Lesson Objectives

Core Content Objectives

Students will:

✓ Identify the circulatory system
✓ Recall basic facts about the circulatory system
✓ Explain the importance of exercise and a balanced diet for bodily health

Language Arts Objectives

The following language arts objectives are addressed in this lesson. Objectives aligning with the Common Core State Standards are noted with the corresponding standard in parentheses. Refer to the Alignment Chart for additional standards addressed in all lessons in this domain.

Students will:

✓ Describe an illustration of the circulatory system and use pictures and details in “The Body’s Superhighway” to describe the read-aloud’s key ideas (RI.1.7)
✓ With assistance, categorize and organize facts about the circulatory system to answer questions (W.1.8)

✓ Generate questions and gather information to add to a KWL Chart pertaining to The Human Body (W.1.8)
✓ Add drawings to descriptions of the circulatory system to clarify ideas and thoughts (SL.1.5)
✓ Prior to listening to “The Body’s Superhighway,” identify orally what they know and have learned about the body’s skeletal, muscular, and digestive systems
✓ Share writing with others
Core Vocabulary

**blood, n.** A liquid that circulates throughout the body, transporting nutrients, oxygen, and waste to and from all parts of the body

*Example:* A little bit of blood broke through the skin when he scraped his knee.

*Variation(s):* none

**blood vessels, n.** Passageways (arteries, veins, and capillaries) through which blood circulates within the body

*Example:* Blood vessels can be as big as jump ropes or smaller than the hairs on your head.

*Variation(s):* blood vessel

**circulatory system, n.** The body system made up of the heart and blood vessels responsible for moving blood throughout the body

*Example:* The heart is one part of the circulatory system.

*Variation(s):* circulatory systems

**heart, n.** The muscle responsible for pumping blood through the body

*Example:* Each person has a heart that keeps him/her alive.

*Variation(s):* hearts

**pulse, n.** The regular beat of the blood in your arteries as the heart pumps it through your body

*Example:* You can take your pulse by pressing two fingers against your wrist.

*Variation(s):* pulses

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**At a Glance**

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Introducing the Read-Aloud

What Have We Already Learned?

It is recommended that Dr. Welbody’s rhymes about the body systems covered thus far be written on chart paper in advance of this lesson. Tell students that you are going to pause after reading the rhyme about each body system and that you will ask several students to share one fact they have learned. Alternatively, you may also wish to divide students into three groups and assign each a body system along with the applicable rhyme; have each group share with the class what they already learned.

Here are the rhymes thus far:

*Everybody has a body*

*And I have one, too.*

*It is grand to understand*

*The things our bodies do.*

*Without my hidden skeleton,*

*I couldn’t stand up tall.*

*And so, “Hurray for bones,” I say,*

*Two hundred six in all!*

*I’m glad that I have muscles.*

*They help me to have fun,*

*To jump and kick a soccer ball,*

*To smile and speak and run.*
I’m glad that I have muscles,
And glad that you do too,
So you can wave hello to me
And I can wave to you!

A healthy body needs good food,
There really is no question.
Your body gets the things it needs –
Just leave it to digestion.

Purpose for Listening

Tell students to listen carefully to hear about another system in their body.
The Body’s Superhighway

Show image 5A-1: Dr. Welbody with polka-dot bandage

Ouch! Yesterday I cut my finger. Yes, even a pediatrician like me sometimes has little accidents. The fun part is that I got to put on one of these cool polka-dot bandages that I keep in my office!

Show image 5A-2: Skinned knee

Have you ever cut yourself or skinned your knee? When people get a cut or scrape that breaks the skin, it usually bleeds. The blood that comes out is just a tiny part of all the blood you have in your body, and your body will make more to replace it. Blood keeps us alive. It travels through the body and carries everything your body needs to live. A grown-up like me has about ten pints of blood. That’s about the same amount as twenty glasses of water.

Show image 5A-3: Circulatory system

The blood is not just sloshing around inside of you. It moves around through tubes called blood vessels. Some are big and some are small. A map of the blood vessels in a human body looks like a bunch of tangled spaghetti. But your blood vessels are actually laid out very carefully, like a well-planned system of highways and roads. They carry blood to every single part of you, from the top of your head to the tips of your fingers and toes. They are part of a system called the circulatory system that includes your heart and blood.

The blood is able to move through your blood vessels because of your heart. Your heart is a muscle about the size of your fist. Put your right hand on the middle of your chest. Now move it a little to the left. Your heart is underneath there, inside your chest, protected by your rib bones. Your heart is a hard worker! Its job is to pump your blood around your body through your blood vessels. This movement of your blood around your body is called circulation.
OK, everybody stand up. When I say, “go,” run in place right where you are until I say, “stop.” Ready, set, go!

Now stop running. Place your hand on your chest. Can you feel your heart pounding in your chest? When you exercise, your heart has to work harder than when you rest, and it is easier to feel it beating.

Show image 5A-4: Diagram of the heart

Your heart is hollow on the inside. It is divided into four parts, like little rooms. They are called chambers. The two top chambers hold blood coming into your heart. The two bottom chambers hold blood going out of your heart. Heart valves, like tiny gates, separate the chambers. They open and close to let the blood in and out of the chambers.

Now, everyone make a fist. In order to do this, you made the muscles of your hand tighten. That is what happens over and over to your heart, without you ever having to think about it. When the heart muscle contracts, or tightens, blood goes out of the chambers. When the heart muscle relaxes, blood flows in.

Show image 5A-5: Blood vessels around major organs

Your body needs two things to stay alive: oxygen and nutrients. Oxygen is taken out of the air inside your lungs. Nutrients come from the food you eat as it moves through your intestines. Your blood carries the oxygen and nutrients to all parts of your body so that you can stay alive, move, think, and grow. Your blood also cleanses your body, taking away waste, or things your body does not need. It takes about a minute for your blood to travel from your heart, all around your body, and back to your heart!

Show image 5A-6: Types of blood vessels

Veins, arteries and capillaries are the types of blood vessels found throughout your body. Veins bring blood to the heart. Arteries carry blood away from it. Capillaries are tiny blood vessels that connect to your arteries and veins. They carry blood to even the smallest parts of the body.
It is very important to have a strong, healthy heart. If you came to me for a checkup, I would use my stethoscope to listen to your heartbeat. A healthy heart makes a sound with each beat that sounds like this: lub-dub. The sound comes from the heart as it pumps the blood.

Even without a stethoscope, you can feel your heart working. You can feel your pulse in places where there is an artery close to the skin. Try putting two fingers on the palm side of your wrist, just below your thumb. Press lightly. Can you feel a small beat under your skin? Each beat is caused by the squeezing of your heart. Lub-dub, lub-dub.

Remember that your heart is the most important muscle in your body. How do we make a muscle strong? By exercising it! That means moving hard and fast. When you dance, play basketball, swim, or jump rope, you are exercising not just your arms and legs, but your heart as well. Another way to take care of your heart is to eat plenty of fruits and vegetables that are good for you instead of soft drinks, chips, and candy. By exercising and eating healthy foods, you will be helping your heart stay healthy and strong for many years to come.

Now, here’s a rhyming cheer for the part of our circulatory system that keeps it all going:

My heart is always working
It’s busy night and day
It’s pumping while I’m sleeping
And while I work and play—
Let’s give a cheer for hearts now,

For hearts: HIP, HIP, HOORAY!

Next time, we’ll learn about the control center of our bodies. That’s the brain. So don’t forget to bring yours along! See you soon!

Discussing the Read-Aloud 15 minutes

Comprehension Questions 10 minutes

If students have difficulty responding to questions, reread pertinent passages of the read-aloud and/or refer to specific images. If students give one-word answers and/or fail to use read-aloud or domain vocabulary in their responses, acknowledge correct responses by expanding the students’ responses using richer and more complex language. Ask students to answer in complete sentences by having them restate the question in their responses.

1. **Literal** What does the circulatory system circulate, or move, around the body? (blood) Were your predictions correct? (Answers may vary.)

2. **Literal** How does blood travel through the body? (through blood vessels)

3. **Literal** What is the name of the muscle that pumps blood into the blood vessels? (heart)

4. **Literal** When the doctor puts a stethoscope to your chest, what is s/he listening for? (your heartbeat, the sound of the heart pumping blood—lub dub, lub dub)

5. **Inferential** Why is blood important to your body? (It carries nutrients and oxygen all around the body to keep it alive and healthy.)

6. **Evaluative** Name some ways that you can keep your heart healthy and strong. (eat foods that are good for you; get plenty of exercise)

[Please continue to model the Think Pair Share process for students, as necessary, and scaffold students in their use of the process.]
I am going to ask a question. I will give you a minute to think about the question, and then I will ask you to turn to your neighbor and discuss the question. Finally, I will call on several of you to share what you discussed with your partner.

7. **Evaluative Think Pair Share:** Imagine you take your pulse when you first wake up in the morning, after your body has been at rest all night. Then, imagine you take it again at recess after you have played a vigorous game of soccer. What difference would you expect from your pulse? (At recess: stronger; easier to feel; faster; etc.) Would your heart be beating faster or slower? (faster) Why? (The heart has been exercised.)

8. After hearing today’s read-aloud and questions and answers, do you have any remaining questions? [If time permits, you may wish to allow for individual, group, or class research of the text and/or other resources to answer these remaining questions.]

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**Word Work: Heart**

5 minutes

1. In the read-aloud you heard, “The blood is able to move through your blood vessels because of your heart.”

2. Say the word *heart* with me.

3. Your heart is a muscle that pumps blood through your body.

4. If I take my pulse, I am counting how many times my heart beats each minute.

5. Tell about something you do to make your heart strong. Try to use the word *heart* when you tell about it. [Ask two or three students. If necessary, guide and/or rephrase the students’ responses: “I exercise my heart by . . . ”]

6. What’s the word we’ve been talking about?

*Show image 5A-4: Diagram of the heart*

Use a *Discussion* activity for follow-up. Directions: Look at this diagram of the heart. What are some things you notice about the heart? (Answers may vary.) Remember to answer in complete sentences. What questions do you still have about the heart?

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**Complete Remainder of the Lesson Later in the Day**
Know-Wonder-Learn Chart

Start by adding to the chart paper Dr. Welbody’s rhyme about the circulatory system and review it with students.

*My heart is always working.*

*It’s busy night and day.*

*It’s pumping while I’m sleeping*

*And while I work and play—*

*Let’s give a cheer for hearts now,*

*For hearts: HIP, HIP, HOORAY!*

Review any information that students shared about the circulatory system on the KWL Chart (the ‘K’ and ‘W’ columns). Ask if there is any information in the ‘K’ column that should be revised based on what they learned in the read-aloud. Reread small sections of the text aloud as necessary to help students check the accuracy of their responses. For example, “Yesterday when we were talking about what we knew we said our hearts are shaped like Valentine hearts. What do you think now?” Then cross out the inaccurate information in the ‘K’ column. Make necessary revisions. Then ask if they discovered the answers to any of their questions. If so, record relevant answers in the ‘L’ column. Ask what else they learned from the read-aloud, recording these responses under the ‘L’ column as well.
“My Body Systems” Booklets

Today students will complete the fourth page of their booklets. Hand out the prepared booklets.

Show image 5A-9: Dr. Welbody's circulatory system

- Assist students in filling in the blank at the top of the page: My Circulatory System.
- Ask students to use Dr. Welbody’s circulatory system as a model for drawing their own circulatory systems within the body shape on the fourth page. It should be emphasized that students' drawings need not be a perfect depiction of Dr. Welbody’s circulatory system. The goal of this activity is for students to become more aware of the details of the circulatory system through the activity of drawing it. Later in the domain, when students’ knowledge of the body’s systems is assessed, they will be asked to recognize, rather than draw, the various systems.

Above and Beyond: When students have finished drawing, instruct those who are ready to do so to use the lines at the bottom of the page to write a sentence using the word(s) blood and/or heart. (Write these words on the board.) For example, “My heart pumps blood through my body.” [Some students may need to dictate their sentences.]

- Have students share their writing and drawings with each other.