVE words connect to or remind them of the content of Chapter One. Make sure the words chosen by the students as TOP FIVE are placed on the Phineas Gage vocabulary word wall chart.

Assign students to read pages 23–34 and to complete the graphic organizer for those pages in the Academic Notebook on page 45. Check that students have completed the reading before the next lesson. Use the rubric on page 29 of the teacher’s guide to assess the students’ work.

## Assessment

### Outcome 4:

Students will apply strategies for locating words in an informational text that are unfamiliar to them and determining the meaning of those words, using both context clues and dictionaries.

Evaluation Rubric			
Identifies vocabulary words and the context from which the words are taken, and notes their denotative meaning and their meaning in the context of the passage(s).	No	Somewhat	Yes
Rates their understanding of the words.	No	Somewhat	Yes
Restates/explains vocabulary word in own words and creates visual representation.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

### Teacher Checklist

Use this list to ensure that you have completed all of the lesson components

1. Assigned and discussed the letter “Recovery From the Passage of an Iron Rod Through the Head,” as well as the corresponding section of the central text, ensuring students understand how purpose and audience correlate to the inclusion and omission of details in the texts.
2. Assigned the article “Frontal Lobe Dysfunction Explains Some Behaviors, Doctors Told” and discussed similar behaviors mentioned in both this text and *Phineas Gage*.
3. Modeled vocabulary study for students, using a sample vocabulary word from the list for Chapter Two.
4. Asked students to collect vocabulary information, share it with a small group, carry out a sorting process, and share their categories with the whole class.
5. Assigned reading and reading log for pages 23-34.

## Lesson 4

# The Nitty Gritty of the Brain

### Overview

In this lesson, students will be focusing on the reading of pages 23 through 34 of *Phineas Gage: A Gruesome but True Story About Brain Science* while developing working knowledge of the parts and corresponding functions of the brain, creating analogies and descriptions of the brain's functions, and designing activities that serve as brain exercises, thus showcasing that knowledge of the parts and functions of the brain. In Activity 1, students will label a wearable brain graphic organizer with working definitions; afterwards, with a partner, students will play a version of Twister with identifying parts on the brain helmet graphic organizer. In Activity 2, students will carry the knowledge from Activity One into the actual reading of *Phineas Gage*; they will also watch a TED ED video, "What If We Could Look Inside Human Brains?" and complete an Listener's 3-2-1 activity. Students will combine the information from the reading and the video to compose an analogy paragraph describing the brain. In Activity 3, students will compose a brief metaphor or simile describing the process of neurons firing, as seen in the video from Harvard Professor Adam Cohen. At the conclusion of this lesson, students will be familiar with the brain and some of its major processes.

### Outcomes

1. Students actively read informational texts using graphic organizers.
2. Students compose working definitions to be used in discussion and writing tasks.
3. Students locate parts of the brain using a graphic organizer and kinesthetic game.
4. Students actively watch short pieces of media using listening guides to record information.
5. Students read pages 23-34 of the central text.
6. Students learn the term "analogy" and be able to compose an analogy in the form of a paragraph.
7. Students understand the terms "metaphor" and "simile" and will compose an example using information from the central text.
8. Students reexamine the prompt and begin to determine topics and cite information from texts they have read up to this point.

## College and Career Readiness Standards (CCRS)

### Reading

---

- 2 Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- 5 Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
- 9 Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

### Writing

---

- 2 Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
- 8 Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

### English Language

---

- 4 Determine or clarify the meaning of unknown and multiple meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general specialized reference materials, as appropriate.
- 5 Demonstrate understanding of figurative language, word relationships and nuances in word meanings.
- 6 Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

LDC

Skills Activity List

### Skill Cluster 2: Reading Process

---

- 1 Ability to actively read informational texts by completing graphic organizers
- 2 Ability to develop working definitions of key terms for use in writing
- 3 Ability to actively view video and take notes

### Skill Cluster 3: Transition to Writing

---

- 1 Ability to compose an analogy
- 2 Ability to understand the terms “simile” and “metaphor,” and compose examples based on the central text

### Materials

- Academic Notebook
- Copies of *Phineas Gage: A Gruesome but True Story About Brain Science*
- Brain helmet graphic organizer
- White board
- Ted Ed video: “What If We Could Look Inside Human Brains?”  
<http://ed.ted.com/lessons/what-if-we-could-look-inside-human-brains-moran-cerf>
- Video of “Neurons Firing” from Harvard Professor Adam Cohen [https://video.search.yahoo.com/yhs/search;\\_ylt=A0LEVu5b1sVWvh0A3mMnnlIQ;\\_ylu=X3oDMTEyY2FnNWxmBGNvbG8DYmYxBHBvcwMxBHZ0aWQDQjE2NjFfMQRzZWMDc2M-?p=Neurons+Firing+Harvard+Professor+Adam+Cohen&fr=yhs-mozilla-003&hspart=mozilla&hsimp=yhs-003](https://video.search.yahoo.com/yhs/search;_ylt=A0LEVu5b1sVWvh0A3mMnnlIQ;_ylu=X3oDMTEyY2FnNWxmBGNvbG8DYmYxBHBvcwMxBHZ0aWQDQjE2NjFfMQRzZWMDc2M-?p=Neurons+Firing+Harvard+Professor+Adam+Cohen&fr=yhs-mozilla-003&hspart=mozilla&hsimp=yhs-003)

**Time frame:** 120 minutes

### Activity One

### Brain Twister Helmet (60 minutes)

#### College and Career Readiness Standards: ELA Language – L.8.4, L.8.6

**Today, we are all going to hold and study our own brains — in a manner of speaking. Using the brain hat graphic organizer, we are going to study the brain by labeling parts of the brain, providing working definitions, and finding connections to Phineas. This activity will help you understand some of the brain-related articles we will read later in this unit.**

Remind students to get a copy of the text while they distribute the brain hat graphic organizer.

**Using the images from your text on pages 28, 29, and 31, you will label your blank copy of the brain hat on page 47 in the Academic Notebook; afterwards, use the glossary to create working definitions for those labeled parts. A working definition includes your version (in your own words) of how that part of the brain functions, where it is located, and other important information. Working definitions are typically concise or shorter, more efficient ways of describing something.**

Scaffold this by labeling a part of the brain and making a working definition. For the next part, have students create a working definition for the labeled part. Students will individually finish this graphic organizer.

**Now, find a shoulder partner. When I read you a working definition, find and touch that spot on your partner’s hat. Think of this as the brain version of the Twister game.**

Read the various working definitions for the parts of the brain. Students will point and touch these areas on their partners’ hats.

## Assessment

### Outcome 1:

Students will actively read informational texts using graphic organizers.

### Outcome 2:

Students will compose working definitions to be used in discussion and writing tasks.

### Outcome 3:

Students will locate parts of the brain using a graphic organizer and kinesthetic game.

Evaluation Rubric			
Completes brain helmet graphic organizer.	No	Somewhat	Yes
Creates working definitions that reflect understanding of words.	No	Somewhat	Yes
Participates in Brain Twister.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

## Activity Two

### Understanding the Brain (Approximately 40 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.2, RI.8.5, RI.8.9; ELA Writing – W.8.2, W.8.8; ELA Language – L.8.5**

**Now that we have all of the pieces of the brain figured out, we need to learn how they all work together. Before we read the first part of Chapter Three, let's watch a Ted Ed video that gives a little insight as to how the brain functions.**

**While you are watching the Ted Ed video, complete the Listener's 3-2-1 in your Academic Notebook on page 48.**

Show Ted Ed video twice for student to have the chance to absorb the content and finish their Listener's 3-2-1.

Let students share responses to each portion of the Listener's 3-2-1; if an ELMO is available, let student report their different responses by writing in an enlarged copy of the chart and projecting it on the white board.

**Let's read the first part of Chapter Three.** Students can read with a partner or small group.

Guide the students in community reading pages 23-34, ending with "...the patient dies."

**Everyone refer back to the passage about the brain on page 27 that describes the brain as walnut, helmet, and cap. Let's reread that section.** Read this paragraph



aloud. **In your Academic Notebook on page 48, find another way to describe the brain in terms of function and structure. Get creative. Try to compose at least a five-sentence description. This type of description is referred to as an analogy – the comparing of two things for the purpose of further explanation.**

Allow students 7 to 10 minutes to compose their analogies in their Academic Notebooks. Students may share their analogies with the class.

## Assessment

### Outcome 4:

Students will actively watch short pieces of media using listening guides to record information.

### Outcome :

Students will read pages 23-34 of the central text.

### Outcome 6:

Students will learn the term “analogy” and be able to compose an analogy in the form of a paragraph.

Evaluation Rubric			
Completes Listener’s 3-2-1 for Ted Ed video.	No	Somewhat	Yes
Composes analogy paragraph.	No	Somewhat	Yes
<b>Total Points</b>	<b>12</b>		

## Activity Three

### Grow, Grow Neuron! (20 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.2, RI.8.5, RI.8.9; ELA Writing – W.8.2; ELA Language – L.8.5**

**As we read in the first half of Chapter Three on pages 32 to 34, neurons are nerve cells that fire impulses, or synapses, that ultimately control our learning, thinking, acting, and feeling. Think of these units and process as our control center. We even have electrical impulses traveling with small messages to help with those controls!**

**So, we have read what this process “looks like,” but what does “firing” really look like? Check out this video produced by Harvard Professor Adam Cohen; while the neuron is that of rat, the movement is very similar to that of a human. How would you describe the neuron firing to a peer who may not have had the benefit of this video? Use a metaphor or simile to assist you in this task.**

**To review, a metaphor compares two unlike items in definite terms, using “is” as the verb most times. A simile compares two items using “like” or “as” as the bridge between those two items. Compose a three-sentence description that includes either a metaphor or simile in your Academic Notebook on page 49.**

Allow students four to five minutes to compose this description; circulate and check responses for correct use of metaphors and similes. After students have finished composing their descriptions, allow them to share with the class. You may have students write these descriptions on copy paper or large adhesive notepaper to post around the room.

Ask students to read pages 34-42 beginning with “That’s why Phineas…” and to complete the reading log on page 50 of the Academic Notebook Assess the students’ reading logs using the rubric on page 29 of the Teacher’s Guide.

## Assessment

### Outcome 7:

Students will understand the terms “metaphor” and “simile” and will compose an example using information from the central text.

Evaluation Rubric			
Writes a three-sentence description that includes an appropriate simile or metaphor.	No	Somewhat	Yes
	<b>6</b>		

### Teacher Checklist

Use this list to ensure that you have completed all of the lesson components

1. Led students through the brain hat activity.
2. Shown the Ted Ed video twice for students and instructed them to complete the Listener’s 3-2-1.
3. Discussed student responses to each portion of the Listener’s 3-2-1.
4. Guided students in community reading pages 23-34 ending with “...the patient dies.”
5. Instructed students to compose analogies for the brain in their Academic Notebooks.
6. Showed the video of neurons firing and instructed students to compose a three-sentence description using metaphors and similes, and gave opportunities to share their descriptions.
7. Asked students to read pages 34-42, beginning with “That’s why Phineas...”

## Lesson 5

# Taking Sides

### Overview

Students begin this lesson by reading a section from *Phineas Gage* to develop an understanding of the terms “Whole Brainers” and “Localizers.” This activity will prepare them for an argument they will write based on their understanding of the two terms. Next, students watch a Ted Ed video that will further help them understand the concepts of “Whole Brainers” and “Localizers,” as well as give them practice in making meaning from a visual text. After watching the video, students create a timeline of the scientific discoveries using a graphic organizer in their Academic Notebooks. After they have gathered evidence from the central text and watched the video, students write a short paragraph in which they take a side as either a whole brainer or a localizer, including at least three pieces of evidence to support their claim. After students write their paragraphs, they exchange papers with a partner, conduct a peer review, and then edit and revise their paragraphs before turning them in. Students will then study both teacher- and student-selected vocabulary words, collecting both definitional and contextual information from the central text, and will participate in a process of teaching the words to other students, sorting them into categories, and developing rationales for those categories.

### Outcomes

1. Students develop an understanding of the terms “Whole Brainers” and “Localizers” based on their reading of the central text.
2. Students read pages 34-42 and complete a T-chart based on these pages.
3. Students view a Ted Ed video on the “distributed model” and the “localistic model” of brain functions and create a timeline using a graphic organizer in their Academic Notebooks.
4. Students write an argument paragraph in which they take a side as a “whole brainer” or a “localizer,” including at least three pieces of evidence to support their claim.
5. Students peer edit each other’s paragraphs using a checklist.
6. Students revise their paragraphs according to the peer revision checklist and their partner’s suggestions.
7. Students apply strategies for locating words in an informational text that are unfamiliar to them and determining the meaning of those words, using both context clues and dictionaries.
8. Students re-examine the prompt and begin to determine topics and cite information from texts that have read up to this point.

## College and Career Readiness Standards (CCRS)

### Reading

---

- 1 Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- 2 Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- 3 Analyze how and why individuals, events, or ideas develop and interact over the course of a text.
- 4 Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
- 5 Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
- 9 Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

### Writing

---

- 1 Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
- 4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- 5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- 7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
- 9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

### Speaking and Listening

---

- 1 Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
- 4 Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

### English Language

---

- 4 Determine or clarify the meaning of unknown and multiple meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general specialized reference materials, as appropriate.

LDC

Skills Activity List

### Skill Cluster 2: The Reading Process

---

- 1 Ability to read and make comparisons between information from multiple texts
- 2 Ability to view media and create a timeline of the sequence of events
- 3 Ability to locate, define and use unfamiliar words from a text

### Skill Cluster 4: Writing Process

---

- 1 Ability to write a argumentative paragraph taking a side on a topic
- 2 Ability to peer edit a paper based on specified guidelines
- 3 Ability to revise writing based on editing and revising advice

#### Materials

- Academic Notebook
- Copies of *Phineas Gage: A Gruesome but True Story About Brain Science*
- White board or smart board
- T-chart in Academic Notebook
- Ted Ed video found at:  
<http://ed.ted.com/lessons/the-great-brain-debate-ted-altschuler#watch>
- Timeline in Academic Notebook
- Index cards and markers
- Chart paper

**Time frame:** 150 minutes

Activity One

“Whole Brainers” vs. “Localizers” (Approximately 35 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.2, RI.8.3; ELA Speaking & Listening – SL.8.1, SL.8.4; Language – L.8.4**

You will be reading a section from the central text (*Phineas Gage*) in order to work together to develop an understanding for what Fleischman calls “Whole Brainers” and “Localizers.” Remind students that making meaning from texts is part of the way in which students read texts in English classes. In addition, tell students that this activity will prepare them for the argument they will write based on their understanding of the two terms.

Write on the board or overhead the terms “Whole Brainers” and “Localizers.” Ensure that students understand what a “Whole Brainer” is and what a “Localizer” is. Read aloud the paragraph beginning with “That’s why Phineas interests the doctors” on page 34. Ask students to identify words and phrases that help define the term. Write these on the board. For example, point out the phrases “whole intelligence,” “interconnected mind,” and “vital force.” As a class, create a single definition of the term “Whole Brainer.” Ask students to write that term in their Academic Notebooks on page 52. Next, read the paragraph on page 35 that begins, “His opponents believe...” Again, have students identify words and phrases that help them understand what a “Localizer” is. For example, point out the phrases “localized function,” “specific functions,” and “correct positions.” Again, as a class, create a single definition of the term “Localizer” and ask students to write that definition in the Academic Notebook on page 52.

Next, divide the class into two groups: “Whole Brainers” and “Localizers.” Direct students to read the remaining pages of the chapter, which focus on these two concepts. Charge each group to be “watchdogs” for evidence from the central text that fits their side.

**On the T-Chart in the Academic Notebook on page 52, record evidence for your side.** When students finish gathering evidence from the central text, assign them to small groups of “Whole Brainers” and “Localizers” to share their evidence with one another. Ask them to decide their most convincing evidence and then to write it on chart paper. Ask each group to present their most convincing evidence to the class. While the “Whole Brainers” talk, the “Localizers” should record their evidence on the T-chart, and vice versa.

Assessment

**Outcome 1:**

Students will develop an understanding of the terms “Whole Brainers” and “Localizers” based on their reading of the central text.

**Outcome 2:**

Students will read pages 34-42 and complete a T-chart based on these pages.

Evaluation Rubric			
Identifies words and phrases that help to identify the terms “whole brainer” and “localizer.”	No	Somewhat	Yes
Participates fully in group work.	No	Somewhat	Yes
Completes the T-chart, identifying convincing evidence.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

**Activity Two**

**A Timeline of Events (Approximately 25 minutes)**

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.2, RI.8.3, RI.8.9; ELA Speaking & Listening – SL.8.1**

**Now you will watch a Ted Ed video that will further help you understand the concepts of “Whole Brainers” (referred to as the “distributed model” in the video) and “Localizers” (referred to as the “localistic model” in the video).** Explain to students that in addition to making meaning from written texts, they must also be able to understand and interpret information presented in visual texts, such as photos, videos, graphics, and advertisements.

Show the video, which can be found at:

<http://ed.ted.com/lessons/the-great-brain-debate-ted-altschuler#watch>.

**As you watch the video, pay close attention to the scientists and their theories/ discoveries. Then, fill in the blanks in the timeline on page 53 in your Academic Notebook. Doing so will give you a comprehensive view of how scientists moved from the whole brain theory vs. localizer debate to a better understanding of how the brain works.**

When students finish, have them turn to a shoulder partner and compare timelines. If they are missing information, tell them to add it to their timelines.

**Assessment**

**Outcome 3:**

Students will view a Ted Ed video on the “distributed model” and the “localistic model” of brain functions and create a timeline using a graphic organizer in their academic notebooks.

Evaluation Rubric			
Completes the timeline.	No	Somewhat	Yes
<b>Total Points</b>	<b>6</b>		

**Activity Three**

**Make Your Case (Approximately 40 minutes)**

**College and Career Readiness Standards: ELA Writing – W.8.1, 8.1B, W8.1E, W.8.4, W.8.5**

**Now that you have gathered evidence from the central text and watched a video on various theories about how the brain functions, write a short paragraph in which you take a side as either a whole brainer or a localizer. Use the evidence you have gathered to support your argument. Refer to the T-chart in Activity 1 and the timeline in Activity 2 as you gather support for your argument. Include at least three pieces of evidence to support your claim.**

**Before you begin writing, let’s discuss the “Yes MAAM” method for developing a paragraph of argumentation. Turn to page 54 in your Academic Notebook.**

Discuss the “Yes MAAM” paragraph structure with students. If needed, model writing a paragraph that follows this structure. After discussing and modeling the method, ask students to write a paragraph stating their argument at the bottom of the page.

After students write their paragraphs, have them exchange papers with a partner and conduct a peer review using the checklist provided in the Academic Notebook on page 86. After the review, instruct students to make revisions and edits based on the peer feedback.

**Assessment**

**Outcome 4:**

Students will write an argument paragraph using “Yes MAAM” in which they take a side as a “whole brainer” or a “localizer,” including at least three pieces of evidence to support their claim.

**Outcome 5:**

Students will peer edit each other’s paragraphs using a checklist.

**Outcome 6:**

Students will revise their paragraphs according to the peer revision checklist and their partner’s suggestions.

Evaluation Rubric			
Takes a clear position and includes at least three pieces of evidence in argument paragraph.	No	Somewhat	Yes
Completes peer revision checklist for another student.	No	Somewhat	Yes
Revises paragraph based on checklist.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		



Activity Four

Vocabulary (Approximately 50 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.2, RI.8.4; ELA Speaking and Listening RI.8.1; ELA Language – 8.4**

Ask students to open their Academic Notebooks to the page titled “Vocabulary from “What We Thought About How We Thought.” Tell students that they will now work with a list of vocabulary pulled from this chapter, as well as their own self-selected vocabulary words from the chapter, to reinforce the importance of using the context to help them understand how the word is being used in the text.

Ask students to work in their Academic Notebooks to complete the chart for each of the two words that they have chosen. Remind students that they should choose one word from the list provided and one word from the chapter that is unfamiliar to them.

When students have completed their charts, ask them to write their two words on index cards and to write both the definition and the context (i.e., the sentence from the chapter in which the word is provided) on the back. Students will then work with a small group of approximately three to four students to introduce their group members to the meaning of the words they collected, by presenting the word, its context from *Phineas Gage*, and its definition, as well as their own understanding of the word in its context. After each student in the small group has presented his or her words, ask the students to participate in an open sort.

Give students a large sheet of chart paper or other material on which they can write their categories and the words they placed in those categories. This sorting process requires that students talk about the meanings of the words and gives them meaningful exposure to the words and their use in the text.

FROM THE STUDENT ACADEMIC NOTEBOOK p 55

**Choose ONE of the words from the list in the box below and ONE unfamiliar word from “What We Thought About How We Thought” For each of your words, complete the chart below. Remember to use the context of the word (the sentence in which it is found) to help you understand the dictionary definition.**

Choice words and the page numbers on which they can be found:

Ether p. 24	Specimen p. 24	Equanimity p. 26
Cadaver p. 27	Singular p. 31	Involuntarily p. 37
Vital p. 37	Intolerable p. 38	Profane p. 38

Ask each group to report out to the whole class on the categories they developed and how the words they have selected fit in those categories.

Remind students they will continue to collect vocabulary words from the texts they read and that it is important they learn to notice how word knowledge can contribute to their comprehension of texts and how to find the meanings of words unfamiliar to them.

Ask students to review the words they studied in their small group and to pull from those words their TOP FIVE words. The words they choose as their TOP FIVE should be those that carry particular importance in terms of the content of Chapter One. Ask each group to report out the words they chose and why they chose them, i.e., in what way do their TOP FIVE words connect to or remind them of the content of Chapter One.

Make sure that the words chosen by the students as TOP FIVE are placed on the Phineas Gage vocabulary word wall chart.

Assign students to read pages 3-53, ending with “...concerns than Phineas Gage” and to complete the reading log for those pages in the Academic Notebook.

## Assessment

### Outcome 7:

Students will apply strategies for locating words in an informational text that are unfamiliar to them and determining the meaning of those words, using both context clues and dictionaries.

Evaluation Rubric			
Identifies vocabulary words and the context from which the words are taken, and notes their denotative meaning and their meaning in the context of the passage(s).	No	Somewhat	Yes
Rates their understanding of the words.	No	Somewhat	Yes
Restates/explains vocabulary word in own words and creates visual representation.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

**Activity Five**

**Revisiting the prompt (Approximately 20 minutes)**

**College and Career Readiness Standards: ELA Writing – W.8.7, W.8.9**

Ask students to open their Academic Notebooks to page 57 titled “Revisiting the Prompt.” Tell students that they will now start to narrow their focus for a Brain Health Symposium topic. Ask students to complete the graphic organizer as they plan their proposal. Make sure they cite evidence from both the central text and supplemental texts. You may want to brainstorm or provide a list of topics with the class.

**Assessment**

**Outcome 8:**

Students will reexamine the prompt and begin to determine topics and cite information from texts they have read up to this point.

<b>Evaluation Rubric</b>			
Explores appropriate topics.	No	Somewhat	Yes
Completes graphic organizer.	No	Somewhat	Yes
Connects text and page numbers for each topic.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

**Teacher  
Checklist**

Use this list to ensure that you have completed all of the lesson components

1. Ensured that students understand what a “Whole Brainer” is and what a “Localizer” is by reading aloud from the central text and creating definitions as a class.
2. Divided the class into two groups, “Whole Brainers” and “Localizers,” and have them complete the small-group discussion and T-chart.
3. Asked students to finish reading the chapter through page 42 and complete the reading log assignment in the Academic Notebook.
4. Shown the Ted Ed video on the “distributed model” and the “localistic model.”
5. Assigned students to complete the timeline based on the video and share their answers with a shoulder partner.
6. Asked students to write a short paragraph in which they take a side as either a whole brainer or a localizer.
7. Had students conduct a peer review of their paragraphs using the checklist provided in the Academic Notebook and then instructed students to make revisions based on the review.
8. Asked students to collect vocabulary information, share it with a small group, carry out a sorting process, and share their categories with the whole class.
9. Asked students to revisit the prompt for the Brain Health Symposium proposal assignment and guided them through the graphic organizer.

## Lesson 6

# Putting the Pieces Together

### Overview

In this lesson, students will use the CRAAP method to conduct research on P.T. Barnum's museum. They will use this same method to determine sources for the proposal they will write as the culminating project for this unit. For each source given in the Academic Notebook, students will determine its usefulness, using the CRAAP method, and complete a table in the Academic Notebook. Students will then share their findings in small-group discussions. Next in the lesson, students will revisit parallelism and review parallel structures, a skill they will need when writing paragraphs and their proposal. Students will read pages 47-48 and determine which sentences demonstrate parallel structure. They will then share their sentences with a partner and then as a class. The next activity involves sequencing events, a skill that students work on periodically during Unit 1. Using a graphic organizer, students revisit pages 49-53 and sequence the major events that led to Phineas' death. In the last activity of the unit, students will write an obituary for Phineas. Students begin this assignment by reading one or two obituaries on the *New York Times* website and listing on a graphic organizer types of information found in this type of writing. Next, they revisit earlier chapters of the book to find details for their obituary, including name, age, occupation, achievement; time, place, and cause of death; birthdate, birthplace, current residence, and survivors. After students finish their obituaries, they share them in small groups and share their rationales as to why certain life events were either included or excluded.

### Outcomes

1. Students read pages 43-53 ending with "...concerns than Phineas Gage" and complete the reading log in the Academic Notebook.
2. Students use the CRAAP method to determine a source's validity.
3. Students revisit parallelism and identify parallel structures in a portion of the central text.
4. Students sequence the events of Phineas' death using a graphic organizer.
5. Students write an obituary for Phineas Gage using significant details from his life.
6. Students share their obituaries in small groups, explaining their rationale for the details they selected or omitted.
7. Students peer edit a partner's obituary and revise their own obituary based on a peer review checklist.

## College and Career Readiness Standards (CCRS)

### Reading

---

- 1 Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- 2 Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- 3 Analyze how and why individuals, events, or ideas develop and interact over the course of a text.
- 5 Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
- 6 Assess how point of view or purpose shapes the content and style of a text.
- 9 Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
- 10 Read and comprehend complex literary and informational texts independently and proficiently.

### Writing

---

- 2 Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
- 4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- 5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- 7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
- 8 Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
- 9 Draw evidence from informational texts to support analysis reflection, and research.

### Speaking and Listening

---

- 1 Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

### Language

---

- 1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

LDC

Skills Activity List

### Skill Cluster 2: The Reading Process

---

- 1 Ability to read a text and maintain a reading log of important details and to summarize a section of text
- 2 Ability to examine a source for its validity
- 3 Ability to identify parallelism in assigned text
- 4 Ability to construct a sequence of events based on text reading

### Skill Cluster 4: Writing Process

---

- 1 Ability to write specialized text based on a model
- 2 Ability to share and justify a written product
- 3 Ability to peer edit a document and make revisions

#### Materials

- Academic Notebook
- Copies of *Phineas Gage: A Gruesome but True Story About Brain Science*
- P.T. Barnum website located at or printed copies of some of the links on the website
- CRAAP graphic organizer found in the Academic Notebook
- Sequence of events graphic organizer found in the Academic Notebook
- *New York Times* obituary website located at <http://www.nytimes.com/pages/obituaries/index.html>
- Obituary details graphic organizer found in the Academic Notebook
- Obituary prewriting graphic organizer found in the Academic Notebook
- Obituary peer editing checklist

**Time frame:** 180 minutes

**Activity One**

**Gathering Details (Approximately 30 minutes)**

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, 8.10; ELA Writing – W8.2**

**Read pages 43-53 of *Phineas Gage*, ending with “...concerns than Phineas Gage.” Complete the graphic organizer in the Academic Notebook. on page 59.**

Students can do this in class or as a homework assignment.

**Assessment**

**Outcome 1:**

Students read pages 43-53, with the paragraph ending “...concerns than Phineas Gage” and complete the graphic organizer in the Academic Notebook.

<b>Evaluation Rubric</b>			
Includes significant details from the text in the reading log.	No	Somewhat	Yes
Accurately identifies central idea in the summary.	No	Somewhat	Yes
<b>Total Points</b>	<b>12</b>		



Activity Two

Evaluating Evidence (Approximately 50 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.2, RI.8.3; ELA Writing – W.8.7, W.8.8, W.8.9**

According to Fleischman, Phineas exhibited himself at P.T. Barnum’s American Museum. However, there isn’t any definitive proof that Phineas actually went to the museum. The only “evidence” is a broadcast a century later and the information that Phineas’ mother, Hannah Gage, provided to Dr. Harlow. Professor Malcolm Macmillan, the world’s leading expert on Phineas Gage, attempts to track down sources that would validate the story, but he is unsuccessful.

Locating sources to verify information is a necessary skill in academics and in life. To give you some practice in this skill, you are going to use the CRAAP method to determine how useful and credible your sources would be if you were doing research on P.T. Barnum’s museum. CRAAP is an acronym that represents criteria needed for a source to be considered reliable. CRAAP stands for Currency, Relevance, Authority, Accuracy, and Purpose. Currency refers to the timeliness of the source – how up to date is it? When was the information published? Researchers always want to use the most current information, not information that is outdated and therefore no longer relevant. Relevance deals with how well the material relates to your topic and audience. Authority helps us determine the source’s credentials and qualifications. We use accuracy to evaluate a source in terms of bias and evidence. Lastly, we look at a source’s purpose to identify bias, propaganda, and the reason behind the publication of the information. Refer to the CRAAP chart in your Academic Notebook. You will use this same method to determine sources for the proposal you will write as the culminating project for this unit.

Now you will examine materials from a website about P.T. Barnum. These materials will give you some additional information about Barnum’s museum. For each source, pay close attention to information such as author, date, and audience. Then, determine its usefulness if you, like Professor Malcolm, were attempting to determine if Phineas was an exhibit at the American Museum. Complete the table in the

Academic Notebook for each source. You may not be able to answer all questions about each source, but if the information is provided, include it in your evaluation.

Model this activity using the following model. To show the website, go to:

<http://lostmuseum.cuny.edu/archive/barnums-museum-announcement-in-morning>

Source: “Barnum’s Museum.” *Announcement in Morning Courier and New York Enquirer*, April 14, 1860.


Barnum’s Museum, Announcement in *Morning Courier and New York Enquirer*, April 14, 1860


P.T. Barnum placed advertisements in many of the most popular newspapers of the day sometimes highlighting a specific exhibit. This ad, boasting 5,000 visitors daily, announced the newest attractions at the Museum.


BARNUM’S MUSEUM  
UNPRECEDENTED SUCCESS! DELIGHTED AUDIENCES! 5000 PEOPLE DAILY!  
SATURDAY, April 14. Among the curiosities last introduced is a life-size Wax Figure of A. W. HICKS.  
The celebrated WHAT IS IT?—pronounced by so many people to be the  
CONNECTING LINK BETWEEN MAN AND MONKEY still here.  
In THE EVENING, at 7 o’clock, Bouricault’s great drama of JEANNIE DEANS.  
Jeannie Deans, Miss Emily Mestayer, Effie Deane, Mrs. Prior, David Deans,  
Mr. Grave, Dumdedikes, Mr. Hadsway; Duke of Agyle, Mr. Bridgeman.  
Living black SEA LION, the grizzly BEAR, Samson; the Learned SEAL.

Admission, 25 cents; Children under 10, 15 cents.  
NOTICE TO BOYS—1000 living mice wanted for the Baby Anacondas.

  
HOME

  
ARCHIVE

  
CLASSROOM

© 2015 American Social History Productions, Inc. 

After modeling the CRAAP method with this source, have students review the next two primary sources on pages 60-64 in the Academic Notebook and complete the CRAAP graphic organizer. Remind student that the text accompanying the image on page 61 is reprinted more clearly on page 60.

Currency	Relevance	Authority	Accuracy	Purpose
<p>When was the information posted/ published?</p> <p>Has the information been revised/ updated?</p> <p>Is the information current or out-of-date for your topic?</p>	<p>Does the information relate to or answer your topic? Who is the intended audience?</p> <p>Would you be comfortable using this source for a more in-depth research task on this topic?</p>	<p>Who is the author/publisher?</p> <p>Are the author's/ publisher's credentials given?</p> <p>What are those credentials?</p> <p>Is the author qualified to write about this topic? How?</p> <p>Is there contact information to reach the author/publisher for further questions?</p>	<p>Where does the information come from? Sources? Can you verify sources?</p> <p>Is the information supported by evidence?</p> <p>Does the language or tone seem biased and/or free from emotion?</p>	<p>What purpose/ reason does this information serve?</p> <p>Is the purpose clear?</p> <p>Is the information fact, opinion, or propaganda?</p> <p>Does the point of view appear objective and impartial?</p> <p>Are there political, cultural, religious or personal biases?</p>
Currency	Relevance	Authority	Accuracy	Purpose
<p>Published April 14, 1860.</p> <p>Published in The Morning Courier and New York Enquirer.</p> <p>It has not been update or revised.</p> <p>It is current for my topic.</p>	<p>This advertisement shows the types of exhibits, so it helps me understand whether Phineas would be the type of exhibit Barnum would feature.</p> <p>The audience is people in New York who are looking for entertainment. I don't think it would lend itself to a more in-depth research project.</p>	<p>The author is P.T. Barnum. He is the owner of the museum. His credentials are not given. He is qualified to write this because he knows best about his exhibits.</p> <p>No contact information was given.</p>	<p>The information comes from an ad in the newspapers.</p> <p>There are no sources.</p> <p>The language is very biased because it is trying to persuade people to come to the museum.</p>	<p>The information is intended to advertise the museum. It boasts of the attractions and the fact that 5,000 "delighted" people visit daily.</p>

After students complete their individual analyses, place them into small groups and have them share their findings of the sources' validity.

## Assessment

### Outcome 2:

Students use the CRAAP method to determine a source’s validity.

Evaluation Rubric			
Completes the graphic organizers with relevant evidence and answers.	No	Somewhat	Yes
Participates in small-group share.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

### Activity Three

### Reviewing Parallelism (Approximately 20 minutes)

#### College and Career Readiness Standards: RI.8.5; ELA Speaking & Listening – SL.8.1; Language – L8.1

Tell students they are going to revisit parallelism. Review parallel structures with students. If necessary, revisit the PowerPoint.

#### FROM THE STUDENT ACADEMIC NOTEBOOK p 65

Sentences with equal parts should read in a smooth and balanced way. These equal parts should be parallel. That is, they should be in the same form. Sentences containing parts that are not parallel are faulty.

*Not parallel:* Nick decided to go to soccer practice after school and that he would study later.

*Parallel:* Nick decided to go to soccer practice after school and to study later.

*Parallel:* Nick decided that he would go to soccer practice after school and that he would study later.

*Not parallel:* Marcia likes to read science fiction books and seeing horror movies.

*Parallel:* Marcia likes reading science fiction books and seeing horror movies.

**Now look at pages 47-48 in *Phineas Gage*, beginning with the paragraph that begins, “Until Professor Macmillan...” and ends with “He knows his reins.”**

Read the passage to students or ask for a volunteer to read aloud. **Which sentences demonstrate parallel structure? Write them in the space provided on page 65 of the Academic Notebook. For each sentence, explain why it demonstrates parallelism.**

When they finish, ask students to turn to a shoulder partner and compare their answers. When they are done, discuss the sentences in a whole-group discussion.

## Assessment

### Outcome 3:

Students revisit parallelism and identify parallel structures in a portion of the central text.

Evaluation Rubric			
Correctly identifies examples of parallelism in the text.	No	Somewhat	Yes
Participates in partner and class discussion.	No	Somewhat	Yes
<b>Total Points</b>	<b>12</b>		

### Activity Four

### Sequencing Events (Approximately 20 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.2, RI.8.3, RI.8.5; ELA Speaking and Listening – SL.8.1**

Reread pages 49-53 in *Phineas Gage*, beginning with “In 1859…” and ending with “...his thirty-seventh birthday.

**Sequence the major events that led to Phineas’ death. Be sure to write each event in your own words. Some of the events are listed for you.**

**Turn to a shoulder partner and compare your lists. What events did you select that are similar? Different?**

Put the table from page 66 in the Academic Notebook on a projector or ELMO and discuss the sequence of events with students.

## Assessment

### Outcome 4:

Students sequence the events of Phineas’ death, using a graphic organizer.

Evaluation Rubric			
Accurately completes the graphic organizer.	No	Somewhat	Yes
Makes accurate inferences based on sequence of events.	No	Somewhat	Yes
<b>Total Points</b>	<b>12</b>		

## Activity Five

### Finishing Phineas' Story (Approximately 60 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.2, RI.8.5, RI.8.6; ELA Writing – W8.2, W8.4, W8.5; ELA Speaking & Listening – SL.8.1**

**An obituary is written about a deceased person. It typically describes accomplishments, important biographical details (such as date and place of birth and relatives), and other notable facts. Obituaries are important secondary sources that are frequently used for research. Consider them as a person's "final story."**

Have students visit the following website to view obituaries. Ask them to read one or two obituaries and list types of information found in obituaries. If students don't have access to the Internet, provide a copy of the obituary section of the local paper. Refer them to the Academic Notebook, page 67 to do this activity.

Refer students to this website: <http://www.nytimes.com/pages/obituaries/index.html>

**Write specific details from the obituary you read, and then classify them according to the type of information.**

**Now write an obituary for Phineas since one was never written. Be sure to include important details and accomplishments about his life. You will need to revisit earlier chapters of the book to find details for your obituary. Look for the following information:**

Name, age (preferably in the first graph)

Occupation, achievements or reason for notoriety

Time, place and cause of death

Birthdate, birthplace, current residence

Survivors (only immediate family)

Memberships in organizations, military service

Funeral and burial arrangements, donations

**Begin by prewriting and listing events, details, and accomplishments. Include the following information: name, age, occupation, achievements; time, place, and cause of death; birthdate, birthplace, current residence, and survivors.**

**Now write an obituary that follows the format we've examined in class.**

After students finish their obituaries, ask them to share them in small groups and share their rationales as to why certain life events were either included or excluded. Next, have them peer edit in their groups, using the checklist provided in the Academic Notebook on page 69 and then revise accordingly.

Ask students to read the central text beginning with "Half the world away..." on page 53 through the end of the chapter on page 64, and to complete the reading log for those pages in the Academic Notebook on page 71.

## Assessment

---

### Outcome 5:

Students write an obituary for Phineas Gage, using significant details from his life.

### Outcome 6:

Students share their obituaries in small groups, explaining their rationale for the details they selected or omitted.

### Outcome 7:

Students peer edit a partner's obituary and revise their own obituary based on a peer review checklist.

### Obituary Rubric:

- The writer uses obituary style.
- The writer includes significant accomplishments, facts, and details.
- The writing reflects accurate spelling, grammar, and punctuation.

Evaluation Rubric			
Writes obituary that meets rubric guidelines.	No	Somewhat	Yes
Shares rationale in small-group discussion.	No	Somewhat	Yes
Participates in peer review.	No	Somewhat	Yes
Revises obituary based on peer review.	No	Somewhat	Yes
<b>Total Points</b>	<b>24</b>		

**Teacher  
Checklist**

Use this list to ensure that you have completed all of the lesson components

1. Directed students to read pages 43-53, ending with ...”concerns than Phineas,” and to complete the graphic organizer.
2. Explained and modeled the CRAAP activity.
3. Assigned the CRAAP activity.
4. Put students into small groups and had them share the information they found on their site, along with their findings of that site’s validity.
5. Reviewed parallel structures with students and discussed the assignment on parallelism.
6. Reread pages 49-53, beginning with “In 1859...” and ending with “...his thirty-seventh birthday.” and to sequence the major events that led to Phineas’ death.
7. Discussed the sequence of events of Phineas’ death with students.
8. Explained what an obituary is and directed students to look at examples on *The New York Times* website.
9. Assigned students to write an obituary for Phineas by completing the prewriting assignment and by following the criteria discussed in class.
10. Asked students to share their obituaries in small groups and to share their rationales as to why certain life events were either included or excluded.
11. Had students peer edit the obituaries in their groups using the checklist provided in the Academic Notebook and then revise accordingly.
12. Asked students to read the central text beginning with “Half the world away...” on page 53 through the end of the chapter on page 64 and to complete the reading log for those pages.

## Lesson 7

# Deepening Our Understanding

### Overview

To further students' understanding of Phineas' injury and to give students additional practice analyzing visual texts, this lesson begins with an activity in which students compare and contrast the life mask on page 4 and the skull on page 62. In the second activity, students revisit the terms "whole-brainers" and "localizers" by discussing Broca and Wernecke's contributions to these theories. Next, students read an informational text and an excerpt from a fictional text, both on the subject of autism. As they read the text from the website "Autism Speaks," students practice their skills of annotation, focusing on autistic behaviors that are similar to frontal lobe injury behaviors. They repeat this process for the excerpt from *The Curious Incident of the Dog in the Night-time*. After they have read and annotated both texts, students complete a Venn diagram in the Academic Notebook, which gives them a visual representation of the behaviors discussed in Phineas Gage, "Autism Speaks," and *The Curious Incident of the Dog in the Night-time*. In the final activity, students will again study both teacher- and student-selected vocabulary words, collecting both definitional and contextual information from the central text, and will participate in a process of teaching the words to other students, sorting them into categories, and developing rationales for those categories.

### Outcomes

1. Students read the central text beginning with "Half the world away..." on page 53 through the end of the chapter on page 64 and complete the reading log for those pages.
2. Students examine the life mask on page 4 and the skull on page 62, noting similarities and differences in the two images of Phineas' head and drawing conclusions based on the differences and similarities in the two images.
3. Students answer the questions on page 73 of the Academic Notebook and discuss their responses with a shoulder partner and in a class discussion.
4. Students read and annotate an informational text and a literary text on the subject of autism and complete a Venn diagram based on those texts and the central text.
5. Students will apply strategies for locating words in an informational text that are unfamiliar to them and determining the meaning of those words, using both context clues and dictionaries.



## College and Career Readiness Standards (CCRS)

### Reading

---

- 1 Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- 2 Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- 4 Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
- 9 Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
- 10 By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6–8 text complexity band independently and proficiently.

### Writing

---

- 2 Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

### Speaking and Listening

---

- 1 Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

LDC

Skills Activity List

### Skill Cluster 2: The Reading Process

---

- 1 Ability to read a text closely, annotate and summarize important details
- 2 Ability to compare visual images
- 3 Ability to identify unfamiliar vocabulary to determine meaning and context

### Materials

- Academic Notebook
- Copies of *Phineas Gage: A Gruesome but True Story About Brain Science*
- Excerpt from the website article “Autism Speaks,” found in the Academic Notebook
- Excerpt from *The Curious Incident of the Dog in the Night-time*, found in the Academic Notebook
- Venn diagram in the Academic Notebook
- Index cards and markers
- Chart paper

**Time frame:** 150 minutes

### Activity One

### Graphic Organizer (Approximately 10 minutes)

**College and Career Readiness Standards: Reading Informational Text – RI.8.1, RI.8.2, RI.8.10; ELA Writing – W.8.2**

Discuss student responses to Chapter Three “Following Phineas Gage,” pages 53-63, based on their notes in the graphic organizer in the Academic Notebook on page 71.

### Assessment

#### Outcome 1:

Students read the central text beginning with “Half the world away...” on page 53, through the end of the chapter on page 64, and complete the graphic organizer for those pages.

Evaluation Rubric			
Includes significant details from the text in the reading log.	No	Somewhat	Yes
Accurately identifies central idea in the summary.	No	Somewhat	Yes
<b>Total Points</b>	<b>12</b>		

**Activity Two**

**Comparing Visual Texts (Approximately 20 minutes)**

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1., RI.8.9; ELA Speaking & Listening – SL.8.1**

**Scientists can tell a great deal about a subject they are studying based on appearance. Many scientists have studied both Phineas’ skull and the life mask that was made shortly after his injury. We also can gain insights into Phineas’ injury by looking at both of these images. Compare and contrast the life mask on page 4 and the skull on page 62. On page 72 of your Academic Notebook, record similarities and differences in the two images of Phineas’ head.**

Allow approximately 10 minutes for students to examine the images and record similarities and differences in the Academic Notebook.

**Now that you have read about the accident, what conclusions can you make based on the differences and similarities in the two images?**

Lead students in a class discussion about their findings. If possible, project the two images on a document camera or Smart board.

**Assessment**

**Outcome 2:**

Students examine the life mask on page 4 and the skull on page 62, noting similarities and differences in the two images of Phineas’ head and drawing conclusions based on the differences and similarities in the two images.

<b>Evaluation Rubric</b>			
Accurately identifies similarities and differences in the visual texts.	No	Somewhat	Yes
Draws logical conclusions based on similarities and differences.	No	Somewhat	Yes
<b>Total Points</b>	<b>12</b>		

**Activity Three**

**Revisiting “Whole-Brainers” and “Localizers” (Approximately 25 minutes)**

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.2.; ELA Speaking & Listening – SL.8.1**

**Let’s revisit “whole-brainers” and “localizers.” Look at page 52 in your Academic Notebook to review the definition of the two terms as well as what each group believed.**

**Now re-read the central text from page 53, beginning with “Half the world away…” to “...has lost track of Phineas” on page 56. Answer the questions on page 73 of the Academic Notebook: How did Broca and Wernecke change these theories? How do their discoveries help you understand how the brain works? How do their discoveries help you understand how Phineas’ injury affected him? When you have finished, turn to a shoulder partner and discuss your answers.**

After students have shared their responses with a partner, lead a class discussion on the questions.

**Assessment**

**Outcome 3**

Students answer the questions on page 73 of the Academic Notebook and discuss their responses with a shoulder partner and in a class discussion.

<b>Evaluation Rubric</b>			
Accurately answers questions in academic notebook.	No	Somewhat	Yes
Discusses questions with partner and class	No	Somewhat	Yes
<b>Total Points</b>	<b>12</b>		

Activity Four

A Deeper Understanding of the Frontal Lobe (Approximately 45 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.9; ELA Speaking & Listening SL.8.1**

**People with autism often have a hard time understanding emotions and facial expressions. While Phineas didn't have autism, his frontal lobe injury caused similar difficulties for him.**

**Now you will read and annotate an excerpt from the website "Autism Speaks" and an excerpt from the novel *The Curious Incident of the Dog in the Night-time*. Then, you will relate what you learn from these sources to Phineas' injury and behavior. Turn to page 74 in your Academic Notebook to find the text from "Autism Speaks." Use the annotation skills you have learned to help you understand the text. Pay special attention to behaviors that autistic people exhibit.**

Allow students 10 minutes to read and annotate the excerpt. Monitor and assist as needed.

FROM THE STUDENT ACADEMIC NOTEBOOK p 74

### Social Symptoms

From the start, typically developing infants are social beings. Early in life, they gaze at people, turn toward voices, grasp a finger, and even smile. In contrast, most children with autism seem to have tremendous difficulty. In the first few months of life, many do not interact and they avoid eye contact. They seem indifferent to other people, and often seem to prefer being alone. They may resist attention or passively accept hugs and cuddling. Later, they seldom seek comfort or respond to parents' displays of anger or affection in a typical way. Research has suggested that although children with autism are attached to their parents, their expression of this attachment is often unusual and difficult to "read." To parents, it may seem as if their child is not attached at all. Parents who looked forward to the joys of cuddling, teaching, and playing with their child may feel crushed by this lack of the expected and typical attachment behavior. Children with autism also are slower in learning to interpret what others are thinking and feeling. Subtle social cues — whether a smile, a wink, or a grimace — may have little meaning. To a child who misses these cues, "Come here" always means the same thing, whether the speaker is smiling and extending her arms for a hug or frowning and planting her fists on her hips. Without the ability to interpret gestures and facial expressions, the social world may seem bewildering. To compound the problem, people with autism have difficulty seeing things from another person's perspective. Most 5-year-olds understand that other people have different information, feelings, and goals than they have. A person with autism may lack such understanding. This inability leaves them unable to predict or understand other people's actions.

Although not universal, it is common for people with autism also to have difficulty regulating their emotions. This can take the form of "immature" behavior such as crying in class or verbal outbursts that seem inappropriate to those around them. The individual with autism might also be disruptive and physically aggressive at times, making social relationships still more difficult. They have a tendency to "lose control," particularly when they're in a strange or overwhelming environment, or when angry and frustrated. They may at times break things, attack others, or hurt themselves. In their frustration, some bang their heads, pull their hair, or bite their arms.

**Now read the excerpt from *The Curious Incident of the Dog in the Night-time* (page 75 in the Academic Notebook), a story about a teenager named Christopher John Francis Boone who has autism. In the story, he decides to investigate the mysterious death of a dog in his neighborhood.**

Again, allow about 10 minutes for students to read and annotate the excerpt.

**Lastly, re-read pages 20–22 of *Phineas Gage*, beginning with “In the spring...” and ending with “twenty years.”**

Once students have completed their reading, put students in three groups with each group focusing on one text. Ask them to complete the Venn diagram for their assigned text on page 76 of the Academic Notebook. After all of the groups have finished listing behaviors in their part of the diagram, ask each group to report out. Project or draw the Venn diagram on a board, and direct students to add to the diagram as other groups report.

**Now that you have read the texts and completed most of the Venn diagram, finish the diagram by listing behaviors that you find mentioned in all three texts where the circles intersect.**

## Assessment

### Outcome 4:

Students read and annotate an informational text and a literary text on the subject of autism and complete a Venn diagram based on those texts and the central text.

Evaluation Rubric			
Annotations are thorough and reflect student’s understanding of the text.	No	Somewhat	Yes
Student participates in small-group and whole-class discussion.	No	Somewhat	Yes
Venn diagram is complete.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

Activity Five

Vocabulary (Approximately 50 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.2, RI.8.4; ELA Speaking and Listening – RI.8.1**

Ask students to open their Academic Notebooks to the page 77 for “Vocabulary from ‘Following Phineas Gage.’” Tell students that they will now work with a list of vocabulary pulled from this chapter, as well as their own self-selected vocabulary words from the chapter, to reinforce the importance of using the context to help them understand how the word is being used in the text.

FROM THE STUDENT ACADEMIC NOTEBOOK p 77

**Choose ONE of the words from the list in the box below and ONE unfamiliar word from “Following Phineas Gage.” For each of your words, complete the chart below. Remember to use the context of the word (the sentence in which it is found) to help you understand the dictionary definition.**

Choice words and the page numbers on which they can be found:

Gawked p. 44	Perforated p. 44	Skeptics p. 45	Instinctive p. 48
Invalid p. 50	Lumbering p. 52	Cordial p. 56	Shrewd p. 59
Radically p. 59	Impairment p. 59		

After modeling this vocabulary work for students, ask them to work on their own in their Academic Notebooks to complete the chart for each of the two words that they have chosen. Remind students that they should choose one word from the list provided and one word from the chapter that is unfamiliar to them.

When students have completed their charts, ask them to write their two words on index cards and to write both the definition and the context (i.e., the sentence from the chapter in which the word is provided) on the back. Students will then work with a small group of approximately three to four students to introduce their group members to the meaning of the words they collected, by presenting the word, its context from *Phineas Gage*, and its definition, as well as their own understanding of the word in its context. After each student in the small group has presented his or her words, ask the students to participate in an open sort.

Give students a large sheet of chart paper or other material on which they can write their categories and the words they placed in those categories. This sorting process requires that students talk about the meanings of the words and gives them meaningful exposure to the words and their use in the text.

Ask each group to report out to the whole class on the categories they developed and how the words they have selected fit in those categories.

Remind students they will continue to collect vocabulary words from the texts they read and that it is important they learn to notice how word knowledge can contribute to their comprehension of texts and how to find the meanings of words unfamiliar to them.

Ask students to review the words they studied in their small group and to pull from those words their TOP FIVE words. The words they choose as their TOP FIVE should be those that carry particular importance in terms of the content of Chapter One. Ask

each group to report out the words they chose and why they chose them, i.e., in what way do their TOP FIVE words connect to or remind them of the content of Chapter One. Make sure that words chosen by the students as TOP FIVE are placed on the Phineas Gage vocabulary word wall chart.

Ask students to read pages 65-75, “Putting Phineas Together Again” in the central text and complete the reading log for those pages on page 80 of the Academic Notebook.

## Assessment

### Outcome 5:

Students will apply strategies for locating words in an informational text that are unfamiliar to them and determining the meaning of those words using both context clues and dictionaries.

Evaluation Rubric			
Identifies vocabulary words and their contexts, and notes their denotative meaning and their meaning in the context of the passage(s).	No	Somewhat	Yes
Rates his or her understanding of the words.	No	Somewhat	Yes
Restates/explains vocabulary word in own words and creates visual representation.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		



**Teacher  
Checklist**

Use this list to ensure that you have completed all of the lesson components

1. Asked students to compare and contrast the life mask on page 4 and the skull on page 62 and to record similarities and differences in the two images of Phineas' head.
2. Led students in a class discussion about their findings of the two images.
3. Directed students to re-read pages 53 beginning with "Half the world away..." and ending with "...has lost track of Phineas" on page 56 of the central text and to answer the questions in the Academic Notebook.
4. Led a class discussion on Broca and Wernecke's contributions to the theories.
5. Asked students to read and annotate an excerpt from the website "Autism Speaks," an excerpt from the novel *The Curious Incident of the Dog in the Night-time*, and pages 20 and 22 of *Phineas Gage* and participate in a small-group and whole-class activity to complete a Venn diagram based on the texts.
6. Asked students to collect vocabulary information, share it with a small group, carry out a sorting process, and share their categories with the whole class.
7. Asked students to read pages 65-75, "Putting Phineas Together Again" in the central text and complete the reading log for those pages.

## Lesson 8

# Further Research Into Phineas

### Overview

In this lesson, students will explore recent efforts to understand both Phineas' injury and the ways the brain processes emotions. In Activity One, students re-read a portion of the central text in order to sequence the steps of Dr. Anna Damasio's recreation of Phineas' brain injury. This reading is followed by small group and whole-class discussions on Dr. Damasio's work. In the next activity, students read and annotate an interview with Dr. Antonio Damasio, a professor of neuroscience at the University of Southern California. After reading the interview, students create open-ended questions as if they were going to conduct an interview with Dr. Damasio. They then exchange papers with a partner and write answers to those questions based on their understanding of the text. Moving back to the central text, students read Fleischman's opinion on whether Phineas was lucky or unlucky and write a paragraph in which they agree, disagree, or qualify with Fleischman. Students use "Yes MAAM" to construct their paragraphs as well as evidence from the text and supplemental texts. Upon completion of the paragraphs, students peer edit and revise their work. To further extend this activity, students participate in a three-corner discussion in which they go to an area of the room to talk with other students who chose the same stance. After they share their rationale for their stance with like-minded peers, students form new groups with representatives from all three viewpoints: agree, disagree, and qualify. The activity concludes with a whole-class discussion. To conclude the lesson, students will participate in one final vocabulary study with both teacher- and student-selected vocabulary words, collecting both definitional and contextual information from the central text. Then they will participate in a process of teaching the words to other students, sorting them into categories, and developing rationales for those categories.

### Outcomes

1. Students read pages 65-75, "Putting Phineas Together Again" in the central text and complete the graphic organizer for those pages.
2. Students complete a graphic organizer listing the steps of Dr. Anna Damasio's recreation of Phineas' brain injury.
3. Students read and annotate an interview with Dr. Antonio Damasio.
4. Students participate in a question and answer activity based on the interview with Dr. Damasio.
5. Students write a paragraph in which they agree, disagree, or qualify Fleischman's opinion on whether Phineas was lucky or unlucky.
6. Students peer edit and revise their paragraphs.

7. Students participate in small-group and whole-group discussions based on the stance they took in their paragraphs.
8. Students apply strategies for locating words in an informational text that are unfamiliar to them and determining the meaning of those words, using both context clues and dictionaries.

## College and Career Readiness Standards (CCRS)

### Reading

---

- 1 Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- 2 Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- 3 Analyze how and why individuals, events, or ideas develop and interact over the course of a text.
- 4 Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
- 5 Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
- 10 Read and comprehend complex literary and informational texts independently and proficiently.

### Writing

---

- 1 Write arguments to support claims with clear reasons and relevant evidence.
- 2 Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
- 4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- 5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

### Speaking and Listening

---

- 1 Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
- 3 Delineate the claims made by a speaker or presenter and detail what evidence supports which claims.
- 4 Present information, emphasizing salient points with pertinent descriptions and details and using appropriate eye contact, adequate volume, and clear pronunciation.

LDC

Skills Activity List

**Skill Cluster 2: The Reading Process**

- 1 Ability to read and annotate texts
- 2 Ability to construct questions based on details from a text
- 3 Ability to Identify unfamiliar vocabulary to determine meaning and context

**Skill Cluster 3: Transition to Writing**

- 1 Ability to develop a paragraph of argumentation on a topic

**Materials**

- Academic Notebook
- Copies of *Phineas Gage: A Gruesome but True Story About Brain Science*
- Sequence of steps graphic organizer in the Academic Notebook, Pontin, Jason. "The Importance of Feelings." MIT Technology Review. 17 June 2014. Web. 1 Apr. 2015. <<http://www.technologyreview.com/qa/528151/the-importance-of-feelings/>>
- Interview with Dr. Antonio Damasio found in the Academic Notebook
- Peer editing checklist in the Academic Notebook
- Signs that read "agree," "disagree," and "qualify"
- Index cards and markers
- Chart paper

**Time frame:** 225 minutes

Activity One

Graphic Organizer (Approximately 10 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI8.2, RI8.10; ELA Writing – W8.2**

Discuss student responses to chapter four "Putting Phineas Together Again," pages 65-75, based on their notes in the graphic organizer in the Academic Notebook on page 80.

**Assessment**

**Outcome 1:**

Students read pages 65-75, "Putting Phineas Together Again" in the central text and complete the reading log for those pages.

**Evaluation Rubric**

Includes significant details from the text in the reading log.	No	Somewhat	Yes
Accurately identifies central idea in the summary.	No	Somewhat	Yes
<b>Total Points</b>	<b>12</b>		

**Activity Two**

**Following a Recreation (Approximately 30 minutes)**

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.2, RI.8.3, RI.8.5; ELA Speaking and Listening – SL.8.1**

**Reread pages 67–70, beginning with “Studying the brain scans…” and ending with “...who had cortex tumor surgery.” Now sequence the steps of Dr. Anna Damasio’s recreation of Phineas’ brain injury. Complete the graphic organizer on page 81 of your Academic Notebook. The first and last steps are included for you.**

After students complete the organizer, ask them to share their steps with a partner and compare. Students should discuss any differences in the steps and come to a consensus about the correct order and steps.

As a class, discuss the steps. Project a completed version of the graphic organizer with an ELMO or other method. Discuss any questions or differences students have with their own organizers.

Key for the graphic organizer:

<b>Steps in the process Dr. Damasio’s recreation</b>
<b>Step 1</b> – Damasio asks Dr. Galaburda to x-ray, photograph, and remeasure Phineas’ skull.
<b>Step 2</b> – Phineas’ skull is overlaid onto a three-dimensional computer image of a generic human skull.
<b>Step 3</b> – Dr. Damasio plots the entrance and exit wounds and adds the tamping iron electronically.
<b>Step 4</b> – Damasio uses Brainvox to create a three-dimensional model, laying out possible routes that the iron may have followed.
<b>Step 5</b> – Damasio narrows the path to one.
<b>Step 6</b> – The findings reveal Phineas’ injuries match brain scans of patients who had cortex tumor surgery.

**Now that you have examined Dr. Damasio’s work, how does it help you to better understand Phineas’ injury?** Ask students to respond in their Academic Notebooks and then discuss students’ responses.

**Assessment**

**Outcome 2:**

Students will complete a graphic organizer listing the steps of Dr. Anna Damasio’s recreation of Phineas’ brain injury.

<b>Evaluation Rubric</b>			
Accurately completes graphic organizer.	No	Somewhat	Yes
Responds insightfully to question.	No	Somewhat	Yes
Participates in class discussion.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

Activity Three

Q & A with a Neuroscientist (Approximately 60 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.2, RI.8.10; ELA Speaking and Listening – SL.8.1**

**Read the interview with Dr. Antonio Damasio, a professor of neuroscience at the University of Southern California on pages 82-84 in the Academic Notebook. As you read, annotate the text using the skills you have used throughout this unit. Refer to the annotation chart in Lesson 1 on page 19 of your Academic Notebook.**

**Now that you have read the text, pretend you also are going to conduct an interview with Dr. Damasio. Create three questions based on your reading. Question topics might include points for clarification, future research, and relation to Phineas Gage. Questions should be open, rather than closed. An open question leads to a detailed response rather than a brief or “yes” or “no” answer. These questions often begin with the words “how” or “why.” Write your questions in your Academic Notebook on page 85.**

Circulate and help students as needed, providing feedback on questions that may not elicit a detailed response.

After students have written their questions, ask them to exchange papers with a partner. **Now pretend you are Dr. Damasio. Read your partner’s questions and formulate possible answers based on your understanding of the interview. Write your partner’s questions and your responses to them in your Academic Notebook on page 85.**

When students have finished, ask them to exchange their papers and read one another’s responses. Ask them to discuss how likely Dr. Damasio would be to respond in that way.

Lead a class discussion of the text and ask students to share their questions and their partners’ answers with the class. Relate the text back to *Phineas Gage*.

Assessment

**Outcome 3:**

Students read and annotate an interview with Dr. Antonio Damasio.

**Outcome 4:**

Students participate in a question and answer activity based on the interview with Dr. Damasio.

Evaluation Rubric			
Makes thorough annotations that reflect understanding of the text.	No	Somewhat	Yes
Creates three open-ended questions and provides text-based answers to another student’s questions.	No	Somewhat	Yes
Participates in class discussion.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

**Activity Four**

**A Matter of Luck? (Approximately 50 minutes)**

**College and Career Readiness Standards: ELA Writing W.8.1, W.8.4, W.8.5**

**At the beginning of the book, Fleischman asks the question “Was Phineas lucky or unlucky”? At the end of the book, he shares his own opinion. Reread his answer to this question on page 75. Write a paragraph in which you agree, disagree, or qualify (agree in part) with Fleischman’s answer. Use evidence from the text and any supplemental texts that you have read. Use Yes MAAM to help you construct your paragraph. Use the space provided on page 86 in your Academic Notebook.**

After students have finished their paragraphs, ask them to peer edit with a partner using the checklist on page 86 in the Academic Notebook. After they finish peer editing, give them an opportunity to revise their paragraphs.

**Assessment**

**Outcome 5:**

Students write a paragraph in which they agree, disagree, or qualify Fleischman’s opinion on whether Phineas was lucky or unlucky.

**Outcome 6:**

Students peer edit and revise their paragraphs.

<b>Evaluation Rubric</b>			
Uses Yes MAAM.	No	Somewhat	Yes
Completes peer revision checklist for another student.	No	Somewhat	Yes
Revises paragraph based on checklist.	No	Somewhat	Yes
Incorporates proper use of parallelism in writing.	No	Somewhat	Yes
<b>Total Points</b>	<b>24</b>		

**Activity Five**

**Agree to Disagree (Approximately 25 minutes)**

**College and Career Readiness Standards: ELA Speaking & Listening SL.8.1, SL.8.3, SL.8.4**

Ask students to open their Academic Notebooks to page 87. **Read the instructions for Activity 5 and write your stance and support.** While students are working, post three signs on the walls of the classroom at each of three corners. One sign should read “agree,” one “disagree,” and one “qualify.” Ask students to move to the sign that represents their position on the question about which they have just written. Once students are in their groups, ask them to argue their stance and give textual support. Depending on the size of the groups, allow approximately five to 10 minutes for this part of the activity.

After students finish their discussions, create new groups with representatives from each of the three areas. Again, ask them **argue their stance and give textual support.** This activity will give students the opportunity to hear similar and opposite views and to practice speaking and listening. Again, allow five to 10 minutes.

Ask students to return to their seats, and conduct a whole-class discussion on the question. Ask students to share their views as well as the views of their classmates.

**Assessment**

**Outcome 7:**

Students participate in small-group and whole-group discussions based on the stance they took in their paragraphs.

Evaluation Rubric			
Shares rationale with like-minded group.	No	Somewhat	Yes
Shares rationale with group of opposing views.	No	Somewhat	Yes
Participates in whole-class discussion.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		



Activity Six

Vocabulary (Approximately 50 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.2, RI.8.4; ELA Speaking and Listening – SL.8.1**

Ask students to open their Academic Notebooks to page 88 in the Academic Notebook for “Vocabulary from ‘Following Phineas Gag’ and ‘Putting Phineas Together Again.’ Tell students that they will now work with a list of vocabulary pulled from these chapters, as well as their own self-selected vocabulary words from the chapter, to reinforce the importance of using the context to help them understand how the word is being used in the text.

*FROM THE STUDENT ACADEMIC NOTEBOOK p 88*

Choose ONE of the words from the list in the box below and ONE unfamiliar word from “Following Phineas Gage” and “Putting Phineas Together Again.” For each of your words, complete the chart below. Remember to use the context of the word (the sentence in which it is found) to help you understand the dictionary definition.

Choice words and the page numbers on which they can be found:

Interact p. 65	Renowned p. 66	Afflicted p. 66
Empathy p. 66	Conductivity p. 67	Tranquil p. 67
Retroactively p. 67	Generic p. 68	Hypothetical p. 69
Anatomical p. 69	Riveting p. 69	Oriented p. 70

Ask students to work on their own in their Academic Notebooks to complete the chart for each of the two words that they have chosen. Remind students that they should choose one word from the list provided and one word from the chapter that is unfamiliar to them.

When students have completed their charts, ask them to write their two words on index cards and to write both the definition and the context (i.e., the sentence from the chapter in which the word is provided) on the back. Students will then work with a small group of three to four students to introduce their group members to the meaning of the words they collected, by presenting the word, its context from Phineas Gage, and its definition, as well as their own understanding of the word in its context. After each student in the small group has presented his or her words, ask the students to participate in an open sort.

Give students a large sheet of chart paper or other material on which they can write their categories and the words they placed in those categories. This sorting process requires that students talk about the meanings of the words and gives them meaningful exposure to the words and their use in the text.

Ask each group to report out to the whole class on the categories they developed and how the words they have selected fit in those categories.

Remind students that they will continue to collect vocabulary words from the texts they read and that it is important they learn to notice how word knowledge can contribute to their comprehension of texts and how to find the meanings of words unfamiliar to them.

Ask students to review the words they studied in their small group and to pull from those words their TOP FIVE words. The words they choose as their TOP FIVE should

be those that carry particular importance in terms of the content of Chapter One. Ask each group to report out the words they chose and why they chose them, i.e., in what way do their TOP FIVE words connect to or remind them of the content of Chapter One. Make sure that words chosen by the students as TOP FIVE are placed on the Phineas Gage vocabulary word wall chart.

## Assessment

### Outcome 8:

Students will apply strategies for locating words in an informational text that are unfamiliar to them and determining the meaning of those words, using both context clues and dictionaries.

Evaluation Rubric			
Identifies vocabulary words and their contexts, and notes their denotative meaning and their meaning in the context of the passage(s).	No	Somewhat	Yes
Rates his or her understanding of the words.	No	Somewhat	Yes
Restates/explains vocabulary word in own words and creates visual representation.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

Teacher  
Checklist

Use this list to ensure that you have completed all of the lesson components

1. Directed students to reread pages 67–70, beginning with “Studying the brain scans...” and ending with “...who had cortex tumor surgery” and to sequence the steps of Dr. Anna Damasio’s recreation of Phineas’ brain injury, by completing the graphic organizer in the Academic Notebook.
2. Led a class discussion on Damasio’s recreation and how it helps students to understand Phineas’ injury.
3. Asked students to read and annotate the interview with Dr. Antonio Damasio.
4. Guided students through the interview activity based on the Damasio text.
5. Led a class discussion of the text and related the text back to *Phineas Gage*.
6. Explained the Yes MAAM method of writing a paragraph.
7. Assigned students to write a paragraph in which they agree, disagree, or qualify with Fleischman’s answer, using evidence from the text and supplemental texts.
8. Asked students to peer edit their paragraphs with a partner using the checklist in the Academic Notebook and gave them an opportunity to revise their paragraphs.
9. Guided students in the “Agree to Disagree” activity and conducted a whole-class discussion on the question of whether Phineas was lucky or unlucky.
10. Asked students to collect vocabulary information, share it with a small group, carry out a sorting process, and share their categories with the whole class.

## Lesson 9

# Drafting Proposals for Brain Health Symposium

### Overview

In this lesson, students will begin researching and drafting their proposals for their station at the brain symposium. In Activity One, the teacher will guide students in discussion regarding audience and the means of persuasion (pathos, ethos, and logos) through a Ted Ed video, “What Aristotle and Joshua Bell can teach us about persuasion” and Listener’s 3-2-1. In Activity Two, students will begin the necessary research for their brain health stations using the CRAAP method (graphic organizer) to find reliable websites. After finding sources, students will then complete the proposal planner as a means of pre-writing for their proposal. The proposal planner focuses on the specific part and function of the brain the student will be addressing as well as a corresponding activity or exercise to maintain health in that part of the brain. Also, students must exercise those persuasive powers learned in the first activity to explain why the inclusion of their brain health station at the symposium would benefit visitors. Finally, students will use a guided draft organizer to compose their draft proposals. This lesson encompasses research and the first two steps of the writing process.

### Outcomes

1. Students understand the criteria of their task – a proposal for a brain health station at a symposium.
2. Students actively listen to media using Listener’s 3-2-1 strategy.
3. Students understand ethos, pathos, and logos and the application of persuasion to their proposal.
4. Students perform research for their proposal and brain health stations using CRAAP method to find reliable sources.
5. Students conduct pre-writing and planning of their their proposal.
6. Students use research and prewriting to compose a rough draft of proposal for their brain health stations at the symposium.

## College and Career Readiness Standards (CCRS)

### Reading:

---

- 1 Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- 2 Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
- 7 Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
- 9 Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

### Writing:

---

- 1 Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
- 4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- 8 Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
- 9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

### Speaking and Listening

---

- 2 Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

LDC

Skills Activity List

### Skill Cluster 1: Preparing for the Task

---

- 1 Ability to match assigned task to a scoring rubric

### Skill Cluster 2: The Reading Process

---

- 1 Ability to observe video text and take notes
- 2 Ability to conduct research for reliable sources

### Skill Cluster 3: Transition to Writing

---

- 1 Ability to develop a presentation that represents egos, logos and pathos on a topic related to the final task

### Skill Cluster 4: Writing Process

---

- 1 Ability to compose a draft of a symposium proposal

#### Materials

- Academic Notebook
- Copies of *Phineas Gage: A Gruesome, but True Story About Brain Science*
- Ted Ed video “What Aristotle and Joshua Bell Can Teach Us About Persuasion”
- Access to Internet or research texts regarding the brain  
<http://ed.ted.com/lessons/what-aristotle-and-joshua-bell-can-teach-us-about-persuasion-conor-neill#review>

**Time frame:** 180 minutes

Activity One

Knowing Your Audience (Approximately 30 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text RI.8.2, RI.8.7; ELA Writing W.8.9; ELA Speaking & Listening SL.8.2**

The final project of this unit is writing a proposal for a station in a Brain Health Symposium (expo). Let's review the criteria for your brain health station in your Academic Notebook. Look at what you have written on your "Pre-Planning Checklist from Lesson 1 on page 16 of your Academic Notebook. Another copy of this checklist is provided for you in your Academic Notebook on page 91.

FROM THE STUDENT ACADEMIC NOTEBOOK p 91

**Brain Health Station for Class Symposium**

**Guiding Task:** You are responsible for researching, designing, and creating a station at a Brain Health Symposium; your station should allow participants to learn and engage in a brain health activity. Your driving question is "What can we do to keep our brains healthy and functioning?"

Use the chart below to ensure that your brain health station meets the criteria in the left column.

Criteria	Pre-Planning/Checklist
1 Approved proposal	
2 Valid research consisting of three sources	
3 Engaging activity	
4 Attractive expo board (digital or tri-fold) highlighting related information	
5 Station addresses audience	

Before we can tackle the proposal, we need to figure out our audience. Our symposium will be visited by your peers and teachers, so we need to make sure that your product is appropriate for their viewing and participation. When considering audience, we need to understand pathos, ethos, and logos. After all, you are persuading your audience to take their brain health seriously with easy activities/exercises.

Let's watch this Ted Ed video regarding these topics. Fill out the Listener's 3-2-1 for this video on page 92 of your Academic Notebook. I will show it twice so that you have the chance to absorb the information from the video.

Play the video at least twice so that students are able to complete Listener’s 3-2-1. After students have the opportunity to fill in the Listener’s 3-2-1, allow them to share their responses.

**Listen to your peers’ responses to their Listener’s 3-2-1. Jot down any good approaches your peers mention that could be useful in your station.**

Ted Ed video: “What Aristotle and Joshua Bell can teach us about persuasion”

<http://ed.ted.com/lessons/what-aristotle-and-joshua-bell-can-teach-us-about-persuasion-conor-neill#review>

Direct students to complete the Listener’s 3-2-1.

## Assessment

---

### Outcome 1:

Students understand the criteria of their task – a proposal for a brain health station at a symposium.

### Outcome 2:

Students actively listen to media using the Listener’s 3-2-1 strategy.

### Outcome 3:

Students understand ethos, pathos, and logos and the application of persuasion to their proposal.

Evaluation Rubric			
Student’s actions, questions and responses demonstrate understanding of the task.	No	Somewhat	Yes
Completes pre-planning on brain health station task sheet.	No	Somewhat	Yes
Completes Ted Ed video Listener’s 3-2-1.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		



## Activity Two

### Making a Commitment: Crafting a Proposal (150 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text – RI.8.1, RI.8.7, RI.8.9; ELA Writing – W.8.1, W.8.4, W.8.8, W.8.9**

**Before presenting at a conference or facilitating a station/table at a symposium, the speaker must submit a proposal for his or her topic and activities. Those in charge of the conference/symposium use the proposals to develop a varied, engaging experience for the attendants.**

**With that being said, today we are going to work on developing our proposals. Remember your guiding task and driving question from our task sheet.** Students should refer back to the task sheet in their Academic Notebooks (page 16 and any revisions on page 91).

**The first step in answering that driving question is to do research about brain health and methods to maintain brain health. Don't forget that you need to cite three sources for your station, one of which must be from your readings. Before you do a blind Internet search, let me show you a test you can use to determine if your source is reliable and valid. The CRAAP test will allow you to evaluate those sites. CRAAP is an acronym that represents criteria needed for a source to be considered reliable. Refer to the CRAAP chart in your Academic Notebook on pages 95-96. I will go over these items.**

**Your first charge is to determine a brain health topic and activity; fill out this portion in your proposal planner. Remember to fill out a CRAAP test for each source.**

**Let's quickly go over the components in the proposal planner.** Students should refer to this planner in their Academic Notebooks on pages 95-96.

Students may begin researching and completing the proposal planner. Allow 90 minutes for students to research and complete CRAAP tests and proposal planner.

**Now that you have finished researching and planning, it's time to draft the proposal. Use the drafting template on pages 95-96 to blend your research and ideas into a cohesive proposal. Use complete sentences.**

Students will be guided to utilize their CRAAP tests and planner to compose a working draft for their proposal. The proposal template is located in the Academic Notebook.

## Assessment

### Outcome 4:

Students perform research for proposal and brain health station using CRAAP method to find reliable sources.

### Outcome 5:

Students conduct pre-writing and planning of a proposal.

### Outcome 6:

Students use research and prewriting to compose a rough draft of a proposal for brain health station at a symposium.

Evaluation Rubric			
Completes CRAAP method for three sources.	No	Somewhat	Yes
Thoughtfully completes Proposal Planner.	No	Somewhat	Yes
Completes research-based guided rough draft.	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

**Teacher Checklist**

Use this list to ensure that you have completed all of the lesson components

- 1. Reviewed the criteria for students' brain health stations in the academic notebook.
- 2. Showed the Ted Ed video on ethos, logos, and pathos twice and directed students to fill out the Listener's 3-2-1 for this video.
- 3. Asked students to listen to their peers' responses to their Listener's 3-2-1 and to write down any approaches that could be useful in their own stations.
- 4. Referred students to the task sheet in the Academic Notebook.
- 5. Explained the CRAAP method.
- 6. Discussed the components in the proposal planner.
- 7. Assisted students with research for their proposal.
- 8. Directed students to use the drafting template to blend their research and ideas into a cohesive proposal using complete sentences.

## Lesson 10

# Completing the Proposal

### Overview

In this lesson, students will wrap up the *Phineas Gage* informational text unit by revising their proposals, participating in conferences with their teacher for approval, creating their stations, and educating audiences on brain health with their stations. In doing so, they will complete the writing process for their proposals and exercise presentation skills in the symposium. In Activity One, students will learn how to edit and revise for clarity in their drafts using a four-station method for this step in the writing process. The station rotation guarantees that students will read their rough drafts at least four times and really focus in on the elements of editing and revision without feeling overwhelmed. In Activity Two, students will workshop the final draft of their proposal and conference with their teacher, who will in turn approve or help modify the proposal.

### Outcomes:

1. Students learn how to edit and revise for clarity in their writing.
2. Students complete the writing process.

## College and Career Readiness Standards (CCRS)

### Reading:

- 3 Analyze how and why individuals, events, or ideas develop and interact over the course of a text.
- 5 Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

### Writing:

- 1 Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
- 4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- 5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

## Speaking and Listening

---

- 1 Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
- 3 Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.
- 4 Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
- 6 Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

## Language

---

- 1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- 2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- 6 Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

LDC

Skills Activity List

## Skill Cluster 4: Writing Process

---

- 1 Ability to revise and edit student work
- 2 Ability to produce a final written symposium proposal that meets assigned criteria

### Materials

- Academic Notebook
- Copies of *Phineas Gage: A Gruesome, but True Story about Brain Science*
- Cue cards for editing/revision stations
- Reference texts such as dictionaries, thesauruses, and language textbooks
- Highlighters (yellow, orange, pink, blue) or colored pens/pencils

**Time frame:** 120 minutes

Activity One

Editing and Revising Drafts (Approximately 60 minutes)

**College and Career Readiness Standards: ELA Reading Informational Text RI.8.3, RI.8.5; ELA Writing W.8.5; ELA Speaking & Listening SL.8.1, SL.8.3, SL.8.4, SL.8.6; ELA Language L.8.1, L.8.2, L.8.6**

**During today’s class, you will be editing and revising your proposal draft for clarity. Before we get started with the station rotation, let’s make sure we have a working knowledge of what those terms—editing, revising, and clarity—mean. First, when we edit writing, we clean up the nitty gritty things like grammar, usage, mechanics, and spelling. Next, when we revise, we make changes based on style, format, purpose of writing, point of view, and voice. So, after we edit and revise a piece of writing, our draft should have clarity or a clear picture of what the writing means for the readers or audience. When a piece of writing has clarity, the reader understands the purpose, message, and view point.**

**You will be editing and revising today in four stations. This station rotation gives you two advantages. First, you will be able to read your draft at least four times. These multiple readings will allow you to make sure you find everything in your draft that needs to be fixed. Second, you will be able to focus on one type of edit or revision at a time instead of being overwhelmed by everything at once.**

**At each station, you will find a cue card explaining the area of focus and steps to take when editing/revising your draft for this particular focus point. Each station will take approximately 8 to 10 minutes to complete. Wait for my signal before moving to the next station**

Ideally, for larger classes, there should be two groups rotating to four separate stations (a total of 8 stations—two for each focus area). For example, if the class has between 25 and 30 students, split the class in half or two groups. Each group should have four stations in which to rotate. If classes are 20 students or fewer, consider just four separate stations. In addition to the cue cards at each station, consider leaving copies of language textbooks for reference and highlighters or colored pens to assist in editing/revising. The use of the scoring rubric should be employed here as well (page 17 of the Academic Notebook, or you can provide individual copies from page 96 of the Teacher’s Guide).

### Cue Cards for Stations

Criteria	Pre-Planning/Checklist
<p><b>Station One: Sentences and Spelling</b> <i>Yellow Highlighter</i></p> <ol style="list-style-type: none"> <li>1. Read your draft.</li> <li>2. Make sure all of your sentences are complete and not fragments, run-ons, or comma splices. Complete sentences have a subject and corresponding predicate that includes an action. Highlight or underline any sentences that are not complete. Edit them to be complete.</li> <li>3. Check your draft for any words whose spelling you are unsure of. Highlight or underline these words. Reference a dictionary to assist you in correcting their spellings.</li> <li>4. Check for parallel structure in your sentences. Remember, parallel structure is when two or more words, phrases, or clauses are similar in length and grammatical structure. Refer to the language textbook.</li> </ol>	<p><b>Station Two: Word Choice/Clarity</b> <i>Pink Highlighter</i></p> <ol style="list-style-type: none"> <li>1. Read your draft.</li> <li>2. Highlight all of the dead words or over-used words that no longer really carry any clear, concise meaning. Consider words like ‘good,’ ‘very,’ and ‘there’ to be dead words. Above these words, write better word choices or reconstruct the sentence to not use the word. Reference a thesaurus.</li> <li>3. Read through your draft and highlight all vague words. Think of words that could possibly be confused with other subjects or people. Pronouns can often be vague. Find more specific nouns to replace these words.</li> </ol>
<p><b>Station Three: Research</b> <i>Blue Highlighter</i></p> <ol style="list-style-type: none"> <li>1. Read your draft.</li> <li>2. Do you include valid, convincing facts from your research? Did you cite these facts using parenthetical citation (author’s last name in parenthesis at the end of the sentence before the punctuation)?</li> <li>3. Make sure you have incorporated relevant, topic-related research and you have cited that research. Highlight all citations and research.</li> </ol>	<p><b>Station Four: Purpose, Research, and Audience</b> <i>Orange Highlighter</i></p> <ol style="list-style-type: none"> <li>1. Read your draft.</li> <li>2. Does your draft convince readers that your idea for the expo would be a great, must-have addition, using facts from research? Or does your draft simply describe what your expo will look like? Make sure you argue for why your expo would be a great addition and benefit participants.</li> <li>3. Have you considered your audience in this proposal? Highlight and label areas that consider the ethos, logos, and pathos of your audience. Are you missing one of those three? Revise your draft to include all three forms of persuasion.</li> </ol>

**Now that you have taken your draft through the editing and revision stations, let’s perform a quick peer reaction to your draft. In your groups, hand your draft to the person to your left. Complete the Peer Reaction Listener’s 3-2-1 in the draft writer’s Academic Notebook on page 98.**

Allow students up to 15 minutes to complete the Peer Reaction Listener’s 3-2-1.

**Peer Reaction Listener’s 3-2-1**

Criteria	Your Response
<p>3</p> <p>Locate three areas in the draft that need editing/revising. Leave a small note for each, explaining why.</p>	
<p>2</p> <p>Celebrate two areas on the draft where the writer excelled. Explain how.</p>	
<p>1</p> <p>“Steal” one idea or strategy this writer used that you will try to use in your draft.</p>	

**Assessment**

**Outcome 1:**

Students learn how to edit and revise for clarity in their writing.

Evaluation Rubric			
Participates in and utilizes editing/revision stations.	No	Somewhat	Yes
Uses Scoring Rubric in reviewing and editing the proposal.	No	Somewhat	Yes
Completes Peer Reaction Listener’s 3-2-1..	No	Somewhat	Yes
<b>Total Points</b>	<b>18</b>		

**Activity Two**

**Completing the process (60 minutes)**

**College and Career Readiness Standards: ELA Writing – W.8.1, W.8.4, W.8.5**

**Consider the marks and notes you made during your station rotation editing and revision activity and the Peer Reaction Listener’s 3-2-1 when finalizing your draft. When you finish with your final draft, notify me so we can schedule our conference. While you wait for your conference, you and your partner should match your draft proposal against the scoring rubric in your Academic Notebook on page 17.**

Determine how long students will need to finalize drafts. Allow one class meeting for this process; if students need remaining time, they may finish this task at home.

Conduct three-minute conferences with each student, reviewing their proposal for their expo at the symposium. Make sure students have researched a unique expo that includes beneficial information and activities.

**Assessment**

**Outcome 2:**

Students will complete the writing process.

Evaluation Rubric			
Completes successful final draft of proposal.	No	Somewhat	Yes
Approved/Modified proposal via teacher conference.	No	Somewhat	Yes
<b>Total Points</b>	<b>12</b>		

**Teacher Checklist**

**Use this list to ensure that you have completed all of the lesson components**

- 1. Guided students through the editing and revising process by using stations.
- 2. Directed students to get a quick peer reaction to their drafts and to complete the Peer Reaction Listener’s 3-2-1 in the draft writer’s Academic Notebook.
- 3. Conducted three-minute conferences with each student, reviewing their proposal for their expo at the symposium and making sure they have researched a unique expo that includes beneficial information and activities.



Based on Argumentation Teaching Task Rubric for Collection 3.0							
Scoring Elements	Emerging		Approaches Expectations		Meets Expectations		Advanced
	1	1.5	2	2.5	3	3.5	4
<b>Controlling Idea</b>	Attempts to address the prompt and make a claim, but it is unclear or unfocused.		Addresses the prompt appropriately and makes a claim, with an uneven focus.		Addresses all aspects of the prompt appropriately and establishes and maintains a clear claim.		Addresses all aspects of the prompt appropriately and establishes and maintains a clear, generally convincing claim.
<b>Development/ Use of Sources</b>	Refers to details from sources, with irrelevant, incomplete, or inaccurate elements.		Includes relevant details, examples, and/or quotations from sources to support and develop the argument, with minimal explanation or minor errors in explanation.		Accurately explains relevant details, examples, and/or quotations from sources to support and develop the argument.		Thoroughly and accurately explains well-chosen and relevant details, examples, and/or quotations from sources to effectively support and develop the argument.
<b>Organization</b>	Lacks an evident structure. Makes unclear connections among claim, reasons, and evidence.		Uses a basic organizational structure to develop argument. Attempts to use transition words to connect ideas, with minor lapses in coherence or organization.		Uses an appropriate organizational structure to develop argument. Uses transitional phrases to clarify the relationships among claim(s), reasons, and evidence.		Maintains an appropriate, logical organizational structure to develop a cohesive argument. Uses varied syntax and transitional phrases that clarify the precise relationships among claim(s), reasons, and evidence.
<b>Conventions</b>	Lacks control of grammar, usage, and mechanics. Uses inappropriate language or tone. Rarely or never cites sources.		Demonstrates an uneven command of standard English conventions. Uses language and tone with some inaccurate, inappropriate, or uneven features. Inconsistently cites sources.		Demonstrates a command of standard English conventions, with few errors. Uses language and tone appropriate to the audience and purpose. Cites sources, with minor formatting errors.		Demonstrates and maintains a well-developed command of standard English conventions, with few errors. Consistently uses language and tone appropriate to the audience and purpose. Cites sources, using appropriate format.

**Final Essay Conversion Guide:** Give a score for each of the categories (1-4 including the options of 1.5, 2.5, etc.). Add the four scores and use the conversion guide below to calculate the essay grade.

Score	Grade	Score	Grade
4	25%	10	63%
4.5	28%	10.5	66%
4	25%	11	69%
4.5	28%	11.5	72%
5	31%	12	75%
5.5	34%	12.5	78%
6	38%	13	81%
6.5	41%	13.5	84%
7	44%	14	88%
7.5	47%	14.5	91%
8	50%	15	94%
8.5	53%	15.5	97%
9	56%	16	100%
9.5	59%		

## Unit 1 References

Fleischman, John, *Phineas Gage: A Gruesome but True Story About Brain*, Houghton Mifflin Harcourt, 2004

### Lesson 1

“Brazilian construction worker survives 6-foot metal bar through skull,” <http://www.cbsnews.com/news/brazilian-construction-worker-survives-6-foot-metal-bar-through-skull/>.

Fleischman, John, *Phineas Gage: A Gruesome but True Story About Brain*, Houghton Mifflin Harcourt, 2004

Reynolds, Gretchen. “Phys Ed: Looking at How Concussions When Young Influence Later Life,” “What Happens in the Brain After a Concussion,” *The New York Times*, 22 Sept., 2013, [http://well.blogs.nytimes.com/2010/09/22/can-concussions-in-kids-cause-problems-later-in-life/?\\_r=0](http://well.blogs.nytimes.com/2010/09/22/can-concussions-in-kids-cause-problems-later-in-life/?_r=0).

### Lesson 2

“Antibiotics Can’t Keep Up With ‘Nightmare’ Superbugs,” <http://www.npr.org/2013/10/22/239247134/antibiotics-cant-keep-up-with-nightmare-superbugs>.

Fleischman, John, *Phineas Gage: A Gruesome but True Story About Brain*, Houghton Mifflin Harcourt, 2004

### Lesson 3

Discoe, Connie Jo. “Frontal Lobe Dysfunction Explains Some Behaviors, Doctors Told.” *McCook Gazette*. 21 November 2007. Web. 15 May 2015. <http://www.mccookgazette.com/story/1292496.html>.

Fleischman, John, *Phineas Gage: A Gruesome but True Story About Brain*, Houghton Mifflin Harcourt, 2004

Harlow, John. “Passage of an Iron Rod Through the Head.” - Wikisource, the Free Online Library. 1 Jan. 1848. Web. 1 Apr. 2015. [https://en.wikisource.org/wiki/Passage\\_of\\_an\\_Iron\\_Rod\\_Through\\_the\\_Head](https://en.wikisource.org/wiki/Passage_of_an_Iron_Rod_Through_the_Head).

### Lesson 4

Fleischman, John, *Phineas Gage: A Gruesome but True Story About Brain*, Houghton Mifflin Harcourt, 2004

<http://ed.ted.com/lessons/what-if-we-could-look-inside-human-brains-moran-cerf>.

“Neurons Firing,” [https://video.search.yahoo.com/yhs/search; ylt=A0LEVu5b1sVWvh0A3mMnnlIQ;\\_ylu=X3oDMTEyY2FnNWxm-BGNvbG8DYmYxBHBvcwMxBHZ0aWQDQjE2NjFfMQRzZWMDc2M-?p=Neurons+Firing+Harvard+Professor+Adam+Cohen&fr=yhs-mozilla-003&hsparm=mozilla&hsimp=yhs-003](https://video.search.yahoo.com/yhs/search; ylt=A0LEVu5b1sVWvh0A3mMnnlIQ;_ylu=X3oDMTEyY2FnNWxm-BGNvbG8DYmYxBHBvcwMxBHZ0aWQDQjE2NjFfMQRzZWMDc2M-?p=Neurons+Firing+Harvard+Professor+Adam+Cohen&fr=yhs-mozilla-003&hsparm=mozilla&hsimp=yhs-003).

### Lesson 5

Fleischman, John, *Phineas Gage: A Gruesome but True Story About Brain*, Houghton Mifflin Harcourt, 2004

“Great Brain Debate – Ted Atlschuler, The,” <http://ed.ted.com/lessons/the-great-brain-debate-ted-atschuler#watch>.

### Lesson 6

“Barnum’s Announcement in the Mourning Courier,” <http://lostmuseum.cuny.edu/archive/barnums-museum-announcement-in-morning>.

Fleischman, John, *Phineas Gage: A Gruesome but True Story About Brain*, Houghton Mifflin Harcourt, 2004

“Lost Museum Archive,” <http://lostmuseum.cuny>.

Obituary Examples. <http://query.nytimes.com/search/sitesearch/#/obituaries/>.

### Lesson 7

“Autism Speaks,” [https://www.autismspeaks.org/sites/default/files/sctk\\_about\\_autism.pdf](https://www.autismspeaks.org/sites/default/files/sctk_about_autism.pdf).

Fleischman, John, *Phineas Gage: A Gruesome but True Story About Brain*, Houghton Mifflin Harcourt, 2004

Haddon, Mark, *Curious Incident of the Dog in the Night-time*, Doubleday, 2003 (excerpt)

### Lesson 8

Fleischman, John, *Phineas Gage: A Gruesome but True Story About Brain*, Houghton Mifflin Harcourt, 2004

Pontin, Jason. “The Importance of Feelings.” *MIT Technology Review*. 17 June 2014. Web. 1 Apr. 2015. <http://www.technologyreview.com/qa/528151/the-importance-of-feelings/>.

### Lesson 9

Fleischman, John, *Phineas Gage: A Gruesome but True Story About Brain*, Houghton Mifflin Harcourt, 2004

Neill, Conor, “What Aristotle and Joshua Bell Can teach Us About Persuasion,” <http://ed.ted.com/lessons/what-aristotle-and-joshua-bell-can-teach-us-about-persuasion-conor-neill#r>.

### Lesson 10

Fleischman, John, *Phineas Gage: A Gruesome but True Story About Brain*, Houghton Mifflin Harcourt, 2004

SREB Readiness Courses  
*Transitioning to college and careers*

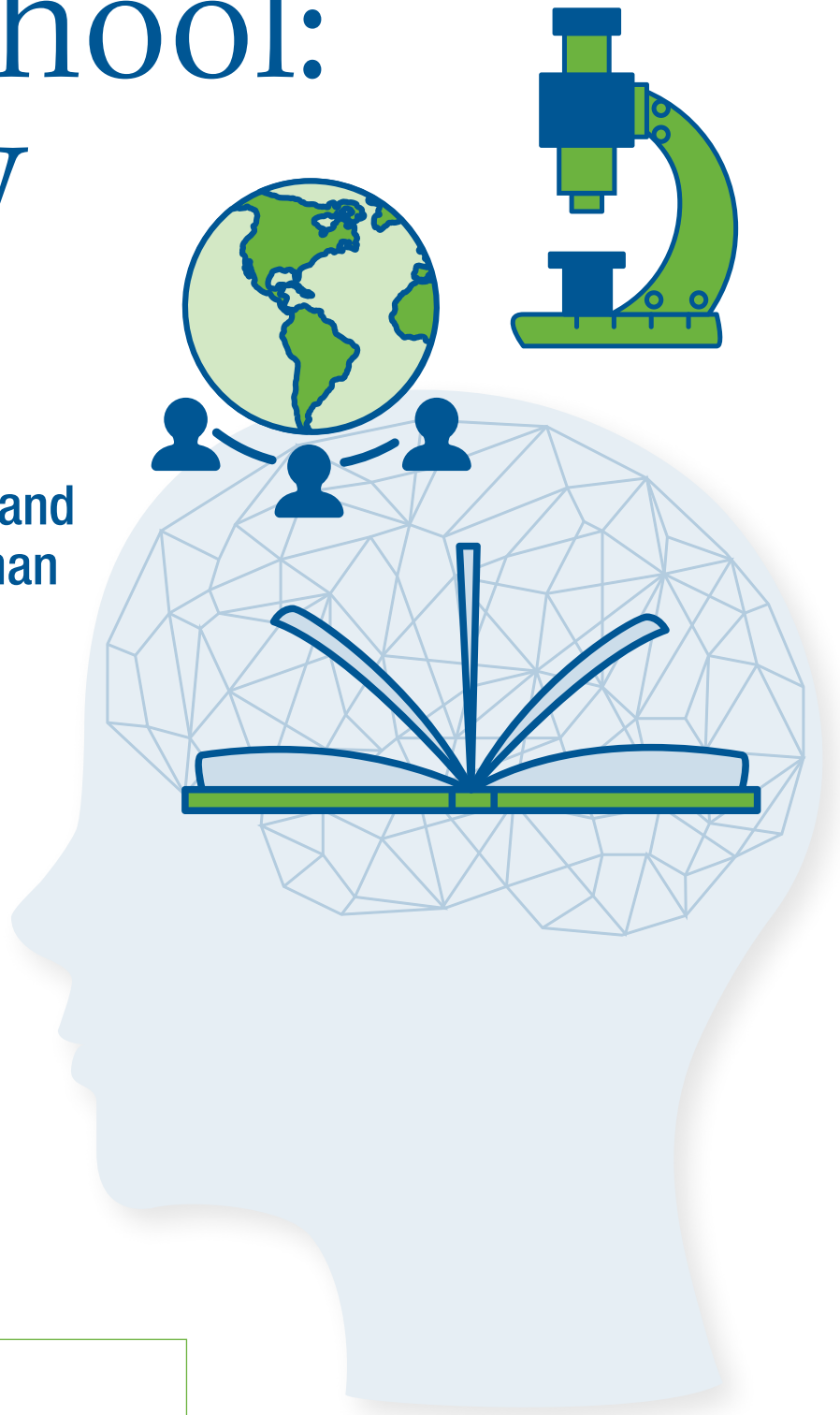
# Ready for High School: Literacy

**Academic Notebook**

**English Unit 1**

**How the Brain Functions and  
What It Means To Be Human**

*Informational Text*



Name

# Unit 1

## Contents

Course Overview.....	2
Lesson 1: Using Your Brain: A gateway Activity .....	3
Lesson 2: It Takes a Village to Study the Brain.....	27
Lesson 3: A Basis for Comparison .....	35
Lesson 4: The Nitty Gritty of the Brain.....	46
Lesson 5 Taking Sides .....	51
Lesson 6: Putting the Pieces Together .....	58
Lesson 7: Deepening Our Understanding.....	70
Lesson 8 Further Research into Phineas .....	79
Lesson 9: Drafting Proposals for the Brain Health Symposium .....	90
Lesson 10: Completing the Proposal.....	97

# Course Overview

Welcome to the first English literacy unit of the SREB Readiness Course — Ready for High School: Literacy. What does English literacy mean? English literacy is based on an understanding that texts — both literary and informational — enable us to understand human

experiences and that literary texts are open to dialogue between and among readers and texts. In this course, you will take part in several activities aimed at improving your literacy, specifically as literacy is used in English. While certainly the content covered in this course is important, a principal purpose of this course is to equip you with the tools necessary to be more successful in your high school coursework. To that end, the creators of the course have developed this academic notebook. The theme for this six-week English course is “How the Brain Functions and What It Means to Be Human.” The reading text for this course will be John Fleischman’s *Phineas Gage: A Gruesome but True Story About Brain Science*. This course focuses on the kinds of disciplinary literacy you will be expected to undertake in a high school setting. The course as a whole includes six units, with two each in English, science, and history.

In this unit, students will be expected to do the following:

- Read and analyze *Phineas Gage: A Gruesome but True Story About Brain Science* and supplemental readings.
- Learn vocabulary from the text.
- Determine sequences of events in the book and in additional readings.
- Summarize ideas from the reading selections.
- Develop stances on ideas from the central text.
- Write a symposium proposal.

## Purposes of the Academic Notebook

---

The Academic Notebook has several roles in this course. First, you will keep a record of your reading of the central text, *Phineas Gage: A Gruesome but True Story About Brain Science*, by making reading log entries for assigned readings. The idea behind the reading logs is to collect your notes and ideas about your work in this central text. The notes that you take in the reading log will be used at the end of the unit as preparation for a symposium proposal, in which you will explain how to keep the brain healthy.

A second role of the notebook is to provide you with a space in which you can make note of new vocabulary that you encounter in the text and collect information about the meanings of those words. To carry out this role, you will use vocabulary charts to make note of words that are new to you, write the context in which you find the word, rate your understanding of the word, and write a dictionary definition for the word as well as your own understanding of that definition.

The final role of the notebook is that of an assessment tool. Your instructor may periodically take up the notebooks and review your work to ensure that you are

remaining on task and to assist you with any material that is causing you difficulty. At the end of this six-week module, your instructor will review the contents of this notebook as part of your overall grade. Thus, it is important that you take this work seriously as this notebook becomes the record of your activity in this course.

You will notice that some of the work involved in this course will need to be done as homework. For some of you, this amount and difficulty of homework may be a challenge. As the purpose of this course is to prepare you for the types of reading and writing you will do in high school, and as high school courses typically require significant amounts of homework, it is important that you commit yourself to maintaining consistency in your homework.

The academic notebook is organized by lesson, and your teacher will give you instructions on which pages you should attend to during class and for homework.

## Lesson 1

# Using Your Brain: A Gateway Activity

### In this lesson you will

---

- Participate in an activity designed to engage you with the content of the unit and to assist you with understanding the complexities of the human brain.
- Explore the nature of disciplinary literacy in English/language arts classes, as well as the goals and purposes of the course.
- Read informational text to draw conclusions and make predictions and to recognize the central idea, steps in a process, and cause and effect.
- Examine the essential question, “What can we do to keep our brains healthy and functioning?” as well as the final assignment for the unit, which involves writing a proposal for a science symposium.
- Learn and practice the skills of annotation.
- Learn parallel structures and identify them in the central text.
- Read two accounts of the same event and identify similarities and differences in those accounts.



Activity

**1** Left vs. Right

1. Make a rough guess as to what brain dominance you think you have, and provide two pieces of evidence.

My guess:

---

---

---

---

---

Evidence 1:

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

Evidence 2:

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

2. Now take the brain dominance quiz in your notebook. Respond to each scenario/question honestly. Once you conclude the questionnaire, review your results. Use the EEK! Strategy to draw a conclusion about your results.

### Right/Left Brain Dominance Test

Which Side Are You On? In each pair of statements below, circle either “A” or “B” to indicate the one that most accurately describes you.

1.    **A**    At home, my room has organized drawers and closets. I even try to organize other things around the house.  
      **B**    At home, I like the “lived-in” look. I clean as I see a need and when I have the time.
2.    **A**    My desk is usually clean and has everything in place.  
      **B**    I leave my work out on my desk so I can work as I am inspired by ideas.
3.    **A**    I like using the “tried and true” method.  
      **B**    I like creating new methods.
4.    **A**    I follow directions carefully when I build a model, make a craft, etc.  
      **B**    I like to build a model my way, making my own creation.
5.    **A**    I complete one project at a time.  
      **B**    I like to start many different projects, but do not like to finish them.
6.    When I am asked to write a report on a subject, I.....  
      **A**    research information, then outline and organize my writing.  
      **B**    work in my own self-inspired direction.
7.    When I had to do a project in class, I.....  
      **A**    used my parents’ ideas, a book’s illustrated project or modeled another student’s project who received an “A+” from my teacher.  
      **B**    loved the challenge, and like a “mad scientist,” I produced a unique project.
8.    When I am in charge of a big job with many people working, I usually...  
      **A**    organize, give everyone their responsibilities, make lists, and make sure everyone finishes their part on time.  
      **B**    work at my own pace and let others work on the job as they want. I want to take care of needs/problems as they arise.
9.    Which of these activities would you like to do the most?  
      **A**    planning the details for a trip/project  
      **B**    creating an original art form
10.   I hate it when other people.....  
      **A**    are indecisive about what activities to do when I am with them.  
      **B**    plan activities in step-by-step detail when I am with them.

### Scoring the Left/Right Brain Test

Add the number of “A” responses.

Write the sum here.

Add the number of “B” responses.

Write the sum here.

If you have more “A” responses than “B” responses, then you are left-brained dominate.

*This means you . . .*

- are very rational
- analyze people and situations
- usually favor the subjects of math/science
- are methodical
- are a sequential thinker
- use logical reasoning
- like to work with things that can be seen or touched

If you have more “B” responses than “A” responses, you are right-brain dominate.

*This means you . . .*

- are very creative
- are usually emotional
- like to be different from others
- handle situations easily
- like to think abstractly
- enjoy the arts (music, art, drama)
- are a divergent thinker

What do you think it means if you had the same number of “A” and “B” responses?

---

---

---

### FUN FACTS ABOUT YOUR “SIDES”

- The right side of your body is controlled by the left side of your brain.
- The left side of your body is controlled by the right side of your brain.
- Most people are left-brain dominate, even people who are left-handed writers.
- The left side of your brain controls speech, reading, writing, and math.
- The right side deals with spatial relationships, abstractions, and your feelings.

## The Differences Between Right & Left Brain Thinking

Right-brain or creative thinkers gather information by feelings and intuition. This information is retained by using images and patterns and are able to visualize the whole idea as we gather our research.

The thought processes appear illogical and meandering because they are emotional, intuitive, abstract and laterally connected. Analysis of this information or problem-solving often involves free association and, while the solutions may be quite innovative, the route traveled to reach this conclusion would be impossible for a more rational left-brain thinker to follow. Visual thinkers do not use a step-by-step process to gather information — rather it is visually gathered all at once, which makes organization of this information and verbalizing the accumulated data, either in written or verbal form, difficult. Right-brain thinkers are best able to express themselves using art, music or dance.

Left-brain or critical thinkers collect information using logic and sense. This information is retained using words, numbers and symbols. Unlike right-brain thinkers, who see the whole concept, left-brain thinkers see only parts of the whole idea that guides them in their logical, step-by-step gathering of information. Their brain processes are deductive, rational, concrete and analytically connected. Left brain thinkers express themselves with concise words, numerical and written formulas, and technological systems.

Modern scientists know that your left brain is your verbal and rational brain while your right brain is your nonverbal and intuitive brain. We require special functions from both sides of our brains to accomplish most tasks in our daily lives. There are some nonverbal tasks — such as drawing, painting, dancing and music, in which our right brain excels and you’d be best to shelve your left-brain functions to prevent interference by your rational side. While most people can be categorized as left- or right-brain thinkers, there are exercises that can help you develop and nurture your intuitive side.

**Evidence** (fact from text) + **Evidence** (fact from text) + **Knowledge** (what the reader knows) = **Conclusion** (information about the text that is not said by the author)

<b>E</b>	<b>E</b>	<b>K</b>	<b>!</b>
Evidence from Text/ Test Results	Evidence from Text/Test Results	Reader’s Knowledge	Conclusion

3. Let's add some personal touches to our brain dominance. Using the head silhouette, add at least five illustrations that make your brain dominance meaningful to you. Think of this as your personal brain dominance reflection or mirror.



Activity

## 2 Reading the Text

**Reading Log:** We will read together *Phineas Gage*, Chapter One, “‘Horrible Accident’ in Vermont,” paragraphs one through three.

Was Phineas lucky or unlucky? Answer this question in the space below based on the short amount of material we have just read in class.

---

---

---

---

Continue reading through page 10, ending with “...just a matter of time now.” As you read, complete the remainder of the graphic organizer.

Select five significant details from your reading that you feel are important to your understanding of the events in this part of the chapter. For each detail, list the page number on which it appears.

1.

---

---

2.

---

---

3.

---

---

4.

---

---

5.

---

---

Based on the details you selected, write a three-sentence summary of the main idea of this part of Chapter One.

---

---

---

---

---

---

---

---

---

---

Activity

### 3 Steps in a Process

Read the article “What Happens in the Brain After a Concussion,” which describes the process that occurs after a head injury. As you read, number the steps in the process the scientists at the National Institutes of Health studied to see what happens to the brain during a concussion. Then transfer those steps to the chart on the following page. The first step is included for you.

## What Happens in the Brain After a Concussion

By Gretchen Reynolds | December 18, 2013 12:02 am | PHYS ED

*Gretchen Reynolds on the science of fitness.*

A remarkable recent experiment allowed scientists to see inside the skull and brain of animals that had just experienced a concussion, providing sobering new evidence of how damaging even minor brain impacts can be. While the results, which were published in *Nature*, are worrisome, they also hint at the possibility of treating concussions and lessening their harm.

Concussions occur when the brain bounces against the skull after someone’s head is bumped or jolted. Such injuries are fairly common in contact sports, like football and hockey, and there is growing concern that repeated concussions might contribute to lingering problems with thinking or memory. This concern was heightened this week by reports that the brain of the late major league baseball player Ryan Freel showed symptoms of chronic traumatic encephalopathy, a degenerative condition. He reportedly had been hit in the head multiple times during his career.

But scientists did not know exactly what happens at a molecular level inside the brain during and after a concussion. The living brain is notoriously difficult to study, since it shelters behind the thick, bony skull and other protective barriers. In some earlier studies, scientists had removed portions of lab animals’ skulls to view what happened to their brains during subsequent impacts. But removing part of the skull causes its own tissue damage and physiological response, muddying any findings about how the brain is affected by concussions.

So scientists at the National Institute of Neurological Disorders and Stroke, a division of the National Institutes of Health, decided to develop a less destructive means of seeing inside skulls and came up with the deceptively simple method of shaving away microscopic layers of a lab mouse’s skull, thinning it to the point that powerful microscopic lenses could see through it, even as the skull remained essentially intact.

They then gently compressed a portion of the skull toward the brain, imitating (in reverse) the thumping that the brain endures when it strikes the skull during a concussive head injury, such as might occur after a jarring football tackle or if your head slams against the slope when you fall while skiing. Meanwhile, microscopic lenses positioned atop the animals’ thinned skulls documented in real-time everything that subsequently occurred around and within the brain as a result of the concussion.

The brain is, in many ways, the body’s best-protected organ. Besides the skull, it is shielded by multiple layers of membranes located just beneath the skull that block out harmful molecules. But, as the N.I.H. researchers saw, these membranes became slightly ripped and frayed by the force of the concussion, leaving them leaky and the brain potentially vulnerable to the influx of molecules.

And such molecules soon appeared. “We saw a very quick build-up of reactive oxygen species” in the space between the skull and the brain after the concussion, said Dorian B. McGavern, a senior N.I.H. investigator who oversaw the study. Reactive oxygen species, which are also called free

radicals, are known to play a role in various normal tissue processes, including the inflammatory response to any injury, but in excess they can contribute to cell death and tissue damage.

In the case of concussion, the body mounted a brave repair campaign, sending specialized immune cells from the blood and the brain to patch and fill in the frayed membranes. But the process was too slow, allowing an excess of free radicals to pass through the weakened membranes and migrate into the brain tissue, where they soon caused the death of brain cells far from the original impact site.

While concerning, this development also suggested to the scientists the possibility of treatment. If they could reduce the number of free radicals clustering near the brain, they reasoned, they could lessen the subsequent damage. So, in follow-up experiments, they inserted large amounts of a powerful antioxidant into the space between the animals' skull and brain. Antioxidants soak up free radicals and, it turned out, dramatically blunted the trauma associated with impacts to the brain. In animals that received the treatment immediately after a concussion, almost 70 percent fewer brain cells died than in untreated mice.

These findings are "promising and intriguing," Dr. McGavern said, although they are extremely preliminary and, for now, applicable only to mouse brains, not those of humans. But he and his N.I.H. colleagues are mounting a number of follow-up experiments to learn more about what precisely happens inside a concussed brain and how potentially to treat the injury. They are, for instance, looking at whether antioxidant patches applied to the scalp might be as effective at reducing concussion-related brain-cell death as more invasive approaches. Results should start rolling in next year.



### Steps In The Process Of A Concussion

**Step 1**

Scientists created microscopic layers of a mouse’s skull so thin that they could be seen through a microscopic lens.

**Step 2**

---

---

---

**Step 3**

---

---

---

**Step 4**

---

---

---

**Step 5**

---

---

---

**Step 6**

---

---

---

Based on the steps you identified, what can you infer about the consequences of concussion?

---

---

---

---

---

Now revisit page 3 in *Phineas Gage* where the author describes the process Phineas follows for blasting. List the steps he follows when creating a blast.

Phineas' Steps In The Process Of A Creating A Blast	
<b>Step 1</b>	<hr/> <hr/>
<b>Step 2</b>	<hr/> <hr/>
<b>Step 3</b>	<hr/> <hr/>
<b>Step 4</b>	<hr/> <hr/>
<b>Step 5</b>	<hr/> <hr/>
<b>Step 6</b>	<hr/> <hr/>
<b>Step 7</b>	Light the fuse.
<b>Step 8</b>	Run fast.

Based on the steps you identified, what can you infer about the nature of this process?

---

---

---

---

---

Activity

## 4 Examining the Prompt for the Symposium Proposal

Examine the prompt for the Brain Health Symposium below. Read through the assignment description and brain health station task sheet.

What can we do to keep our brains healthy and functioning?

After reading *Phineas Gage: A Gruesome but True Story About Brain Science* and other informational texts on brain research, write a proposal for a station at a Brain Health Symposium that will allow participants to learn and engage in a brain health activity in which you demonstrate the value of the activity in brain health. Support your station concept with evidence from the texts.

### Brain Health Station for Class Symposium

Guiding Task: You are responsible for researching designing, and creating a station at a Brain Health Symposium; your station should allow participants to learn and engage in a brain health activity. Your driving question is “What can we do to keep our brains healthy and functioning?”

Use the chart below to ensure that your brain health station meets the criteria in the left column.

Criteria	Pre-Planning/Checklist
1. Approved proposal  <hr/> <hr/>	  <hr/> <hr/>
2. Valid research consisting of three sources  <hr/> <hr/> <hr/>	  <hr/> <hr/> <hr/>
3. Engaging activity  <hr/> <hr/>	  <hr/> <hr/>
4. Attractive expo board (digital or tri-fold) highlighting related information  <hr/> <hr/> <hr/>	4. Attractive expo board (digital or tri-fold) highlighting related information  <hr/> <hr/> <hr/>
5. Station activities and information that address the specific audience  <hr/> <hr/>	  <hr/> <hr/>

Here is the rubric for the task so that you know how you will be graded.

Based on Argumentation Teaching Task Rubric for Collection 3.0							
Scoring Elements	Emerging		Approaches Expectations		Meets Expectations		Advanced
	1	1.5	2	2.5	3	3.5	4
<b>Controlling Idea</b>	Attempts to address the prompt and make a claim, but it is unclear or unfocused.		Addresses the prompt appropriately and makes a claim, with an uneven focus.		Addresses all aspects of the prompt appropriately and establishes and maintains a clear claim.		Addresses all aspects of the prompt appropriately and establishes and maintains a clear, generally convincing claim.
<b>Development/ Use of Sources</b>	Refers to details from sources, with irrelevant, incomplete, or inaccurate elements.		Includes relevant details, examples, and/or quotations from sources to support and develop the argument, with minimal explanation or minor errors in explanation.		Accurately explains relevant details, examples, and/or quotations from sources to support and develop the argument.		Thoroughly and accurately explains well-chosen and relevant details, examples, and/or quotations from sources to effectively support and develop the argument.
<b>Organization</b>	Lacks an evident structure. Makes unclear connections among claim, reasons, and evidence		Uses a basic organizational structure to develop argument. Attempts to use transition words to connect ideas, with minor lapses in coherence or organization.		Uses an appropriate organizational structure to develop argument. Uses transitional phrases to clarify the relationships among claim(s), reasons, and evidence.		Maintains an appropriate, logical organizational structure to develop a cohesive argument. Uses varied syntax and transitional phrases that clarify the precise relationships among claim(s), reasons, and evidence.
<b>Conventions</b>	Lacks control of grammar, usage, and mechanics. Uses inappropriate language or tone. Rarely or never cites sources.		Demonstrates an uneven command of standard English conventions. Uses language and tone with some inaccurate, inappropriate, or uneven features. Inconsistently cites sources.		Demonstrates a command of standard English conventions, with few errors. Uses language and tone appropriate to the audience and purpose. Cites sources with minor formatting errors.		Demonstrates and maintains a well-developed command of standard English conventions, with few errors. Consistently uses language and tone appropriate to the audience and purpose. Cites sources using appropriate format.

Now that you have reviewed the prompt and the task sheet, answer the following questions:

1. What kind of ideas and thoughts do you have in response to this prompt?

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

2. What have you seen so far in Fleischmann's text or in the other texts you have read that seems to connect to this prompt and task?

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

Activity

## 5 Annotating Text

In this activity, you will annotate and discuss a small passage from the first chapter of *Phineas Gage*. Using the six symbols provided on the handout below, mark each symbol, adding its corresponding notes in the margins or between lines. Feel free to use a dictionary or thesaurus to assist you. As you are annotating your personal copy, add a few of your annotations to the class copy projected by the ELMO/projector. You may wish to use different colored pens or highlighters to assist with annotating.

### Annotating Symbols with Actions

Symbol	Meaning/Action	Symbol	Meaning/Action
<b>Underline</b>	Underline phrases or a sentence that stands out as interesting or important. Why do you think this is worth 'carrying' through the text?	Text to Self – <b>TS</b>	Place a TS next to characters or events in which you can relate. Arrow out and explain connection.
<b>Circle</b>	Circle unfamiliar words/phrases; define in margin.	Text to Text- <b>TT</b>	Place a TT to connect this text to another text (anything that is interpreted for meaning). Arrow out and explain the connection.
<b>Question Mark</b>	Place a question mark next to passages you do not understand or want to further examine. In the margin, write your specific question about the text.	Text to World- <b>TW</b>	Place a TW next to connect your reading to a world event/issue in the past or present. Arrow out and explain the connection.

## Passage to Annotate

“Dr. Harlow does what he can. He cleans the skin around the hole, extracts the small fragments of bone, and gently presses the larger pieces of skull back in place. He looks inside Phineas’s mouth. He can see the hole where the iron passed upward through the roof of his mouth. Dr. Harlow decides to leave the hole open so the wound can drain. Then Dr. Harlow “dresses” the wound, pulling the loose skin back into position and taping it in place with adhesive strips. He puts a compress bandage directly over the wound and pulls Phineas’s nightcap down tightly over it. Finally he winds a roller bandage around his forehead to hold all the bandages securely. Only then does he notice Phineas’s hands and forearms, which are black with powder burns. Dr. Harlow dresses the burnt skin and has Phineas put to bed with head elevated. He gives strict orders that his patient is to remain in that position.

Phineas should have been dead long before this. A thirteen-pound iron rod through the head should kill a person instantly. Surviving that, he should have died of shock soon after reaching Cavendish. He’s lost a lot of blood, yet he remains awake and talkative. Even surviving the loss of blood, Phineas should have died from brain swelling. Any hard blow to the body causes injured tissue to swell. The brain is soft, and the skull is hard. A hard blow to the head can rattle the brain around inside like a BB in a tin can. The rattling bruises the brain, and bruised tissue swells. The brain swells, but the skull stays the same size; a swollen brain can jam itself so tightly it will cut off its own blood supply. This swelling can choke off oxygen to parts of the brain long enough to cause permanent damage. It can also cause death.”

Using discussion question stems below, compose two questions that can be used in a class discussion; you can also create your own questions. Just remember that discussion questions require more than a “Yes” or “No” response and can elicit varying responses from the group. After you have composed your questions, we will take volunteers to open their questions to the class.

### Discussion Question Stems

- Based upon the annotation “\_\_\_\_\_”, describe how this could change the reader’s impression of Phineas.
- What additional meaning does the “\_\_\_\_\_” annotation add to the passage?
- Describe or predict the reader’s purpose for adding “\_\_\_\_\_” annotation.
- Explain how “\_\_\_\_\_” annotation helps the reader find relevance in the passage.

Now compose two discussion questions in the space below:

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---



Activity

## 6 Parallel Structures

In this activity, you will learn to identify parallel structures in a sentence. By identifying these structures and the way a writer uses them to convey meaning or to emphasize points, and by practicing writing sentences using parallelism, you will develop the ability to write clear and balanced sentences. Additionally, you will be expected to use parallelism in the final writing piece for the unit.

Look at this sentence from page 3 of *Phineas Gage*. Label the following parts of the sentence: subject, predicate, and phrases.

All day, Phineas must keep an eye on his drillers to make sure they stay ahead.

Now look at the sentence that follows that one:

All day, Phineas must keep an eye on his diggers to make sure they keep up.

Identify the subject, predicate, and phrases. Which parts are the same as the previous sentence?

Now read the following sentences and underline the parts that are parallel.

1. The most dangerous forms of transportation are bicycles, cars, and motorcycles.
2. Mary's mother told her to clean her room and to go to the store.
3. Mr. Warner asked Jenna to hand in her paper and to hand in her book report.
4. Paula liked to take long walks on the beach and to collect pretty shells.
5. Many people share the same three fears: making speeches, being in high places, and dealing with numbers.

You will now apply what you have learned to a passage from *Phineas Gage*. In the passages below, highlight any sentence that you believe uses parallelism. Next, underline the parallel parts of those sentences.

“They follow a strict routine. His assistant ‘charges’ each new hole by filling the bottom with coarse-grained gunpowder. Phineas uses the narrow end of his iron to carefully press the ropelike fuse down into the powder. The assistant then fills up the rest of the hole with loose sand to act as a plug. Phineas will tamp the sand tight to bottle up the explosion, channeling the blast downward into the rock to shatter it. While his assistant is pouring the sand, Phineas flips his tamping iron around from the pointy end to the round end for tamping. When it’s damp, nothing will set it off. When it’s too dry or mixed in the wrong formula, almost anything can set it off, without warning. But Phineas and his assistant have done this a thousand times – pour the powder, set the fuse, pour the sand, tamp the sand plug, shout a warning, light the fuse, run like mad.”

Activity

## 7 One Event, Two Accounts

---

Now that you have read author John Fleischman's researched version of Phineas' accident, we are going to analyze a newspaper account from 1848. Listen and follow along as I read the newspaper account to you. Then you will use this article to complete a group activity.

Horrible Accident – As Phineas Gage, a foreman on the railroad in Cavendish, was yesterday engaged in tamping for a blast, the powder exploded, carrying an iron instrument through his head an inch and a fourth in circumference, and three feet and eight inches in length, which he was using at the time. The iron entered on the right side of his face, shattering the upper jaw, and passing back of the left eye, and out at the top of the head.

The most singular circumstance connected with this melancholy affair is, that he was alive at two o'clock this afternoon, and in full possession of his reason, and free from pain. – Ludlow, Vt., Union.

Activity

## 8 A Modern-Day Phineas

Now that we have studied the series of unfortunate (or perhaps fortunate) events that led to Phineas' brain injury, let's take a look at a modern day Phineas. In 2012, a man by the name of Eduardo Leite would make the news for escaping paralysis by mere millimeters.

Begin by conducting a highlighted reading of the CBS News article below. Assign a highlighter color for each item: Who, What, Where, When, Why, and How. Independently read and highlight your article.

(AP) RIO DE JANEIRO - Doctors say a 24-year-old construction worker survived after a 6-foot metal bar fell from above and pierced his skull.

Luiz Alexandre Essinger, chief of staff at Rio de Janeiro's Miguel Couto Hospital, said doctors successfully withdrew the iron bar from Eduardo Leite's skull during a five-hour surgery.

"He was taken to the operating room, his skull was opened, they examined the brain and the surgeon decided to pull the metal bar out from the front in the same direction it entered the brain," Essinger said.

He said Leite was conscious when he arrived at the hospital and told him what had happened. He is lucid and shows no negative consequences after the operation. Essinger said Friday that "it really was a miracle" that Leite survived.

"Today, he continues well, with few complaints for a five-hour-long surgery," Essinger said. "He says he feels little pain."

The bar fell from the fifth floor of a building under construction, went through Leite's hard hat, entered the back of his skull and exited between his eyes, Essinger said, adding: "It really was a miracle" that Leite survived.

The accident and surgery took place on Wednesday.

"They told me he was lying down (in the ambulance) with the bar pointing upward," said Leite's wife, Lilian Regina da Silva Costa. "He was holding it and his face covered in blood. His look was as if nothing had happened. When he arrived he told the doctors he wasn't feeling anything, no pain, nothing. It's unbelievable."

Ruy Monteiro, the hospital's head of neurosurgery, told the Globo TV network that Leite escaped by just a few centimeters from losing one eye and becoming paralyzed on the left side of his body.

He said the bar entered a "non-eloquent" area of the brain, an area that doesn't have a specific, major known function.

Leite is expected to remain hospitalized for at least two weeks.

Using the graphic organizer below, illustrate Phineas' injury as well as Leite's injury, side-by-side.

**Graphic Organizer**

PHINEAS GAGE	EDUARDO LEITE

Now, let's fill in the individuals' case specifics in the corresponding columns of the comparison. You may do this with your case study partner. For Phineas's side, please remember to cite information from the text by quoting sentences and including page numbers.

Criteria	<i>Phineas Gage</i>	Similarities	Differences	<i>Eduardo Leite</i>
<b>Description of Injury</b>				
<b>Context of Injury (Where, When, How)</b>				
<b>Patient's Reaction to Injury</b>				
<b>Medical Attempts to Treat Injury</b>				
<b>Potential Outcomes of Injury</b>				
<b>Other</b>				

## Lesson 2

# It Takes A Village to Study the Brain

### In this lesson you will

---

- Actively read informational text, highlighting key terms.
- Compare central ideas in two informational texts.
- Compose writing that uses domain-specific vocabulary from informational texts, cite informational texts within that writing, and compare ideas presented in informational texts.
- Work collaboratively to read texts and employ active reading strategies.
- Research domain-specific ideas from texts.
- Collaborate on mini presentations to whole-class audiences.

**Activity**

# 1 All Together Now Informational Text Reading and Summaries

How can the science community help Phineas? Well, how much right now. During our community reading of pages 10 to 15 in our text, we will learn the stance of science at the time regarding Phineas’ injury.

In the T-Chart below, as you are reading, make a list of five words or phrases that could be considered key to understanding the text. Put those words on the left side of the T-Chart.

<i>Phineas Gage (pgs. 10-15)</i>	“Antibiotics Can’t Keep Up With ‘Nightmare’ Superbug”

In the portion of text we read in *Phineas Gage*, we learned how science was developing regarding some of the medical issues that Phineas is encountering or may encounter during his time. In this article about antibiotics, we connect the bridge between Phineas’ time and our time in regard to some of the same science concerns. With your partner/group, alternate reading the highlights of an interview with David Hoffman, a contributing editor for *The Washington Post*, which aired on National Public Radio. When you finish, write as many words or phrases from the interview that represent key ideas/main points as you can find; write these on the right side of the T-chart.

## Antibiotics Can't Keep Up With 'Nightmare' Superbug

We're used to relying on antibiotics to cure bacterial infections. But there are now strains of bacteria that are resistant to even the strongest antibiotics, and are causing deadly infections. According to the CDC, "more than 2 million people in the United States every year get infected with a resistant bacteria, and about 23,000 people die from it," journalist David Hoffman tells Fresh Air's Terry Gross.

Many people are familiar with the type of resistant infections often acquired in hospitals, caused by MRSA, the acronym for methicillin-resistant *Staphylococcus aureus*. But most people don't know about the entirely different group of resistant bacteria that Hoffman reports on in "Hunting the Nightmare Bacteria," airing Tuesday on PBS' Frontline. The show explores an outbreak of resistant bacteria at one of the most prestigious hospitals in the U.S., and explains why there is surprisingly little research being conducted into new antibiotics to combat these new superbugs.

"We really have a big information black hole about these really, really dangerous bacteria, and we need to know more, and it ought to be a national priority," Hoffman says.

### On how bacteria have evolved to be resistant to our antibiotics

Bacteria have been training at this for a long, long time. I think when a lot of people took antibiotics in the '50s and '60s, there was a lot of talk then about "miracle drugs" and "wonder drugs" ... Had we basically pushed back those evolutionary forces? Had we essentially found a way to avoid infectious disease? Well, what we're seeing is this evolutionary process in bacteria. It's relentless, and what happened here was [that] bacteria learned to basically teach each other to swap these enzymes and help each other learn how to beat back our best antibiotics; our last-resort antibiotics didn't work. ...

In the period before World War II ... people that got infections, they had to cut it out. They had to cut off limbs, cut off toes, because there weren't antibiotics. And oftentimes, when people talk about the fact that we might have to go back to a pre-antibiotic age, that's what they mean — that a simple scrape on the playground could be fatal.

### On what's unique about these new strains of bacteria that makes them resistant to antibiotics

One feature of [some antibiotic-resistant] bacteria is that they have kind of a hard armor around them, a shell, which protects them from antibiotics. They also have the ability to pump out the antibiotics or to basically chew it up inside. These ... are very, very difficult to treat; you just don't have antibiotics for them. ...

NDM-1 [an enzyme that makes bacteria antibiotic-resistant] has a very, very unusual but worrisome characteristic, and that is this: It has a mechanism to transfer its genes — its genetic material — which helps it resist antibiotics. It can transform that to other bugs. It can walk around like a coach, giving training and directions to other bacteria ... helping other bacteria become resistant to antibiotics ... teaching them how to do it. ...

NDM-1 is now spreading in the United States. ... There have been 16 cases, and the year before the numbers doubled in a year. You know, it's not an epidemic or anything, but these things are popping up now with more and more frequency in hospitals and in patients around the United States. It's here.

### On the bacterial outbreak at the National Institutes of Health Clinical Center and how it spread

This clinical center is a very sophisticated research hospital. Patients are invited there because of research programs going on in the many different institutes of the National Institutes of Health. It's not a hospital you walk into with a sore throat.



They had enrolled and invited a patient from New York, a woman who had had a major operation, and she was invited for a particular study that they needed to do. When they came they looked at her chart, and they had no warning, but the chart said that this woman had this drug-resistant bacteria ... which they had never seen before. This is a resistant [bacteria] called KPC; it's resistant to some of our most modern, last resort ... antibiotics. They did what they could to prevent this bacteria from spreading. They put her in what's called "enhanced contact isolation." Gloves and gowns for everybody, put her at the end of the ICU in her own room, and they went through with the research they had to do. And after a month ... she seemed to survive it; she was discharged. Everybody at the clinical center breathed a sigh of relief. ...

The first thing that they thought was: Maybe it's just in the environment, maybe it was on door handles, maybe it was on a doctor's hands or gloves. ... So they began to clean a lot of things. ... They did everything they could to bleach and clean and make sure they could stop it and they still didn't stop it; it started to continue to spread.

Then there was a couple weeks of quiet. And then a really, really, surprising thing happened. This particular bacteria started to show up in other patients in routine surveillance of the patients. Suddenly, in the microbiology lab they're beginning to see this thing, and none of these other patients had any contact with the first one. ... So where was this bug? Where was the mechanism that it was moving around? And that was a real crisis. ...

So they went through a series of phases of this war that they carried out to try to deal with this. The first thing that they thought was: Maybe it's just in the environment; maybe it was on door handles; maybe it was on a doctor's hands or gloves. ... So they began to clean a lot of things. ... They did everything they could to bleach and clean and make sure they could stop it, and they still didn't stop it; it started to continue to spread. ...

[They approached a team of genomics specialists, and] the people in genomics had some very tentative early experience of taking a bacteria and taking a look at its entire genetic blueprint. ... So they took a couple samples of this bug that was racing around ... and they started running it through the computers. It takes a while, it took a couple of weeks, but when they got the results back, everybody was completely stunned. ... The results showed that the bug had jumped from patient No. 1 to several other people, and it had jumped by being carried by people who didn't get sick from it. They found out that there were intermediaries, or silent carriers, that were spreading it around. To this day we don't know [if] the silent carriers were other patients [or] hospital workers. They began to see that this wasn't so much a problem of KPC being in the environment as it was people were moving it around.

Now circle and draw connecting lines to those similar words or phrases.

Let’s compare the information in these texts. Remember, comparing is when you note the differences and similarities of two or more items. Using your T-chart and circled items, compose a paragraph using the template, comparing the advancements of science in Phineas’ time to our time. Use the key words/ phrases that you collected from your readings; be sure to cite your information.

**Paragraph Template**

3.8 Paragraph Template	Your Sentence
<p><b>First Sentence:</b>                      Introduction;                      3 sub-topics</p>	<hr/> <hr/> <hr/> <hr/>
<p><b>Second/Third Sentences:</b>                      First example/evidence with support</p>	<hr/> <hr/> <hr/> <hr/>
<p><b>Fourth/Fifth Sentences:</b>                      Second example/evidence with support</p>	<hr/> <hr/> <hr/> <hr/>
<p><b>Sixth/Seventh Sentences:</b>                      Third example/evidence with support</p>	<hr/> <hr/> <hr/> <hr/>
<p><b>Eighth Sentence:</b>                      Conclusion (reiterate introduction sentence)</p>	<hr/> <hr/> <hr/> <hr/>

Activity

## 2 Limelight Science Presentations

### Limelight Presentation Task Sheet/Graphic Organizer

When one is in the limelight, so to speak, he or she is the center of attention. With this activity, your group will be assigned a topic of importance from *Phineas Gage* that needs to be carried through the reading of the text. So, your group will take the lime light as experts of that topic.

What does your presentation need? First and foremost, all members of the group must speak during the group's time in the limelight. In addition, your quad must address the following topics in relation to your concept:

- Definition(s) of any vocabulary/terms; connect to text
- Informative explanation of term/concept as it applies to *Phineas Gage*
- Visual of concept/term to assist in comprehension
- Discussion question for the class to answer (be able to provide a correct response).
- Research (using credible website sources) and design/draft your portion of the presentation below.

#### Lime Light Concept:

---

---

Definitions with Connections to Text	Informative Explanation (as it applies to Phineas Gage)
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
Potential Visual	Discussion Question/Possible Responses
	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

### Cloze Notes Guide

Complete the following paragraph for each group that presents.

**Group members:** \_\_\_\_\_

During this group's presentation, \_\_\_\_\_ (topic) was discussed.

The group mentioned several terms or people worth nothing; for example, they introduced \_\_\_\_\_

\_\_\_\_\_ (term/person) which means/who contributed by \_\_\_\_\_.

Another term/person discussed was \_\_\_\_\_ ;

this means/they contributed by \_\_\_\_\_.

The group also used a visual that represented \_\_\_\_\_ ;

this furthered the topic by \_\_\_\_\_.

By means of a discussion question, the group helped the class understand \_\_\_\_\_

**Group members:** \_\_\_\_\_

During this group's presentation, \_\_\_\_\_ (topic) was discussed.

The group mentioned several terms or people worth nothing; for example, they introduced \_\_\_\_\_

\_\_\_\_\_ (term/person) which means/who contributed by \_\_\_\_\_.

Another term/person discussed was \_\_\_\_\_ ;

this means/they contributed by \_\_\_\_\_.

The group also used a visual that represented \_\_\_\_\_ ;

this furthered the topic by \_\_\_\_\_.

By means of a discussion question, the group helped the class understand \_\_\_\_\_

**Group members:** \_\_\_\_\_

During this group's presentation, \_\_\_\_\_ (topic) was discussed.

The group mentioned several terms or people worth nothing; for example, they introduced \_\_\_\_\_

\_\_\_\_\_ (term/person) which means/who contributed by \_\_\_\_\_.

Another term/person discussed was \_\_\_\_\_ ;

this means/they contributed by \_\_\_\_\_.

The group also used a visual that represented \_\_\_\_\_ ;

this furthered the topic by \_\_\_\_\_.

By means of a discussion question, the group helped the class understand \_\_\_\_\_  
\_\_\_\_\_.

**Group members:** \_\_\_\_\_

During this group's presentation, \_\_\_\_\_ (topic) was discussed.

The group mentioned several terms or people worth noting; for example, they introduced \_\_\_\_\_

\_\_\_\_\_ (term/person) which means/who contributed by \_\_\_\_\_.

Another term/person discussed was \_\_\_\_\_;

this means/they contributed by \_\_\_\_\_.

The group also used a visual that represented \_\_\_\_\_;

this furthered the topic by \_\_\_\_\_.

By means of a discussion question, the group helped the class understand \_\_\_\_\_

\_\_\_\_\_.

**Group members:** \_\_\_\_\_

During this group's presentation, \_\_\_\_\_ (topic) was discussed.

The group mentioned several terms or people worth noting; for example, they introduced \_\_\_\_\_

\_\_\_\_\_ (term/person) which means/who contributed by \_\_\_\_\_.

Another term/person discussed was \_\_\_\_\_;

this means/they contributed by \_\_\_\_\_.

The group also used a visual that represented \_\_\_\_\_;

this furthered the topic by \_\_\_\_\_.

By means of a discussion question, the group helped the class understand \_\_\_\_\_

\_\_\_\_\_.

## Lesson 3

# A Basis for Comparison

### In this lesson you will

---

- Read pages 15-22 of the central text and complete a reading log based on those pages.
- Read and annotate a primary source document and then compare and contrast its content to information in the central text so as to understand the role that audience and purpose play in informational text.
- Read and discuss informational text in order to better understand the nature of Phineas' injury.
- Apply strategies for locating words in an informational text that are unfamiliar to you and determine the meaning of those words, using both context clues and dictionaries.

Activity

# 1 Gathering Details

Read pages 15-22 of *Phineas Gage*. Complete the graphic organizer below.

<p>Select five significant details from your reading that you feel are important to your understanding of the events in this part of the chapter. For each detail, list the page number on which it appears.</p>	<p>Based on the details you selected, write a three-sentence summary of the central idea of this part of Chapter One.</p>
<p>1.</p> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p>2.</p> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p>3.</p> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p>4.</p> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p>5.</p> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Activity

## 2 Comparing Two Accounts

Read the excerpt from the letter “Passage of an Iron Rod Through the Head,” which is written from Dr. Harlow’s point of view. As you read, use the annotating skills you have learned to identify important information that Dr. Harlow shares with the editor of the Boston Medical and Surgical Journal. You will be comparing this text to the central text in terms of the details each text shares about Phineas’ accident. Look specifically for information about the accident itself and the medical treatment immediately after.

### To the Editor of the Boston Medical and Surgical Journal.

Dear sir,—Having been interested in the reading of the cases of “Injuries of the Head,” reported in your Journal by Professor Shipman, of Cortlandville, N.Y., I am induced to offer you the notes of a very severe, singular, and, so far as the result is taken into account, hitherto unparalleled case, of that class of injuries, which has recently fallen under my own care. The accident happened in this town, upon the line of the Rutland and Burlington Rail Road, on the 13th of Sept. last, at 4½ o’clock, p.m. The subject of it is Phineas P. Gage, a foreman, engaged in building the road, 25 years of age, of middle stature, vigorous physical organization, temperate habits, and possessed of considerable energy of character.

It appears from his own account, and that of the by-standers, that he was engaged in charging a hole, preparatory to blasting. He had turned in the powder, and was in the act of tamping it slightly before pouring on the sand. He had struck the powder, and while about to strike it again, turned his head to look after his men (who were working within a few feet of him), when the tamping iron came in contact with the rock, and the powder exploded, driving the iron against the left side of the face, immediately anterior to the angle of the inferior maxillary bone.

I am informed that the patient was thrown upon his back, and gave a few convulsive motions of the extremities, but spoke in a few minutes. His men (with whom he was a great favorite) took him in their arms and carried him to the road, only a few rods distant, and sat him into an ox cart, in which he rode, sitting erect, full three quarters of a mile, to the hotel of Mr. Joseph Adams, in this village. He got out of the cart himself, and with a little assistance walked up a long flight of stairs, into the hall, where he was dressed.

Being absent, I did not arrive at the scene of the accident until near 6 o’clock, p.m. You will excuse me for remarking here, that the picture presented was, to one unaccustomed to military surgery, truly terrific; but the patient bore his sufferings with the most heroic firmness. He recognized me at once, and said he hoped he was not much hurt. He seemed to be perfectly conscious, but was getting exhausted from the hemorrhage, which was very profuse both externally and internally, the blood finding its way into the stomach, which rejected it as often as every 15 or 20 minutes. Pulse 60, and regular. His person, and the bed on which he was laid, were literally one gore of blood. Assisted by my friend, Dr. Williams, of Proctorsville, who was first called to the patient, we proceeded to dress the wounds. From their appearance, the fragments of bone being uplifted and the brain protruding, it was evident that the fracture was occasioned by some force acting from below upward. The scalp was shaven, the coagula removed, together with three small triangular pieces of the cranium, and in searching to ascertain if there were other foreign bodies there, I passed in the index finger its whole length, without the least resistance, in the direction of the sound in the cheek, which received the other finger in like manner. A portion of the anterior superior angle of each parietal bone, and a semi-circular piece of the frontal



bone, were fractured, leaving a circular opening of about 3½ inches in diameter. This examination, and the appearance of the iron which was found some rods distant, smeared with brain, together with the testimony of the workmen, and of the patient himself, who was still sufficiently conscious to say that “the iron struck his head and passed through,” was considered at the time sufficiently conclusive to show not only the nature of the accident, but the manner in which it occurred.

10, p.m., same evening.—The dressings are saturated with blood, but the hemorrhage appears to be abating. Has vomited twice only since being dressed. Sensorial powers remain as yet unimpaired. Says he does not wish to see his friends, as he shall be at work in a day or two. Tells where they live, their names, &c. Pulse 65; constant agitation of the lower extremities.

Now re-read pages 15–19 in the central text, beginning with the paragraph that begins “None of the progress...” and ending with “...to regain his full powers.” Pay close attention to the specific details that recount Dr. Harlow’s actions and Phineas’ behavior.

Now complete the chart below.

List five details that are included in Dr. Harlow’s account in the *Bulletin of the Massachusetts Medical Society* that are not in the Fleischman text:

---



---



---



---



---



---



---

Identify each writer’s purpose and audience.	Fleischman	Harlow
Purpose <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
Audience <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>

Considering his audience and purpose, why do you think Fleischman left these details out of his text? Why did Harlow include them?

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

How do these additional details impact your understanding of the central text?

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

Activity

### 3 A Deeper Understanding

Read the excerpt from the article “Frontal Lobe Dysfunction Explains Some Behaviors, Doctors Told.” Then, complete the graphic organizer that follows.

**Wednesday, November 21, 2007**

**Connie Jo Discoe**

As endearing as some of the behaviors may seem to outsiders, the symptoms of “frontal lobe dysfunction” often bring caregivers to tears.

Frontal lobe dysfunction, or executive dysfunction syndrome – EDS – or “vulnerable brain,” or “Pick’s disease” causes changes in personality and behavior and erases inhibitions. Victims make poor decisions and do not anticipate the consequences of their sometimes strange, socially unacceptable actions. “If it feels good, do it,” is typical of a victim of frontal lobe dysfunction, Dr. Steven Wengel told a group of McCook doctors when he and Dr. Carl Greiner, of the University of Nebraska Medical Center, stopped in McCook Nov. 8.

“This is not Alzheimer’s disease,” Dr. Wengel said. Victims’ cognition and memory are good, he said; they know what they’ve done – they remember doing it. They just don’t know it’s inappropriate, or that they have frontal lobe dysfunction.

The syndrome has been around for years, Dr. Wengel said, telling the tale of Phineas Gage, not an old gentleman, who in the 1840s, suffered frontal lobe damage when a three-foot-long iron rod was blown through his head. Amazingly, he recovered from that accident, but within weeks he became uncharacteristically obstinate, sexually inappropriate and childlike. Records indicate “he just wasn’t himself,” Dr. Wengel said. Phineas Gage was unable to hold a job due to his socially-inappropriate behavior, and died 11 years later.

“A patient with executive dysfunction generally does not know that he has it,” Dr. Wengel said. “No one ever comes to me and says, ‘I think I have bad judgment. Help me with this.’”

“We’re seeing this now in victims of car accidents and skateboard accidents,” Dr. Wengel said, and in soldiers suffering closed-head brain trauma caused by explosions and bombings.

Normal development of the brain’s executive function is a gradual process starting in the pre-teen years through the 20s (“ ... or never,” Dr. Wengel said. “Not everyone gets here.”)

Good frontal lobe function is evidenced by the ability to make decisions, many unconsciously. Even subtle impairment will show in poor decision-making skills and a lack of awareness of consequences.

Abnormal frontal lobe function manifests itself slowly, and early on with a loss of personal and social awareness, insight and disinhibition.

Typical behavioral problems include:

- Socially inappropriate behavior, such as making tactless comments, sexually inappropriate jokes, comments, suggestions and/or requests;
- Aggressive behavior, (for example, becoming easily angered while driving);
- Hoarding; and
- Shoplifting.

Physical signs will include:

- Early, primitive reflexes and incontinence; and
- Late, akinesia (absence or disturbance of motion in a muscle); rigidity; tremor; or low blood pressure.

Dr. Carl Greiner MD, a UNMC professor of psychiatry, practices adult and forensic psychiatry and deals with issues of cognitive impairment and how it can result in legal problems.

Dr. Greiner studies psychiatry and the law, asking, “Is someone with EDS (executive dysfunction syndrome) culpable?”

EDS is hard to recognize, Dr. Greiner said. Victims are, “mentally rigid. The lights are on, but nobody’s home. They seem OK, but they’re not.”

“Victims can get into trouble,” he explained, “because their concept of ‘the right time and place’ is disrupted.”

Everyone has a bit of executive dysfunction, Dr. Greiner said, explaining that phonics in the third grade made absolutely no sense to him. But, someone who has had good executive brain function and is now losing it will not function as well as in the past, he said.

“You don’t seem like yourself,” may be the comment made to an EDS sufferer, Dr. Greiner said.

Someone with EDS is a risk to him/herself, becoming easily befuddled by simple tasks – such as tripping because they’ve forgotten to lift their feet to walk up a flight of stairs, or getting burned by forgetting the process of pouring hot coffee, Dr. Greiner said.

“Early on, symptoms of EDS are illusive ... they’re tough to pin down,” he said. There is a battery of paper-and-pencil tests that a suspected victim can be put through, including being asked to draw the face of a clock. Planning ahead to fit 12 items equidistance within a circle is a function of good frontal lobe function, he said. An EDS victim often bunches all the numbers together or only makes it half-way around before he/she runs out of numbers. One victim actually drew facial features on a clock, Dr. Wengel said.

Dr. Wengel said there is at times an overlap between short-term memory loss and frontal lobe dysfunction. “On any given day, any one of us can have some degree of frontal lobe dysfunction,” he said.

“Frontal lobe dysfunction is a real challenging syndrome to pin down,” he said.

Refer to pages 19-22 of your text. Make a list in the table below of Phineas’ behaviors. Then, in the other column, make a list of behaviors listed in the article. Be sure to look not only at the bulleted list but at the quotes from Dr. Wengel and Dr. Greiner. Then, answer the questions at the bottom of the table.

Phineas' Behaviors	Behaviors Listed in the Article

What behaviors do people with frontal lobe damage have that are similar to Gage's strange behavior?

---

---

---

---

---

---

---

---

---

---

---

---

---

How does this article help us understand what Gage's doctors did not understand?

---

---

---

---

---

---

---

---

---

---

---

---

---

Activity

**4** Vocabulary

Choose ONE of the words from the list in the box below and ONE unfamiliar word from “Horrible Accident” in Vermont.” For each of your words, complete the chart below. Remember to use the context of the word (the sentence in which it is found) to help you understand the dictionary definition.

Choice words and the page numbers on which they can be found:

- |                          |                          |                           |
|--------------------------|--------------------------|---------------------------|
| foreman . . . . . p.1    | fundamental . . . p.11   | imbalance . . . . . p.17  |
| forge . . . . . p.3      | gangrene . . . . . p.13  | intrigued . . . . . p.20  |
| laterally . . . . . p.8  | colonize . . . . . p.13  | vulgar . . . . . p.20     |
| dresses . . . . . p.9    | array . . . . . p.13     | irreverent . . . . . p.22 |
| delirious . . . . . p.10 | carbolic acid . . . p.15 | deference . . . . . p.22  |

Word from the list (all):	Rate My Understanding (circle one):  Know It      Sort of Know It      Don't Know It at All
My Guess on Meaning:  _____ _____	
Dictionary Definition (include the part of speech):  _____ _____	
Context (the sentence in which the word appears and the page number):  _____ _____	
Does the dictionary definition fit the context of the word? If not, what definition does fit? What clues are in the sentence to help you understand the meaning of the word from context?  _____ _____	
Restate or explain the new word in your own words:  _____ _____ _____ _____	Create a representation of the word (a picture or symbolic representation):  _____ _____ _____ _____

Word from the list (all):		Rate My Understanding (circle one):		
		Know It	Sort of Know It	Don't Know It at All
My Guess on Meaning:				
<hr/> <hr/> <hr/>				
Dictionary Definition (include the part of speech):				
<hr/> <hr/> <hr/>				
Context (the sentence in which the word appears and the page number):				
<hr/> <hr/> <hr/>				
Does the dictionary definition fit the context of the word? If not, what definition does fit? What clues are in the sentence to help you understand the meaning of the word from context?				
<hr/> <hr/> <hr/> <hr/> <hr/>				
Restate or explain the new word in your own words:		Create a representation of the word (a picture or symbolic representation):		
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		

Read pages 23-34 of *Phineas Gage*. Complete the graphic organizer below.

Select five significant details from your reading that you feel are important to your understanding of the events in this part of the chapter. For each detail, list the page number on which it appears.

1.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Based on the details you selected, write a three-sentence summary of the central idea of this part of Chapter One.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## Lesson 4

# The Nitty Gritty of the Brain

### In this lesson you will

---

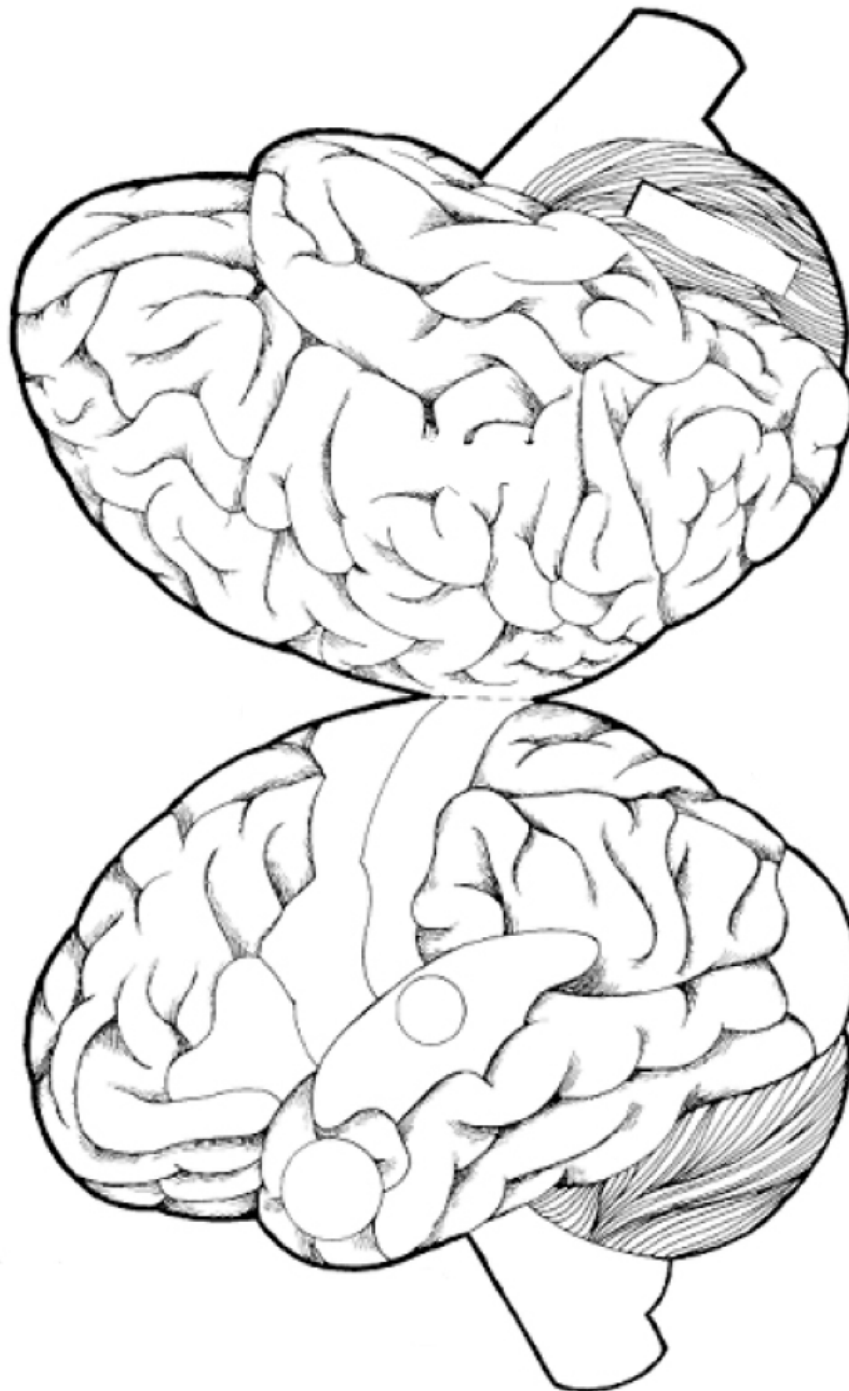
- Actively read informational texts using graphic organizers.
- Compose working definitions to be used in discussion and writing tasks.
- Locate parts of the brain using a graphic organizer and kinesthetic game.
- Actively watch short pieces of media using listening guides to record information.
- Read pages 23-34 of the central text and complete a reading log for those pages.
- Learn the term “analogy” and be able to compose an analogy in the form of a paragraph.
- Understand the terms “metaphor” and “simile” and be able to compose an example using information from central text.
- Become familiar with the basic parts and functions of the human brain.

Activity

# 1 Brain Twister Helmet

Using the images from your text on pages 28, 29, and 31, label your blank copy of the brain hat; afterwards, use the glossary on pages 76-79 to create working definitions for those labeled parts. A working definition includes your version (in your own words) of how that part of the brain functions, where it is located, and other important information. Working definitions are typically concise or shorter, more efficient ways of describing something.

## Brain Hat Graphic Organizer



Activity

## 2 Understanding the Brain

While you are watching the Ted Ed video, complete the Listener's 3-2-1 in your academic notebook.

### Listener's 3-2-1

Criteria	Your Response
3 List three parts of the brain, with functions	<hr/> <hr/> <hr/>
2 Describe two conditions the brain can experience.	<hr/> <hr/> <hr/>
1 Make one connection between this video and Phineas.	<hr/> <hr/> <hr/>

Come up with another way to describe the brain in terms of function and structure. Get creative. Try to compose at least a five-sentence description. This type of description is referred to as an analogy — the comparing of two things for the purpose of further explanation.

---

---

---

---

---

---

---

---

---

---

**Activity**

**3 Grow, Grow Neuron!**

How would you describe the neuron firing to a peer who may not have had the benefit of the video you have just watched? Use a metaphor or simile to assist you in this task. To review, a metaphor compares two unlike items in definite terms, using “is” as the verb most times. A simile compares two items using “like” or “as” as the bridge between those two items. In the space below, compose a three-sentence description that includes either a simile or a metaphor.

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

Read pages 34-42 of *Phineas Gage*. Complete the graphic organizer below.

Select five significant details from your reading that you feel are important to your understanding of the events in this part of the chapter. For each detail, list the page number on which it appears.

1.

---

---

---

---

---

2.

---

---

---

---

---

3.

---

---

---

---

---

4.

---

---

---

---

---

5.

---

---

---

---

---

Based on the details you selected, write a three-sentence summary of the central idea of this part of Chapter One.

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

## Lesson 5

# Taking Sides

### In this lesson you will

---

- Develop an understanding of the terms “Whole Brainers” and “Localizers” based on your reading of the central text.
- Read pages 34-42 and complete a reading log based on these pages.
- View a Ted Ed video on the “distributed model” and the “localistic model” of brain functions and create a timeline using a graphic organizer in your academic notebooks.
- Write an argument paragraph in which you take a side as a “whole brainer” or a “localizer,” including at least three pieces of evidence to support your claim.
- Peer edit another student’s paragraph using a checklist.
- Revise your paragraph according to the peer revision checklist and your partner’s suggestions.
- Apply strategies for locating words in an informational text that are unfamiliar to you and determining the meaning of those words, using both context clues and dictionaries.
- Revisit the prompt for the Brain Health Symposium.

Activity

**1** “Whole Brainers” vs. “Localizers”

Class definition of the term “Whole Brainer”:

---

---

---

---

---

Class definition of the term “Localizer”:

---

---

---

---

---

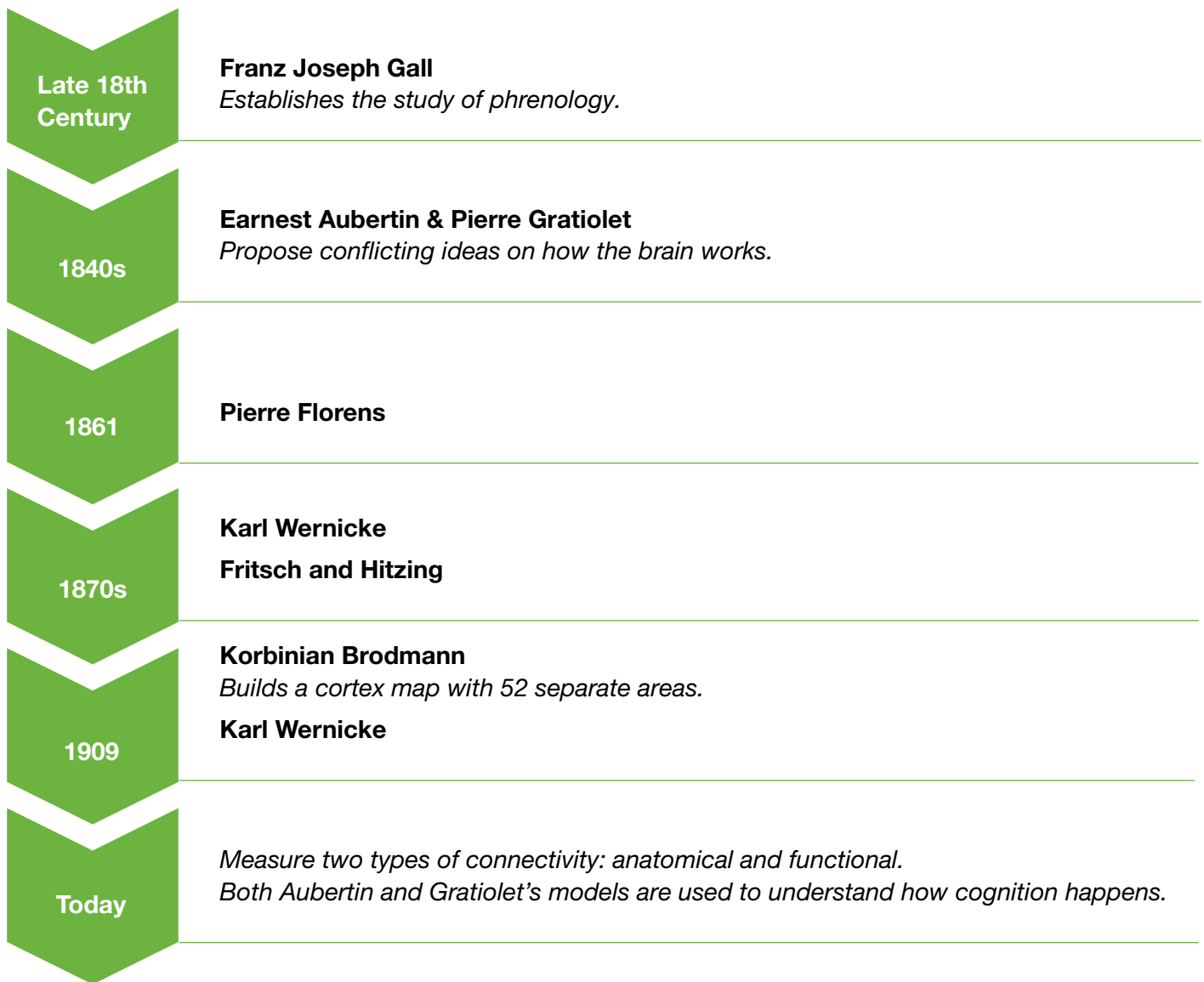
As you read the remaining pages of Chapter Two, “Following Phineas Gage,” on the T-Chart in the academic notebook, record evidence for your side. Next, while the “Whole Brainers” talk, the “Localizers” should record their evidence on the T-chart and vice versa.

Whole Brainers	Localizers

Activity

## 2 A Timeline of Events

As you watch the video “The Great Brain Debate,” pay close attention to the scientists and their theories/ discoveries. Then, fill in the blanks in the timeline below. Doing so will give you a comprehensive view of how scientists moved from the whole brain theory vs. localizer debate to a better understanding of how the brain works. Some of the events have been completed for you.





Activity

### 3 Make Your Case

Now that you have gathered evidence from the central text and watched a video on various theories about how the brain functions, write a short paragraph in which you take a side as either a whole brainer or a localizer. Use the evidence you have gathered to support your argument. Refer to the T-chart in Activity 1 and the timeline in Activity 2 as you gather support for your argument. Include at least two pieces of evidence to support your claim. Use the “Yes MAAM” guide below to create your paragraph.

**YES, MA'AM**

Me	Author	Author	Me
Within the first sentence, restate the prompt and provide a general answer.	Support your inference with <b>ONE</b> specific detail from the text. <i>In the text...</i> <i>The text states...</i> <i>According to the passage...</i> <i>One example from the text...</i> <i>The author states...</i>	Support your inference with a <b>SECOND</b> specific detail from the text. <i>In the text...</i> <i>The text also states...</i> <i>According to the passage...</i> <i>A second example from the text...</i> <i>The author also states...</i>	End with why the evidence fits. Explain how the support proves your point. <i>This shows...</i> <i>This demonstrates...</i> <i>I believe...</i> <i>These details prove...</i>

**Support your thinking with textual evidence**

---

---

---

---

Activity

**4** Vocabulary

Choose ONE of the words from the list in the box below and ONE unfamiliar word from “What We Thought About How We Thought.” For each of your words, complete the chart below. Remember to use the context of the word (the sentence in which it is found) to help you understand the dictionary definition.

Choice words and the page numbers on which they can be found:

- |                           |                              |                            |
|---------------------------|------------------------------|----------------------------|
| Ether . . . . . p.24      | Cadaver . . . . . p.27       | Vital . . . . . p.37       |
| Specimen . . . . . p.24   | Singular . . . . . p.31      | Intolerable . . . . . p.38 |
| Equanimity . . . . . p.26 | Involuntarily . . . . . p.37 | Profane . . . . . p.38     |

Word from the list (all):	Rate My Understanding (circle one):  <div style="display: flex; justify-content: space-around; text-align: center;"> <span>Know It</span> <span>Sort of Know It</span> <span>Don't Know It at All</span> </div>
My Guess on Meaning:  <hr/> <hr/>	
Dictionary Definition (include the part of speech):  <hr/> <hr/>	
Context (the sentence in which the word appears and the page number):  <hr/> <hr/>	
Does the dictionary definition fit the context of the word? If not, what definition does fit? What clues are in the sentence to help you understand the meaning of the word from context?  <hr/> <hr/>	
Restate or explain the new word in your own words:  <hr/> <hr/> <hr/> <hr/>	Create a representation of the word (a picture or symbolic representation):  <hr/> <hr/> <hr/> <hr/>

Word from the list (all):		Rate My Understanding (circle one):		
		Know It	Sort of Know It	Don't Know It at All
My Guess on Meaning:				
<hr/> <hr/> <hr/>				
Dictionary Definition (include the part of speech):				
<hr/> <hr/> <hr/>				
Context (the sentence in which the word appears and the page number):				
<hr/> <hr/> <hr/>				
Does the dictionary definition fit the context of the word? If not, what definition does fit? What clues are in the sentence to help you understand the meaning of the word from context?				
<hr/> <hr/> <hr/> <hr/> <hr/>				
Restate or explain the new word in your own words:		Create a representation of the word (a picture or symbolic representation):		
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		

Activity

## 5 Revisiting the Prompt

What can we do to keep our brains healthy and functioning?

After reading *Phineas Gage: A Gruesome but True Story About Brain Science* and other informational texts on brain research, write a proposal for a station at a Brain Health Symposium that will allow participants to learn and engage in a brain health activity in which you demonstrate the value of the activity in brain health. Support your station concept with evidence from the texts.

Complete the graphic organizer as you plan your proposal.

Possible topics for Brain Health Symposium	Information from texts that relates to each topic (cite the source and the page number, if given)
<b>Topic 1:</b> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/>
<b>Topic 2:</b> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/>
<b>Topic 3:</b> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/>

## Lesson 6

# Putting the Pieces Together

### In this lesson you will

---

- Read pages 43-53, ending with “...concerns than Phineas Gage” and complete the reading log in the academic notebook.
- Use the CRAAP method to determine a source’s validity.
- Revisit parallelism and identify parallel structures in a portion of the central text.
- Sequence the events of Phineas’ death using a graphic organizer.
- Write an obituary for Phineas Gage using significant details from his life.
- Share your obituaries in small groups, explaining your rationale for the details you selected or omitted.
- Peer edit a partner’s obituary and revise your own obituary based on a peer review checklist.



Activity

## 2 Evaluating Evidence

View the following primary source documents. These documents will give you some additional information about Barnum's museum. Pay close attention to information such as author, date, and audience. For each source, determine its usefulness if you, like Professor Malcolm, were attempting to determine if Phineas was an exhibit at the American Museum. Complete the **CRAAP** table for each source on page 62. You may not be able to answer all questions about each source, but if the information is provided, include it in your evaluation.

**First source:**

*American Museum Illustrated Guide Book*, 1850

Barnum advertised his American Museum as the home of “millions of curiosities,” and visitors could purchase a guidebook such as this one to learn more about them. The Guidebooks included extensive descriptions (and in some cases small illustrations) of the various attractions and exhibits that filled the museum from floor to ceiling. The image below is one page from a Guidebook. The text is reprinted below. Citation: “The Lost Museum Archive.” American Museum Illustrated Guide Book, 1850. American Social History Project/Center for Media and Learning, n.d. Web. 30 June 2015.

**Text from the image on page 61:**

Very different are the following illustrations of human life: they show us peace and purity, and the cultivation of domestic virtues. A lady is seen playing on the piano-forte one of the sweet airs Jenny Lind has made her own; an aged man, with his as aged partner, is reading the Scriptures; and children, who it is easy to perceive, have been reared to religion, temperance, and honor, are in their appropriate groups.

Figures of the well-known Siamese Twins, stand next to that of a Chinese Mandarin, clothed in the real costume of that dignitary. The appearance of this figure is very dignified, and we notice the “button” which signalizes the particular class to which the magistrate belongs, which contrasts strongly with the plain Quaker garb of the Giant and Giantess, Mr. Robert Hales and Miss Eliza Simpson, who were married on the stage of the Museum, Feb. 17, 1849.

The birth and trial of Christ, are the concluding group. They are necessarily very interesting to the visitor. Having made acquaintance with these waxen representatives, of celebrated personages, we ascend by a handsome flight of broad stairs.

On ascending them, it is necessary to direct the visitor to a splendid oil painting of Jenny Lind, which is suspended from the wall on the landing. It is an excellent likeness, and is accompanied by a daguerreotype likeness of Mr. Barnum, another of him and the celebrated Tom Thumb, and the bill of programme of Professor Anderson's performances before Queen Victoria.



View of the Wax-work Room.

Very different are the following illustrations of human life: they show us peace and purity, and the cultivation of domestic virtues. A lady is seen playing on the piano-forte one of the sweet airs Jenny Lind has made her own; an



Siamese Twins.

aged man, with his as aged partner, is reading the Scriptures; and children, who it is easy to perceive, have been reared to religion, temperance and honor, are in their appropriate groups.

Figures of the well known Siamese Twins, stand next to that of a Chinese Mandarin, clothed in the real costume of that dignitary. The appearance of this figure is very dignified, and we notice the "button" which signalizes the particular



Green and Gitanon.



Chinese Mandarin

class to which the magistrate belongs, which contrasts strongly with the plain Quaker garb of the Giant and Gitanon, Mr. Robert

Hales and Miss Eliza Simpson, who were married on the stage of the Museum, Feb. 17, 1849.

The Birth and the Trial of Christ, are the concluding group. They are necessarily very interesting to the visitor.

Having made acquaintance with these waxen representatives, of celebrated personages, we ascend by a handsome flight of broad stairs.



Haloway to the Picture Gallery.

On ascending them, it is necessary to direct the visitor to a splendid oil painting of Jenny Lind, which is suspended from the wall on the landing. It is an excellent likeness, and is accompanied by a daguerreotype likeness of Mr. Barnum, another of his and the celebrated Tom Thumb, and the bill or programme of Professor Anderson's performances before Queen Victoria.



<p><b>Currency</b></p> <p>When was the information posted/published?</p> <p>Has the information been revised/updated?</p> <p>Is the information current or out-of-date for your topic?</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>Relevance</b></p> <p>Does the information relate to or answer your topic? Who is the intended audience?</p> <p>Would you be comfortable using this source for a more in-depth research task on this topic?</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>Authority</b></p> <p>Who is the author/publisher?</p> <p>Are the author's/publisher's credentials given? What are those credentials?</p> <p>Is the author qualified to write about this topic? How?</p> <p>Is there contact information to reach the author/publisher for further questions?</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>Accuracy</b></p> <p>Where does the information come from? Sources? Can you verify sources?</p> <p>Is the information supported by evidence?</p> <p>Does the language or tone seem biased and/or free from emotion?</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>Purpose</b></p> <p>What purpose/reason does this information serve?</p> <p>Is the purpose clear?</p> <p>Is the information fact, opinion, or propaganda?</p> <p>Does the point of view appear objective and impartial?</p> <p>Are there political, cultural, religious or person biases?</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

**Second source:**

Mr. Barnum on Museums, *The Nation*, August 10, 1865

When *The Nation* attacked the American Museum in an anonymously authored article on July 27, 1865, Barnum responded immediately, firing back this letter to the editors. He defended his need to make a profit from his museum which, unlike those in Britain, was not supported by government funds, and vigorously defended himself against charges of vulgarity in his Lecture Room dramas and attractions. Barnum concludes the letter by outlining his plans for his next museum, a defiant rejoinder to the editors of *The Nation* who had been happy to see it gone.

Citation: Barnum, P.T. "The Lost Museum Archive." Mr. Barnum on Museums. *The Nation*, August 10, 1865. American Social History Project/Center for Media and Learning, n.d. Web. 30 June 2015.

BRIDGEPORT, Conn., July 29, 1865

TO THE EDITOR OF THE NATION:

THE NATION is just the journal our "nation" needed, and it delights thousands besides my humble self. But the article on "Museums" in the last number exhibits a little of the slashing style of the London Saturday Review, or else I am blinded by my prejudices or interests.

I am not thin-skinned, and I know my Museum was not so refined or classic or scientifically arranged as the foreign governmental institutions, for mine had to support my family, while those require annually from the government thousands of pounds. "That class for which it [my Museum] would seem to have been originally intended" would not support a proper museum pecuniarily. More's the pity — but such is the stern fact. Hence, to make it self-supporting, I was obliged to popularize it, and while I still held on to the "million of curiosities," millions of people were only induced to see them because, at the same time, they could see whales, giants, dwarfs, Albinos, dog shows, et cetera. But it is a great error to state that I ever permitted "vulgar sensation dramas." No vulgar word or gesture, and not a profane expression, was ever allowed on my stage! Even in Shakespeare's plays, I unflinchingly and invariably cut out vulgarity and profanity. It is equally incorrect that "respectable citizens did not take their wives daughters" "to see a play on that stage." Your writer doubtless supposed he was stating facts, but let him enquire, and he will find that nothing could be further from the truth. I am sensitive on these points, because I was always extremely squeamish in my determination to allow nothing objectionable on my stage.

I permitted no intoxicating liquors in the Museum. I would not even allow my visitors to "go out to drink" and return again without paying the second time, and this reconciled them to the "ice-water" which was always profuse and free on each floor of the Museum. I could not personally or by proxy examine into the character of every visitor, but I continually had half a score of detectives dressed in plain clothes, who incontinently turned into the street every person of either sex whose actions indicated loose habits. My interest even depended upon my keeping a good reputation for my Museum, and I did it to a greater degree than one out of ten could attain who had charge of a free museum, or even a free picture gallery. Now, I beg of you to submit the above to the writer of the article in question, and ask him, as an act of justice, to set me right before the public. Humbug with me has had its day, and although I always gave the money's worth of that which was not demoralizing, I often grieved that the taste of the million was not elevated. But now, having made my "million" nearly twice told, I really aspire to do a good and great thing, and I ask hereby the aid of you and your writer in accomplishing it.

I hope that the fire of the late Museum will have fumigated and burned out the humbug from the public mind to such a degree that it can discover that Barnum has got neither horns nor hoofs, and that he has as much love for refinement and the elevation of the race, especially in this country, as even your excellent writer, "or any other man." I merely hope that this writer will carefully and impartially ponder this hastily written letter, and manfully give me justice. If he will, at the same time, lend me a helping hand in the way of council, he will confer a great favor on myself, which I will endeavor to transfer for the benefit of my countrymen.

In great haste, truly yours,  
P.T. Barnum.

<p><b>Currency</b></p> <p>When was the information posted/ published?</p> <p>Has the information been revised/updated?</p> <p>Is the information current or out-of-date for your topic?</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>Relevance</b></p> <p>Does the information relate to or answer your topic? Who is the intended audience?</p> <p>Would you be comfortable using this source for a more in-depth research task on this topic?</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>Authority</b></p> <p>Who is the author/publisher?</p> <p>Are the author's/publisher's credentials given? What are those credentials?</p> <p>Is the author qualified to write about this topic? How?</p> <p>Is there contact information to reach the author/publisher for further questions?</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>Accuracy</b></p> <p>Where does the information come from? Sources? Can you verify sources?</p> <p>Is the information supported by evidence?</p> <p>Does the language or tone seem biased and/or free from emotion?</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>Purpose</b></p> <p>What purpose/reason does this information serve?</p> <p>Is the purpose clear?</p> <p>Is the information fact, opinion, or propaganda?</p> <p>Does the point of view appear objective and impartial?</p> <p>Are there political, cultural, religious or person biases?</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Activity

### 3 Reviewing Parallelism

Sentences with equal parts should read in a smooth and balanced way. These equal parts should be parallel. That is, they should be in the same form. Sentences containing parts that are not parallel are faulty.

*Not parallel:* Nick decided to go to soccer practice after school and that he would study later.

*Parallel:* Nick decided to go to soccer practice after school and to study later.

*Parallel:* Nick decided that he would go to soccer practice after school and that he would study later.

*Not parallel:* Marcia likes to read science fiction books and seeing horror movies.

*Parallel:* Marcia likes reading science fiction books and seeing horror movies.

Now look at pages 47-48, beginning with “Until Professor Macmillan...” and ending with “He knows his reins.” Which sentences demonstrate parallel structure? Write them in the space provided below. For each sentence, explain why it demonstrates parallelism. Try to locate at least three examples.

Sentence that demonstrates parallel structure (write the entire sentence in the space below):

---

---

Why that sentence is parallel:

---

---

Sentence that demonstrates parallel structure (write the entire sentence in the space below):

---

---

Why that sentence is parallel:

---

---

Sentence that demonstrates parallel structure (write the entire sentence in the space below):

---

---

Why that sentence is parallel:

---

---

Activity

# 4 Sequencing Events

Reread pages 49-53, beginning with “In 1859...” and ending with “...his thirty-seventh birthday.” Sequence the major events that lead to Phineas’ death. Be sure to write each event in your own words. Some of the events are listed for you.

Events Leading to Phineas’ Death	
<b>Event 1</b>	<hr/> <hr/>
<b>Event 2</b> Phineas recovers and begins doing odd jobs.	
<b>Event 3</b>	<hr/> <hr/>
<b>Event 4</b>	<hr/> <hr/>
<b>Event 5</b> Phineas’ seizures become worse.	
<b>Event 6</b>	<hr/> <hr/>

Based on these events, what can you infer about Phineas’ death?

---

---

---

---

---

---

---

Activity

## 5 Finishing Phineas' Story

An obituary is written about a deceased person. It typically describes accomplishments, important biographical details (such as date and place of birth and relatives), and other notable facts. Obituaries are important secondary sources that are frequently used for research. Consider them as a person's "final story."

Visit the following website to view obituaries. Read one or two obituaries and list types of information found in obituaries.

<http://www.nytimes.com/pages/obituaries/index.html>

Now write specific details from an obituary you read, and then classify them according to the type of information.

Details/Facts From The Obituary	Type Of Information (Dates, Accomplishments, Relatives, Notable Facts)
<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>

Now write an obituary for Phineas since one was never written. Be sure to include important details and accomplishments about his life. You will need to revisit earlier chapters of the book to find details for your obituary. Look for the following information:

- Name, age (preferably in the first graph)
- Occupation, achievements or reason for notoriety
- Time, place, and cause of death
- Birthdate, birthplace, current residence
- Survivors (only immediate family)
- Memberships in organizations, military service
- Funeral and burial arrangements, donations

Begin by prewriting and listing events, details, and accomplishments. Include the following information: name, age, occupation, achievements; time, place, and cause of death; birthdate, birthplace, current residence, and survivors.

Important Details/Facts from Phineas' Life:

---

---

---

---

---

---

---

---

---

---

Now write an obituary that follows the format we've examined in class.

---

---

---

---

---

---

---

---

---

---

Now that you have written your obituary, you will exchange papers with a partner and peer edit each other's work. Use the following checklist. Circle yes or no for each criteria.

Paper's Author:

---

Peer Editor:

---

**Yes**   **No**   The writer uses obituary style.

**Yes**   **No**   The writer includes significant accomplishments, facts, and details.

**Yes**   **No**   The writer uses accurate spelling, grammar, and punctuation, including parallel structure.

After you look at your peer editor's notes, revise your obituary as needed.

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---



## Lesson 7

# Deepening Our Understanding

### In this lesson you will

---

- Read the central text beginning with “Half the world away...” on page 53, through the end of the chapter on page 64, and complete the graphic organizer for those pages.
- Examine the life mask on page 4 and the skull on page 62, noting similarities and differences in the two images of Phineas’ head and drawing conclusions based on the differences and similarities in the two images.
- Answer the questions on page X of the academic notebook and discuss your responses with a shoulder partner and in a class discussion.
- Read and annotate an informational text and a literary text on the subject of autism and complete a Venn diagram based on those texts and the central text.
- Apply strategies for locating words in an informational text that are unfamiliar to you and determine the meaning of those words, using both context clues and dictionaries.

Activity

# 1 Graphic Organizer

Based on your reading of pages 53 beginning with “Half the world away...” through the end of Chapter Three, “Following Phineas Gage,” complete the graphic organizer.

Select five significant details from your reading that you feel are important to your understanding of the events in this part of the chapter. For each detail, list the page number on which it appears.

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

Based on the details you selected, write a three-sentence summary of the central idea of this part of Chapter Three.

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

Activity

## 2 Comparing Visual Texts

Compare and contrast the life mask on page 4 of *Phineas Gage* and the skull on page 62. In the space below, record similarities and differences in the two images of Phineas’ head.

Similarities	Differences

Now that you have read about the accident, what conclusions can you make based on the differences and similarities in the two images?

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

Activity

**3** “Whole-Brainers” and “Localizers”

Let’s revisit “whole-brainers” and “localizers.” Look at page 52 in your academic notebook to review the definition of the two terms as well as what each group believed.

Re-read central text pages 53 beginning with “Half the world away...” through page 56 ending with “...has lost track of Phineas. Then answer the questions below.

How did Broca and Wernecke change these theories?

---

---

---

---

---

---

---

---

How do their discoveries help you understand how the brain works?

---

---

---

---

---

---

---

---

How do their discoveries help you understand how Phineas’ injury affected him?

---

---

---

---

---

---

---

---

Activity

4

Now you will read and annotate an excerpt from the website “Autism Speaks” and an excerpt from the novel *The Curious Incident of the Dog in the Night-time*. Then, you will relate what you learn from these sources to Phineas’ injury and behavior. Use the annotation skills you have learned to help you understand the text. Pay special attention to behaviors that people with autism exhibit.

**Social Symptoms**

From the start, typically developing infants are social beings. Early in life, they gaze at people, turn toward voices, grasp a finger, and even smile. In contrast, most children with autism seem to have tremendous difficulty few months of life, many do not interact and they avoid eye contact. They seem indifferent to other people, and often seem to prefer being alone. They may resist attention or passively accept hugs and cuddling. Later, they seldom seek comfort or respond to parents’ displays of anger or affection in a typical way. Research has suggested that although children with autism are attached to their parents, their expression of this attachment is often unusual and difficult to “read.” To parents, it may seem as if their child is not attached at all. Parents who looked forward to the joys of cuddling, teaching, and playing with their child may feel crushed by this lack of the expected and typical attachment behavior. Children with autism also are slower in learning to interpret what others are thinking and feeling. Subtle social cues — whether a smile, a wink, or a grimace—may have little meaning. To a child who misses these cues, “Come here” always means the same thing, whether the speaker is smiling and extending her arms for a hug or frowning and planting her fists on her hips. Without the ability to interpret gestures and facial expressions, the social world may seem bewildering. To compound the problem, people with autism have difficulty seeing things from another person’s perspective. Most 5-year-olds understand that other people have different information, feelings, and goals than they have. A person with autism may lack such understanding. This inability leaves them unable to predict or understand other people’s actions.

Although not universal, it is common for people with autism also to have difficulty regulating their emotions. This can take the form of “immature” behavior such as crying in class or verbal outbursts that seem inappropriate to those around them. The individual with autism might also be disruptive and physically aggressive at times, making social relationships still more difficult. They have a tendency to “lose control,” particularly when they’re in a strange or overwhelming environment, or when angry and frustrated. They may at times break things, attack others, or hurt themselves. In their frustration, some bang their heads, pull their hair, or bite their arms.

Now read the excerpt from *The Curious Incident of the Dog in the Night-time*, a story about a teenager named Christopher John Francis Boone who has autism. In the story, he decides to investigate the mysterious death of a dog in his neighborhood.

Lastly, re-read pages 20 and 22 of *Phineas Gage*, beginning with “In the spring...” and ending with “twenty years.”

Now you will join a group that will focus on one of the three texts. Complete the Venn diagram for your text. After all of the groups have finished listing behaviors in their part of the diagram, each group will report out.

Now that you have read the texts and completed most of the Venn diagram, finish the diagram by listing behaviors that you find mentioned in all three texts where the circles intersect.

Lastly, re-read pages 20 and 22 of *Phineas Gage* beginning with “In the spring...” and ending with “twenty years.”

3. My name is Christopher John Francis Boone. I know all the countries of the world and their capital cities and every prime number up to 7,057.

Eight years ago, when I first met Siobhan, she showed me this picture



and I knew that it meant "sad," which is what I felt when I found the dead dog.

Then she showed me this picture



and I knew that it meant "happy," like when I'm reading about the Apollo space missions, or when I am still awake at 3 a.m. or 4 a.m. in the morning and I can walk up and down the street and pretend that I am the only person in the whole world.

Then she drew some other pictures



but I was unable to say what these meant.

I got Siobhan to draw lots of these faces and then write down next to them exactly what they meant. I kept the piece of paper in my pocket and took it out when I didn't understand what someone was saying. But it was very difficult to decide which of the diagrams was most like the face they were making because people's faces move very quickly.

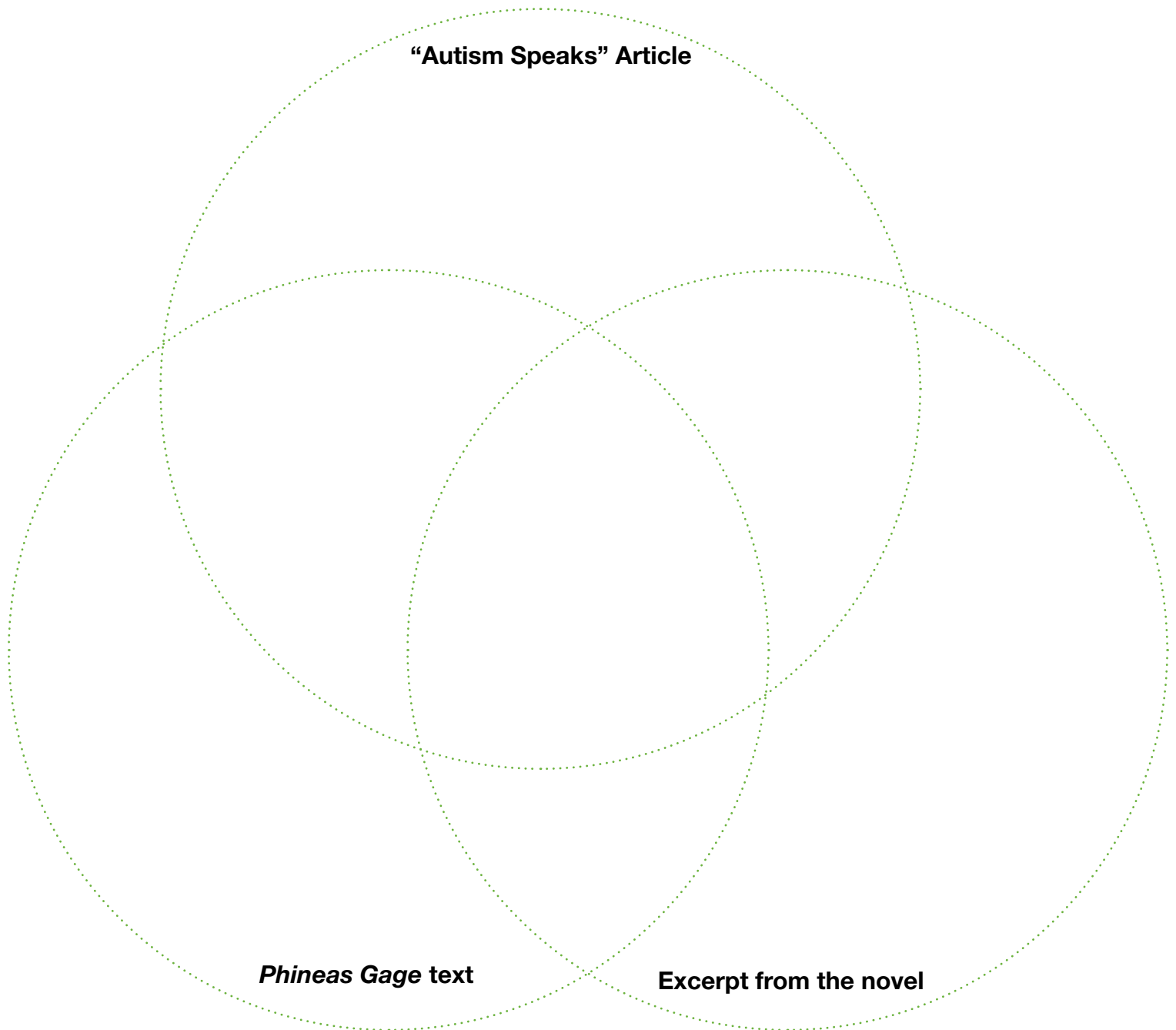
When I told Siobhan that I was doing this, she got out a pencil and another piece of paper and said it probably made people feel very



and then she laughed. So I tore the original piece of paper up and threw it away. And Siobhan apologized. And now if I don't know what someone is saying, I ask them what they mean or I walk away.

Now you will join a group that will focus on one of the three texts. Complete the Venn diagram for your text. After all of the groups have finished listing behaviors in their part of the diagram, each group will report out.

Now that you have read the texts and completed most of the Venn diagram, finish the diagram by listing behaviors that you find mentioned in all three texts where the circles intersect.



Activity

# 5 Vocabulary

Choose ONE of the words from the list in the box below and ONE unfamiliar word from “Following Phineas Gage.” For each of your words, complete the chart below. Remember to use the context of the word (the sentence in which it is found) to help you understand the dictionary definition.

Choice words and the page numbers on which they can be found:

- |                            |                         |                           |
|----------------------------|-------------------------|---------------------------|
| Gawked . . . . . p.44      | Invalid . . . . .p.50   | Radically . . . . . p.59  |
| Perforated . . . . . p.44  | Lumbering . . . . .p.52 | Impairment . . . . . p.59 |
| Skeptics . . . . . p.45    | Cordial . . . . .p.56   | Shrewd . . . . . p.59     |
| Instinctive . . . . . p.48 |                         |                           |

Word from the list (all):		Rate My Understanding (circle one):		
		Know It	Sort of Know It	Don't Know It at All
My Guess on Meaning:				
<hr/> <hr/>				
Dictionary Definition (include the part of speech):				
<hr/> <hr/>				
Context (the sentence in which the word appears and the page number):				
<hr/> <hr/>				
Does the dictionary definition fit the context of the word? If not, what definition does fit? What clues are in the sentence to help you understand the meaning of the word from context?				
<hr/> <hr/>				
Restate or explain the new word in your own words:		Create a representation of the word (a picture or symbolic representation):		
<hr/> <hr/> <hr/> <hr/> <hr/>		<hr/> <hr/> <hr/> <hr/> <hr/>		



Word from the list (all):		Rate My Understanding (circle one):		
		Know It	Sort of Know It	Don't Know It at All
My Guess on Meaning:				
<hr/> <hr/> <hr/>				
Dictionary Definition (include the part of speech):				
<hr/> <hr/> <hr/>				
Context (the sentence in which the word appears and the page number):				
<hr/> <hr/> <hr/>				
Does the dictionary definition fit the context of the word? If not, what definition does fit? What clues are in the sentence to help you understand the meaning of the word from context?				
<hr/> <hr/> <hr/>				
Restate or explain the new word in your own words:		Create a representation of the word (a picture or symbolic representation):		
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		

## Lesson 8

# Further Research Into Phineas

### In this lesson you will

---

- Read pages 65-75, “Putting Phineas Together Again,” in the central text and complete the graphic organizer for those pages.
- Complete a graphic organizer listing the steps of Dr. Anna Damasio’s recreation of Phineas’ brain injury.
- Read and annotate an interview with Dr. Antonio Damasio.
- Participate in a question and answer activity based on the interview with Dr. Damasio.
- Write a paragraph in which you agree, disagree, or qualify Fleischmann’s opinion on whether Phineas was lucky or unlucky.
- Peer edit and revise your paragraphs.
- Participate in small-group and whole-group discussions based on the stance you took in your paragraphs.
- Apply strategies for locating words in an informational text that are unfamiliar to you and determining the meaning of those words, using both context clues and dictionaries.

Activity

# 1 Graphic Organizer

Based on your reading of Chapter Four, “Putting Phineas Together Again,” complete the graphic organizer.

Select five significant details from your reading that you feel are important to your understanding of the events in this part of the chapter. For each detail, list the page number on which it appears.

Blank lines for listing details and page numbers.

Based on the details you selected, write a three-sentence summary of the central idea of this part of Chapter Four.

Blank lines for writing a three-sentence summary.

Activity

## 2 Following a Recreation

Reread pages 67–70, beginning with “Studying the brain scans...” and ending with “...who had cortex tumor surgery.” Now sequence the steps of Dr. Anna Damasio’s recreation of Phineas’ brain injury. Complete the graphic organizer below. The first and last steps are included for you.

Steps In The Process Dr. Damasio’s Recreation	
<b>Step 1</b>	Damasio asks Dr. Galaburda to x-ray, photograph, and remeasure Phineas’ skull.
<b>Step 2</b>	<hr/> <hr/>
<b>Step 3</b>	<hr/> <hr/>
<b>Step 4</b>	<hr/> <hr/>
<b>Step 5</b>	<hr/> <hr/>
<b>Step 6</b>	The findings reveal that Phineas’ injuries match brain scans of patients who had cortex tumor surgery.

Now that you have examined Dr. Damasio’s work, how does it help you to better understand Phineas’ injury?

---

---

---

---

---

---

---

Activity

### 3 Q & A with a Neuroscientist

Read the interview with Dr. Antonio Damasio, a professor of neuroscience at the University of Southern California. As you read, annotate the text using the skills you have used throughout this unit. Refer to the annotation chart in Lesson 1 on page X of your academic notebook.

For decades, biologists spurned emotion and feeling as uninteresting. But Antonio Damasio demonstrated that they were central to the life-regulating processes of almost all living creatures.

Damasio's essential insight is that feelings are "mental experiences of body states," which arise as the brain interprets emotions, themselves physical states arising from the body's responses to external stimuli. (The order of such events is: I am threatened, I experience fear, and I feel horror.) He has suggested that consciousness, whether the primitive "core consciousness" of animals or the "extended" self-conception of humans, requiring autobiographical memory, emerges from emotions and feelings.

His insight, dating back to the early 1990s, stemmed from the clinical study of brain lesions in patients unable to make good decisions because their emotions were impaired, but whose reason was otherwise unaffected — research made possible by the neuroanatomical studies of his wife and frequent coauthor, Hanna Damasio. Their work has always depended on advances in technology. More recently, tools such as functional neuroimaging, which measures the relationship between mental processes and activity in parts of the brain, have complemented the Damasios' use of neuroanatomy.

Damasio has written four artful books that explain his research to a broader audience and relate its discoveries to the abiding concerns of philosophy. He believes that neurobiological research has a distinctly philosophical purpose: "The scientist's voice need not be the mere record of life as it is," he wrote in a book on Descartes. "If only we want it, deeper knowledge of brain and mind will help achieve ... happiness."

Antonio Damasio talked with Jason Pontin, the editor in chief of MIT Technology Review.

**When you were a young scientist in the late 1970s, emotion was not thought a proper field of inquiry.**

We were told very often, "Well, you're going to be lost, because there's absolutely nothing there of consequence." We were pitied for our poor choice.

**How so?**

William James had tackled emotion richly and intelligently. But his ideas [mainly that emotions are the brain's mapping of body states, ideas that Damasio revived and experimentally verified] had led to huge controversies in the beginning of the 20th century that ended nowhere. Somehow researchers had the sense that emotion would not, in the end, be sufficiently distinctive—because animals had emotions, too. But what animals don't have, researchers told themselves, is language like we do, nor reason or creativity—so let's study that, they thought. And in fact, it's true that most creatures on the face of the earth do have something that could be called emotion, and something that could be called feeling. But that doesn't mean we humans don't use emotions and feelings in particular ways.

**Because we have a conscious sense of self?**

Yes. What's distinctive about humans is that we make use of fundamental processes of life regulation that include things like emotion and feeling, but we connect them with intellectual processes in such a way that we create a whole new world around us.

### **What made you so interested in emotions as an area of study?**

There was something that appealed to me because of my interest in literature and music. It was a way of combining what was important to me with what I thought was going to be important scientifically.

### **What have you learned?**

There are certain action programs that are obviously permanently installed in our organs and in our brains so that we can survive, flourish, procreate, and, eventually, die. This is the world of life regulation — homeostasis — that I am so interested in, and it covers a wide range of body states. There is an action program of thirst that leads you to seek water when you are dehydrated, but also an action program of fear when you are threatened. Once the action program is deployed and the brain has the possibility of mapping what has happened in the body, then that leads to the emergence of the mental state. During the action program of fear, a collection of things happen in my body that change me and make me behave in a certain way whether I want to or not. As that is happening to me, I have a mental representation of that body state as much as I have a mental representation of what frightened me.

### **And out of that “mapping” of something happening within the body comes a feeling, which is different from an emotion?**

Exactly. For me, it’s very important to separate emotion from feeling. We must separate the component that comes out of actions from the component that comes out of our perspective on those actions, which is feeling. Curiously, it’s also where the self emerges, and consciousness itself. Mind begins at the level of feeling. It’s when you have a feeling (even if you’re a very little creature) that you begin to have a mind and a self.

### **But that would imply that only creatures with a fully formed sense of their minds could have fully formed feelings —**

No, no, no. I’m ready to give the very teeny brain of an insect — provided it has the possibility of representing its body states—the possibility of having feelings. In fact, I would be flabbergasted to discover that they don’t have feelings. Of course, what flies don’t have is all the intellect around those feelings that could make use of them: to found a religious order, or develop an art form, or write a poem. They can’t do that; but we can. In us, having feelings somehow allows us also to have creations that are responses to those feelings.

### **Do other animals have a kind of responsiveness to their feelings?**

I’m not sure that I even understand your question.

### **Are dogs aware that they feel?**

Of course. Of course dogs feel.

### **No, not “Do dogs feel?” I mean: is my dog Ferdinando conscious of feeling? Does he have “feelings about his feelings?”**

[Thinks.] I don’t know. I would have my doubts.

### **But humans are certainly conscious of being responsive.**

Yes. We’re aware of our feelings and are conscious of the pleasantness or unpleasantness associated with them. Look, what are the really powerful feelings that you deal with every day? Desires, appetites, hunger, thirst, pain — those are the basic things.

**How much of the structure of civilization is devoted to controlling those basic things? Spinoza says that politics seeks to regulate such instincts for the common good.**

We wouldn't have music, art, religion, science, technology, economics, politics, justice, or moral philosophy without the impelling force of feelings.

**Do people emote in predictable ways regardless of their culture? For instance, does everyone hear the Western minor mode in music as sad?**

We now know enough to say yes to that question.

At the Brain and Creativity Institute [which Damasio directs], we have been doing cross-cultural studies of emotion. At first we thought we would find very different patterns, especially with social emotions. In fact, we don't. Whether you are studying Chinese, Americans, or Iranians, you get very similar responses. There are lots of subtleties and lots of ways in which certain stimuli elicit different patterns of emotional response with different intensities, but the presence of sadness or joy is there with a uniformity that is strongly and beautifully human.

**Could our emotions be augmented with implants or some other brain-interfacing technology?**

Inasmuch as we can understand the neural processes behind any of these complex functions, once we do, the possibility of intervening is always there. Of course, we interface with brain function all the time: with diet, with alcohol, and with medications. So it's not that surgical interventions will be any great novelty. What will be novel is to make those interventions cleanly so that they are targeted. No, the more serious issue is the moral situations that might arise.

**Why?**

Because it really depends on what the intervention is aimed at achieving.

Suppose the intervention is aimed at resuscitating your lost ability to move a limb, or to see or hear. Do I have any moral problem? Of course not. But what if it interferes with states of the brain that are influential in how you make your decisions? Then you are entering a realm that should be reserved for the person alone.

**What has been the most useful technology for understanding the biological basis of consciousness?**

Imaging technologies have made a powerful contribution. At the same time, I'm painfully aware that they are limited in what they give us.

**If you could wish into existence a better technology for observing the brain, what would it be?**

I would not want to go to only one level, because I don't think the really interesting things occur at just one level. What we need are new techniques to understand the interrelation of levels. There are people who have spent a good part of their lives studying systems, which is the case with my wife and most of the people in our lab. We have done our work on neuroanatomy, and gone into cells only occasionally. But now we are actually studying the state of the functions of axons [nerve fibers in the brain], and we desperately need ways in which we can scale up from what we've found to higher and higher levels.

**What would that technology look like?**

I don't know. It needs to be invented.

LESSON 8

Now that you have read the text, pretend you also are going to conduct an interview with Dr. Damasio. Create three questions based on your reading. Question topics might include points for clarification, future research, and relation to *Phineas Gage*. Questions should be open, rather than closed. An open question leads to a detailed response rather than a brief or “yes” or “no” answer. These questions often begin with the words “how” or “why.”

Three questions for Dr. Damasio:

- 1. \_\_\_\_\_  
\_\_\_\_\_
- 2. \_\_\_\_\_  
\_\_\_\_\_
- 3. \_\_\_\_\_  
\_\_\_\_\_

Responses to my partner’s questions:

Question 1:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Question 2:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Question 3:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Activity

## 4 A Matter of Luck

At the beginning of the book, Fleischmann asks the question “Was Phineas lucky or unlucky?” At the end of the book, he shares his own opinion. Reread his answer to this question on page 75. Now write a paragraph in which you agree, disagree, or qualify (agree in part) with Fleischmann’s answer. Use evidence from the text and any supplemental texts that you have read. Use Yes MAAM (located on page 54 of the academic notebook) to help you construct your paragraph.

---

---

---

---

---

---

---

---

**Peer editing checklist** – circle yes or no for each of the following criteria.

Paper’s Author:

---

---

Peer Editor:

- |            |           |   |
|------------|-----------|---|
| <b>Yes</b> | <b>No</b> | The first sentence clearly states the writer’s position.  |
| <b>Yes</b> | <b>No</b> | The second sentence supports the writer’s inference with one specific detail from the text.     |
| <b>Yes</b> | <b>No</b> | The third sentence supports the writer’s inference with a second specific detail from the text. |
| <b>Yes</b> | <b>No</b> | The last sentence explains how the support proves the writer’s point.                           |
| <b>Yes</b> | <b>No</b> | The writer uses parallel structure and complete sentences.                                      |

Based on the peer review above, revise your paragraph as needed.

---

---

---

---

---

---

---

---

Activity

**5** Agree to Disagree

Based on the paragraph above, you will participate in a discussion in which you will argue your position to two groups of students: one that has the same point of view and one that has the opposite point of view. To prepare for your discussion, complete the questions below.

My stance:

---

---

---

---

---

---

---

---

---

---

---

Support for my stance:

---

---

---

---

---

---

---

---

---

---

---

LESSON 8

Choose ONE of the words from the list in the box below and ONE unfamiliar word from “Following Phineas Gage.” For each of your words, complete the chart below. Remember to use the context of the word (the sentence in which it is found) to help you understand the dictionary definition.

Choice words and the page numbers on which they can be found:

- Interact . . . . . p.65
- Renowned . . . . . p.66
- Afflicted . . . . . p.66
- Empathy . . . . . p.66
- Conductivity . . . .p.67
- Tranquil . . . . .p.67
- Retroactively . . .p 67
- Generic . . . . .p.68
- Hypothetical . . . p.69
- Riveting . . . . . p.69
- Oriented . . . . . p.7

Word from the list (all):	Rate My Understanding (circle one):
	Know It    Sort of Know It    Don't Know It at All
My Guess on Meaning:	
Dictionary Definition (include the part of speech):	
Context (the sentence in which the word appears and the page number):	
Does the dictionary definition fit the context of the word? If not, what definition does fit? What clues are in the sentence to help you understand the meaning of the word from context?	
Restate or explain the new word in your own words:	Create a representation of the word (a picture or symbolic representation):

Word from the list (all):		Rate My Understanding (circle one):		
		Know It	Sort of Know It	Don't Know It at All
My Guess on Meaning:				
<hr/> <hr/> <hr/>				
Dictionary Definition (include the part of speech):				
<hr/> <hr/> <hr/>				
Context (the sentence in which the word appears and the page number):				
<hr/> <hr/> <hr/>				
Does the dictionary definition fit the context of the word? If not, what definition does fit? What clues are in the sentence to help you understand the meaning of the word from context?				
<hr/> <hr/> <hr/> <hr/> <hr/>				
Restate or explain the new word in your own words:		Create a representation of the word (a picture or symbolic representation):		
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		

## Lesson 9

# Drafting Proposals for a Brain Health Symposium

### In this lesson you will

---

- Understand the criteria of your summative assessment – brain health stations at the symposium.
- Actively listen to media using Listener’s 3-2-1 strategy.
- Understand ethos, pathos, and logos and the application of persuasion to your proposal.
- Perform research for your proposal and brain health station using the CRAAP method to find reliable sources.
- Conduct pre-writing and planning of your proposal.
- Use research and prewriting to compose a rough draft of proposal for brain health station at symposium.

Activity

# 1 Knowing Your Audience

## Brain Health Station for Class Symposium

Guiding Task: You are responsible for researching designing, and creating a station at a Brain Health Symposium; your station should allow participants to learn and engage in a brain health activity. Your driving question is “What can we do to keep our brains healthy and functioning?”

Use the chart below to ensure that your brain health station meets the criteria in the left column.

Criteria	Pre-Planning/Checklist
1. Approved proposal	
2. Valid research consisting of three sources	
3. Engaging activity	
4. Attractive expo board (digital or tri-fold) highlighting related information	
5. Station addresses audience	

When considering audience, you need to understand pathos, ethos, and logos. After all, you are persuading your audience to take their brain health seriously with easy activities/exercises.

After watching the Ted Ed video regarding these topics, fill out the Listener's 3-2-1.

**Listener's 3-2-1**

Criteria	Your Response
<p><b>3</b> Provide working definitions for the three means of persuasion.</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>2</b> List and explain two means of persuasion that will be easy to achieve in your station.</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>1</b> Explain and create a plan for what you think will be the most difficult means of persuasion to achieve in you station.</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Activity

## 2 Making a Commitment: Crafting a Proposal

The first step in answering your driving question is to do research about brain health and methods to maintain brain health. Don't forget that you need to cite three sources for your station. Before you do a blind Internet search, determine if your source is reliable and valid. The CRAAP test will allow you to evaluate those sites.

Your first charge is to determine a brain health topic and activity; fill out this portion on your proposal planner. Fill out a CRAAP test for each source.

<b>CRAAP CRITERIA</b> Currency, Relevance, Authority, Accuracy, Purpose	<b>SOURCE:</b> Notes from this article per CRAAP section	<b>SOURCE:</b> Notes from this article per CRAAP section
<b>C</b> <ul style="list-style-type: none"> <li>When was the information posted/published?</li> <li>Has the information been revised/updated?</li> <li>For your topic?</li> <li>Is the information current or out-of-date?</li> </ul>	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>
<b>R</b> <ul style="list-style-type: none"> <li>Does the information relate to or answer your topic? Who is the intended audience?</li> <li>Would you be comfortable using this source for a more in-depth research task on this topic?</li> </ul>	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>
<b>A</b> <ul style="list-style-type: none"> <li>Who is the author/publisher?</li> <li>Are the author's/publisher's credentials given? What are those credentials?</li> <li>Is the author qualified to write about this topic? How?</li> <li>Is there contact information to reach the author/publisher for further questions?</li> </ul>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>



<p><b>A</b></p> <ul style="list-style-type: none"> <li>• Does the information relate to or answer your topic? Who is the intended audience?</li> <li>• Would you be comfortable using this source for a more in-depth research task on this topic?</li> </ul>	<hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>P</b></p> <ul style="list-style-type: none"> <li>• Who is the author/publisher?</li> <li>• Are the author's/publisher's credentials given? What are those credentials?</li> <li>• Is the author qualified to write about this topic? How?</li> <li>• Is there contact information to reach the author/publisher for further questions?</li> </ul>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Now that you have finished researching and planning, it's time to draft the proposal. Use the drafting template below to blend your research and ideas into a cohesive proposal. Use complete sentences and 1x5 paragraphs.

**Proposal Planner**

<b>COMPONENT</b>	<b>INFORMATION FOR STATION (information from sources; planning information)</b>	<b>APPLICATION TO STATION (how attendants will see this during the symposium)</b>
<p><b>Specific Brain Health Topic</b></p> <ul style="list-style-type: none"> <li>Specifically, what part of the brain will you be addressing?</li> <li>What function is associated with this part of the brain?</li> <li>What problem do you plan on addressing?</li> </ul>	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>
<p><b>Recommended Solution</b></p> <ul style="list-style-type: none"> <li>What activities/exercises can help solve the problem?</li> <li>How do these activities/exercises solve/help solve the problem?</li> </ul>	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>
<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>What benefits can participants receive from your proposed solution?</li> <li>How will your station add to the symposium?</li> </ul>	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>
<p><b>Audience</b></p> <ul style="list-style-type: none"> <li>Who are your expected attendants?</li> <li>How will your station appeal to them? (Consider ethos, pathos, and logos.)</li> </ul>	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>
<p><b>Station Materials</b></p> <ul style="list-style-type: none"> <li>What materials will you need to assemble your station?</li> <li>What materials will you need for participants to engage in your station?</li> </ul>	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>

**Proposal Planner**

Paragraph Criteria	Your 1x5 Paragraph
<p><b>Introduction/Background</b></p> <ul style="list-style-type: none"> <li>• Driving question</li> <li>• Background about the brain/ part of brain</li> </ul>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>Problem/Solution</b></p> <ul style="list-style-type: none"> <li>• Describe the problem</li> <li>• Describe how individuals are affected</li> <li>• Propose solution</li> <li>• Describe activity</li> </ul>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>Station Benefits</b></p> <ul style="list-style-type: none"> <li>• Describe appearance of station; may include activity/ exercise</li> <li>• Describe benefits of including station in symposium (as a whole and for attendants)</li> </ul>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

## Lesson 10

# Completing the Proposal

### In this lesson you will

---

- Learn how to edit and revise for clarity in your writing.
- Complete the writing process.

Activity

# 1 Editing and Revising Drafts

## Brain Health Station for Class Symposium

Now that you have taken your draft through the editing and revision stations, let's perform a quick peer reaction to your draft. In your groups, hand your draft to the person to your left. Complete the Peer Reaction Listener's 3-2-1. As you review your partner's proposal, use the scoring rubric found on page 17 of your Academic Notebook to guide your responses below.

### Peer Reaction Listener's 3-2-1

Criteria	Your Response
<p><b>3</b> Locate three areas in the draft that need editing/ revising. Leave a small note for each, explaining why.</p>	<hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>2</b> Celebrate two areas on the draft where the writer excelled. Explain how.</p>	<hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>1</b> Steal" one idea or strategy this writer used that you will try to use in your draft.</p>	<hr/> <hr/> <hr/> <hr/> <hr/>



