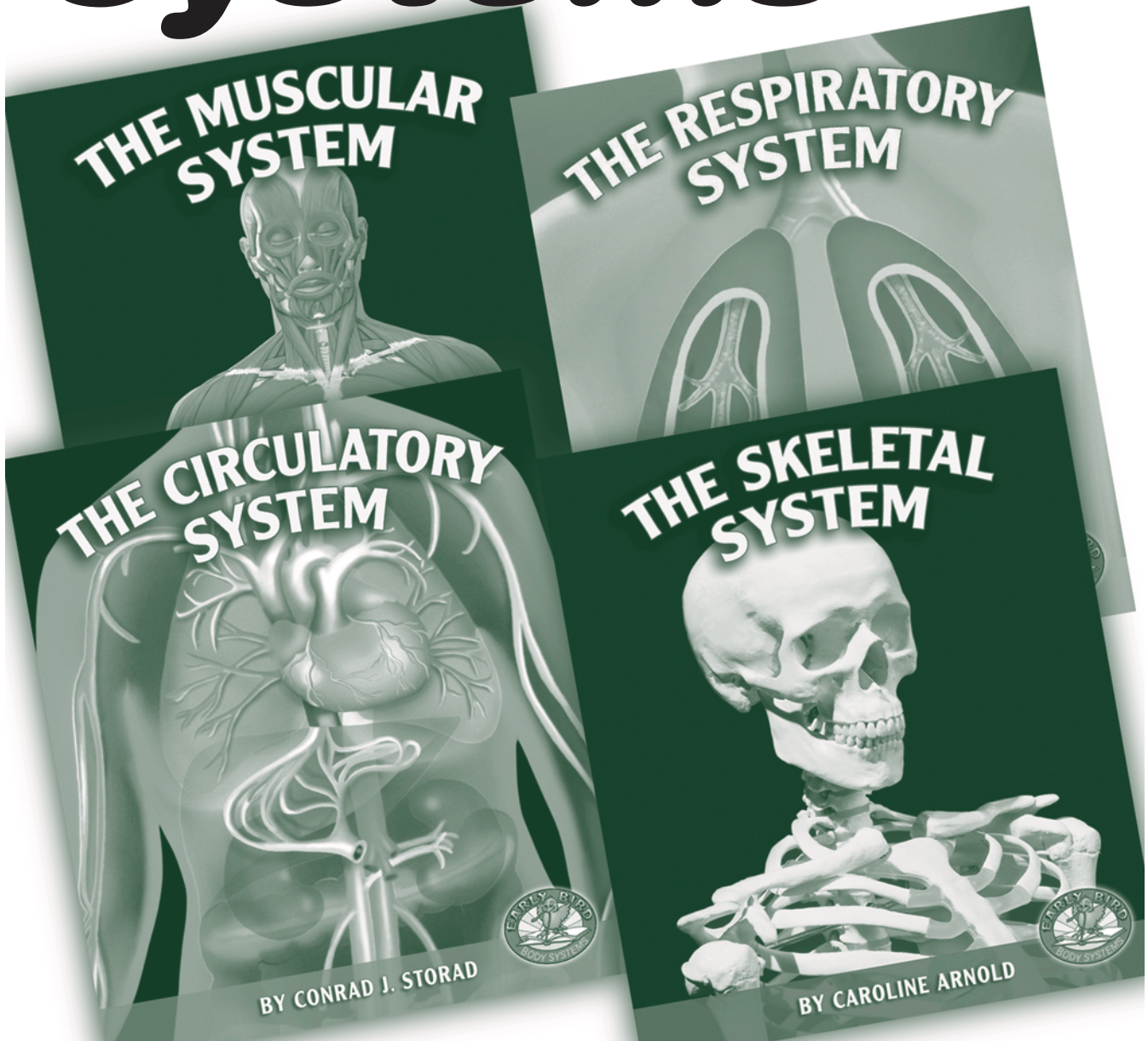


TEACHING

Body Systems



3rd Grade Reading Level

Standards

- Health · Knows how to maintain and promote personal health.
- Language Arts—
Writing · Demonstrates competence in the stylistic and rhetorical aspects of writing.
· Uses grammatical and mechanical conventions in written compositions.
· Gathers and uses information for research purposes.
- Language Arts—
Reading · Demonstrates competence in the general skills and strategies of the reading process.
· Demonstrates competence in the general skills and strategies for reading a variety of informational texts.
- Science · Understands the structure and function of cells and organisms.
· Understands the nature of scientific knowledge.
· Understands the nature of scientific inquiry.
- Visual Arts · Understands the characteristics and merits of one’s own artwork and the artwork of others.

Multiple Intelligences Utilized

- Spatial, linguistic, logical–mathematical, interpersonal, and intrapersonal

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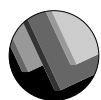
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Manufactured in the United States of America
2 3 4 5 6 7 – IG – 12 11 10 09 08 07

Books in the *Body Systems* series include:

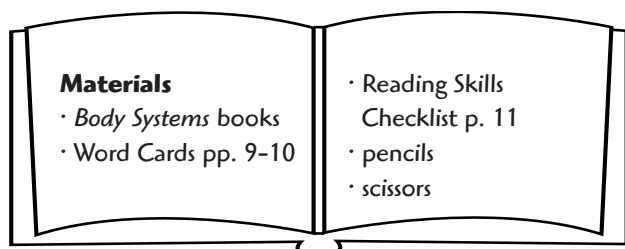
The Circulatory System
The Digestive System
The Muscular System
The Nervous System
The Respiratory System
The Skeletal System



Lesson 1

What's the Word?

Purpose: Students will recognize and define vocabulary words relating to the different body systems.



Objectives

- Recall information.
- Restate facts in one's own words.
- Apply prior knowledge while reading.
- Practice using a glossary.
- Identify bold-faced words in a text.
- Explain the meaning of a word.

Activity Procedures

Prepare

(teacher)

- Copy Word Cards pp. 9–10 back-to-back for each student.
- Copy one Reading Skills Checklist p. 11 for the class.

Pretest

(teacher, students)

- Students will choose one of the selected *Body Systems* books to read.
- Students preview the text independently.
- What do you think you will learn from the book?

Model

(teacher)

- Turn to p. 46 in a *Body Systems* book.
- Remind students that this is the book's glossary.
- Demonstrate how to find bold-faced words from the text in the glossary.

Read

(students)

- Read one book from the *Body Systems* series.

Practice

(students)

- Each student will complete one Word Card pp. 9–10 for each bold-faced word in the text.
- Students will copy each bold-faced word from the text onto a word card. They will use the glossary to write each word's definition on the back of the card.
- After students have completed the Word Cards pp. 9–10, they will work in pairs, using the cards as flash cards to quiz one another on important vocabulary words.

Discuss

(teacher, students)

- What did you learn?
- Were there any words you already knew? Which ones?

Evaluate

(teacher)

- Use Reading Skills Checklist p. 11 to evaluate each student's reading proficiency.
- Orally quiz students on vocabulary words using their completed Word Cards pp. 9–10.

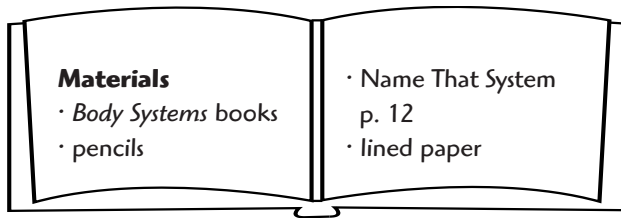




Lesson 2

Name That System

Purpose: Students will demonstrate knowledge of human body systems by matching system names with clues describing their component parts and functions.



Objectives

- Name human body systems.
- Distinguish between different human body systems.
- Demonstrate knowledge of human body systems.
- Identify parts and functions of different body systems.
- Summarize how human body systems work.
- Compare and contrast human body systems.

Activity Procedures

Prepare

(teacher)

- Divide students into small groups to read different *Body Systems* books.
- Copy Name That System p. 12 for each student.

Pretest

(teacher, students)

- What are human body systems?
- What are some of the different body systems?

Read

(students)

- Students will read the *Body Systems* books in small groups over several class periods. The groups will rotate books until each group has read all the books in the series.
- Students may take notes while reading to help them remember key features of each body system.

Model

(teacher)

- Explain the directions for completing Name That System p. 12.

Practice

(students)

- Students will complete Name That System p. 12 independently.
- Students may use *Body Systems* books for reference only after trying to answer each question on their own first.

Discuss

(teacher, class)

- Discuss Name That System p. 12 as a class.
- How many systems could you identify without looking at the *Body Systems* books?

Evaluate

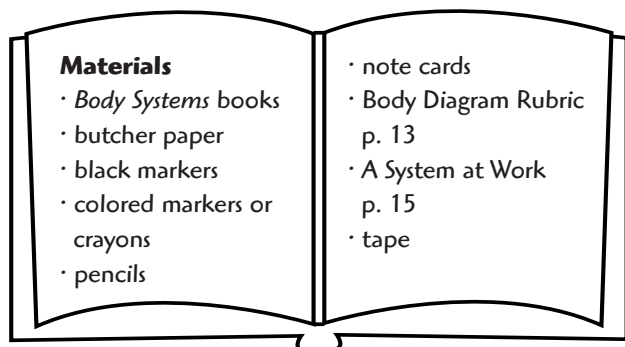
(teacher)

- Check each student's Name That System p. 12 for accuracy.



Lesson 3 Body System Diagram

Purpose: Students will make a life-size replica of one of the body systems and explain the function of the system and its organs.



Objectives

- Label the organs and features of a human body system.
- Explain how a body system works.
- Construct a life-size diagram of a body system.
- Identify the parts of a body system.
- Organize body parts on a diagram according to their proper placement.
- Verify the correctness of a labeled diagram.

Activity Procedures

Prepare

(teacher)

- Gather seven pieces of butcher paper large enough to trace a student's body.
- Divide students into six small groups.

Pretest

(students)

- What are the different body systems?
- What organs make up each system?
- What is each body system's function?

Read

(small groups)

- Each small group will read a different *Body Systems* book.

Model

(teacher)

- Show students the body system diagram on p. 4 of any *Body Systems* book. Explain that students will be creating and labeling their own body system diagrams.
- Demonstrate how to trace a student's body onto a piece of butcher paper.
- Show students how to draw and label a life-size body system diagram.

Practice

(small groups)

- Each group will create their own body system diagram, using p. 4 of the *Body Systems* book they read as a guide.
- Students will color their diagrams and label the organs using note cards.
- Each group will present their completed body system diagram to the class, describing the function of each organ in that body system and how that system's organs work together.

Discuss

(class)

- Which group explained its body system best? Why?
- Do any of the systems work together? How?
- How did creating the diagrams help you understand the body systems?

Evaluate

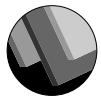
(teacher)

- Assess the completeness and accuracy of each group's diagram and presentation using Body Diagram Rubric p. 13.

Extension Activity

(students)

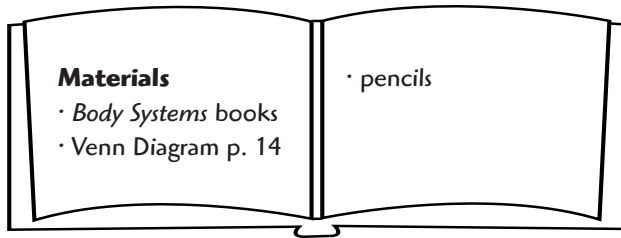
- Using A System at Work p. 15, write an essay explaining how the organs in the system you studied work together. Explain the importance of the system



Lesson 4

Compare the System

Purpose: Students will compare and contrast several body systems.



Objectives

- Identify body systems.
- Distinguish between two body systems.
- Discover similarities and differences between two body systems.
- Compare the similarities and differences between body systems.
- Complete a diagram showing similarities and differences between two body systems.
- Conclude how two body systems are alike and different using a Venn diagram.

Activity Procedures

Prepare

(teacher)

- Copy Venn Diagram p. 14 for each student.
- Divide students into pairs.

Pretest

(teacher, students)

- How can two things be alike and different at the same time?
- Explain, giving examples.

Model

(teacher, students)

- Complete a sample Venn Diagram as a class, comparing two classroom objects.

Read

(students)

- Student pairs will read two different *Body Systems* books.

Practice

(students)

- Using the *Body Systems* books, each student will complete Venn Diagram p. 14, comparing the two systems.

Discuss

(pairs, class)

- Students will share their Venn Diagrams p. 14 with their partners.
- Discuss how two body systems are alike and different.

Evaluate

(teacher)

- Teacher will assess Venn Diagrams p. 14 for accuracy.

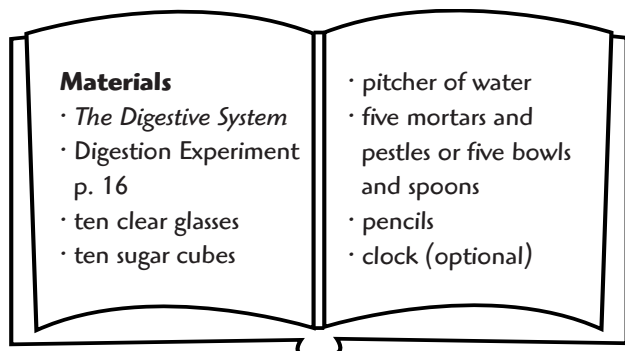




Lesson 5

Digestion Beginnings

Purpose: Students will do an experiment to learn how teeth and saliva aid digestion.



Objectives

- Predict the outcome of an experiment.
- Observe how two forms of the same substance react in water.
- Explain why two forms of the same substance react differently in water.
- Relate how an experiment compares to the digestion process.
- Describe what happened during an experiment.
- Apply knowledge gained from an experiment to real life.

Activity Procedures

Prepare

(teacher)

- Collect experiment materials.
- Copy Digestion Experiment p. 16 for each student.
- Divide students into five small groups for the experiment.

Pretest

(students)

- What do you know about the digestive system?
- How does digestion begin?

Read

(class)

- Read *The Digestive System*.

Model

(teacher)

- Tell students that they will do an experiment to learn how the digestive process begins.
- Explain to students that they are going to pour water over two sugar cubes. One cube will be whole and the other will be crushed. Students will observe what happens to each sugar cube.
- Demonstrate how to grind one sugar cube using the mortar and pestle or the bowl and spoon.
- Ask students to predict what will happen to each cube, and have them write their predictions on Digestion Experiment p. 16.

Practice

(small groups)

- Students will perform the sugar and water experiment and complete Digestion Experiment p. 16.
- You may ask students to record the time it takes for them to see changes in each of the sugar cubes. (optional)

Discuss

(class)

- What happened to the two sugar cubes?
- Why did one dissolve faster than the other?
- How does this experiment show what happens when we chew our food?
- How does this test explain why babies eat baby food or liquids instead of solid foods?

Evaluate

(teacher)

- Assess Digestion Experiment p. 16 for completeness and understanding.

Additional Resources

BOOKS

Avraham, Regina. *The Circulatory System*.

Philadelphia, PA: Chelsea House Publishers, 2000.

This book describes the circulatory system, its organs, and their functions.

Ballard, Carol. *Digestive System*. Crystal Lake, IL: Heinemann Library, 2002.

This book describes the structure and function of the digestive system.

Gray, Susan Heinrichs. *Muscular System*. Plymouth, MN: A Child's World, 2003.

Anecdotes and a glossary help explain the muscular system.

Parker, Steve. *Eyewitness: Skeleton*. New York: DK Publishing, 2000.

The structure and function of the human skeletal system are described in this book.

Parker, Steve. *Human Body*. New York: DK Publishing, 2000.

This book examines the different human body systems.

Royston, Angela. *Why Do Bones Break? And Other Questions about Bones and Muscles*. Crystal Lake, IL: Heinemann Library, 2002.

This book answers questions about bones and muscles.

Royston, Angela. *Why Do Bruises Change Color? And Other Questions about Blood*. Crystal Lake, IL: Heinemann Library, 2002.

The circulatory system is the subject of this book.

Royston, Angela. *Why Do I Get a Toothache? And Other Questions about Nerves*. Crystal Lake, IL: Heinemann Library, 2002.

Students can find answers to questions about the nervous system in this book.

Royston, Angela. *Why Do I Sneeze? And Other Questions about Breathing*. Crystal Lake, IL: Heinemann Library, 2002.

This book answers questions about breathing and the respiratory system.

Royston, Angela. *Why Do I Vomit? And Other Questions about Digestion*. Crystal Lake, IL: Heinemann Library, 2002.

The digestive system is covered in this book.

Showers, Paul. *A Drop of Blood*. New York: HarperCollins Publishers, 2004.

This book is a basic introduction to blood—what it's made of and how it works.

Showers, Paul. *What Happens to a Hamburger*. New York: HarperCollins Publishers, 2001.

Learn how food becomes energy, and how it builds strong bones and solid muscles as it passes through the digestive system.

Simon, Seymour. *Bones: Our Skeletal System*. New York: HarperCollins Publishers, 2000.

This book describes the function of our bones and skeletal system.

Simon, Seymour. *Brain: Our Nervous System*. New York: William Morrow & Co., 1997.

The brain and nervous system are explained in this book. Learn how they help us think, feel, move, and remember.

Simon, Seymour. *The Heart*. New York: William Morrow & Co., 1999.

This book describes the heart and circulatory system, explaining how each part functions.

Simon, Seymour. *Muscles: Our Muscular System*. New York: HarperCollins Publishers, 2000.

This book describes different kinds of muscles and how they work.

WEBSITES

BrainPop

<http://www.brainpop.com/health/cellsandbodybasics/humanbody/>

This site contains short animated movies about the different parts of the body.

Gander Academy Systems of the Human Body

<http://www.cdli.ca/CITE/generalhb.htm>

This site contains links to kid-friendly sites about the human body.

My Body

http://www.kidshealth.org/kid/body/mybody_SW.html

This site shows kids how different body systems work together.



Word Cards

<p>Body Systems Vocabulary Word</p> <hr/>	<p>Body Systems Vocabulary Word</p> <hr/>
<p>Body Systems Vocabulary Word</p> <hr/>	<p>Body Systems Vocabulary Word</p> <hr/>
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Word Cards

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Reading Skills Checklist

Name ▼	Skill ▶	Mastered		Developing			Needs Improvement								
		A		B			C			D			F		
	Previews pictures														
	Previews captions														
	uses prior knowledge														
	identifies main idea														
	glossary use														
	index use														
	comprehends written directions														
	skimming														
	note taking														
	research														

Name That System

Name _____ Date _____

Directions: Match each body system with the clues provided. Write the letter of the system in the blank next to each clue.

- A. Circulatory System
- B. Digestive System
- C. Muscular System
- D. Nervous System
- E. Respiratory System
- F. Skeletal System

1. This system includes the brain, which receives signals that tell the body what to do, think, or feel. _____
2. The heart is part of this system that pumps blood to all parts of the body. _____
3. This body system turns food into usable energy and waste. _____
4. This system is known as the framework of your body. _____
5. Tendons connect muscles to bones in this system that helps you move. _____
6. Your lungs are part of this system, which carries oxygen to all of your organs. _____
7. White blood cells work in this system to help protect your body from things that might make it sick. _____
8. The rib cage is part of this system that protects your internal organs. _____

Body Diagram Rubric

Group Members _____

Body System _____

Assess each group's body system diagram and presentation on the following criteria:
(Assign a point value for each of the following items.)

Points possible for each task _____

Teamwork Skills

___ Each team member took part in the drawing and labeling of the diagram.

___ Team members worked together cooperatively.

Project Skills

___ Diagram was carefully drawn.

___ All relevant organs were included in the diagram.

___ All organs were labeled correctly.

Presentation Skills

___ All group members participated in presentation.

___ Students used appropriate speaking voice.

___ Group members accurately explained the body system they studied.

Total points possible _____

Total points received _____

Venn Diagram

Name _____

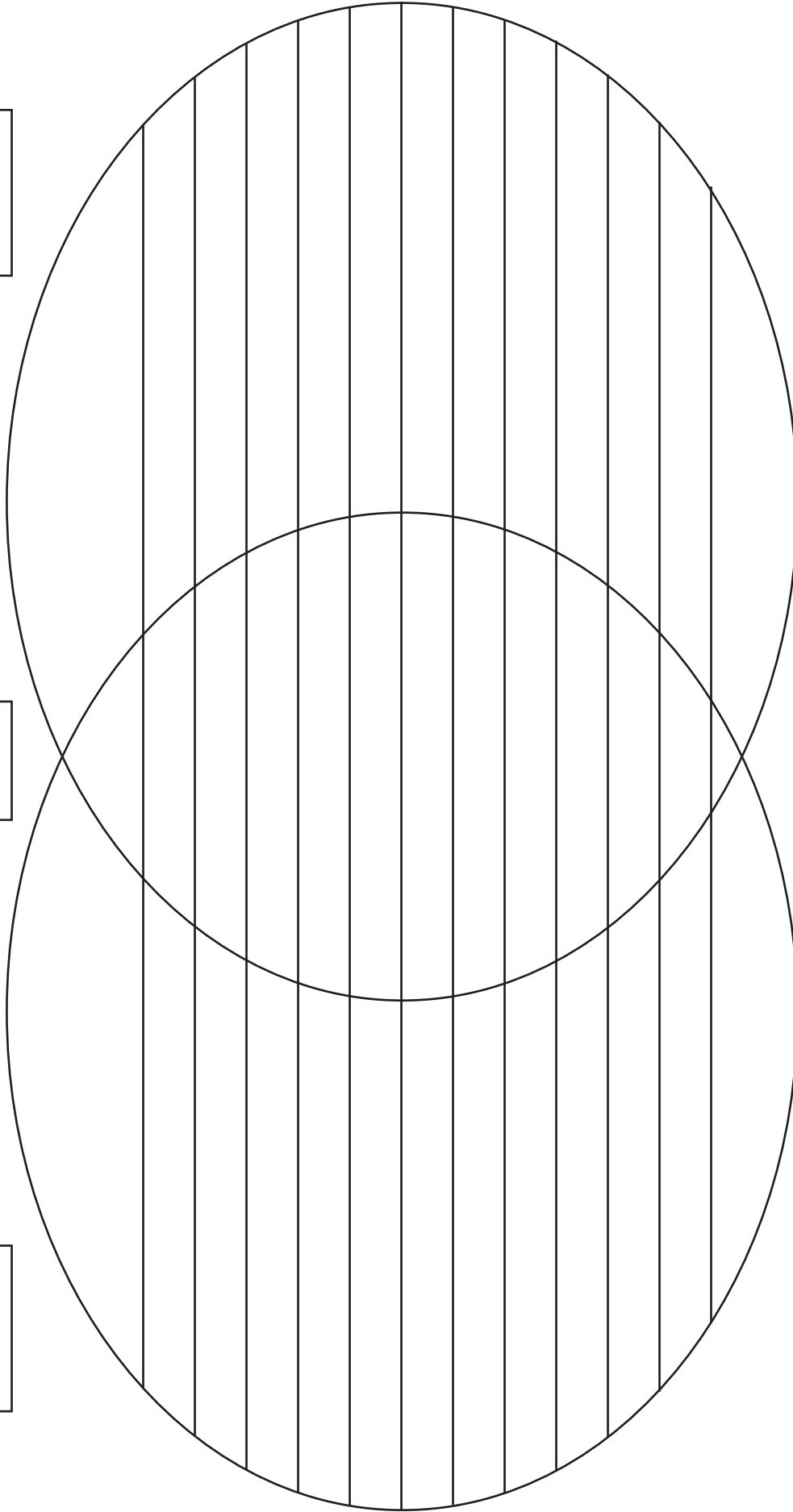
Body System _____

Body System _____

Different

Same

Different



Digestion Experiment

Name _____

Directions: As you perform the digestion experiment, answer the questions below.

Before the experiment

1. Hypothesis: What do you think will happen to the two sugar cubes when water is poured over them?

The whole cube will _____

The crushed cube will _____

During the experiment

2. Observation: What happened to the two sugar cubes when water was poured over them?

The whole cube _____

The crushed cube _____

After the experiment

3. Theory: Why did the two sugar cubes react differently? _____

4. Application: How does the experiment explain how your body's digestive system works? _____
