

Major Organs and Organ Systems

Grades: Third–Fifth Grade

Materials: *Women in Medicine / Las mujeres en la medicina*, "Labeling Major Organs" worksheet, "Organ Systems Fill-in-the-Blank" worksheet

Subject: organs and organ systems

Skills: understanding and applying new vocabulary, matching, making inferences

NGSS: 4-LS1-1 From Molecules to Organisms: Structures and Processes

3-LS1-1 From Molecules to Organisms: Structures and Processes

4-LS1-2 From Molecules to Organisms: Structures and Processes

BACKGROUND

Our amazing bodies consist of many organs, which all work together in systems to keep us healthy. When any one of our major organs are not working properly, other organs—and even our whole body—can be affected. This worksheet-based activity will help students understand what the major organs are, what they do, and some of the basic systems they are a part of.

ACTIVITY PART I

1. Gather the students and review or reread the section of *Women in Medicine / Las mujeres en la medicina* that explains why your heart beats (pages 5-8, with special attention to the diagram on page 6).
2. Stop to ask the class some questions about the material you reviewed: What is the purpose of the heartbeat? Why is the heart so important? Why were Dr. Helen Taussig's patients' hearts not working properly, and what did she do to help? Why do other organs in the body, like the lungs, need the heart? How do the lungs and heart work together?
3. Introduce the students to the other major organs, using the vocabulary below.

Brain: the most complicated organ in the body. We still don't understand it fully, but we know it controls how all other organs function, and makes us think and feel emotions.

Heart: pumps blood throughout the body to deliver oxygen and other important nutrients to other organs.

Kidneys: remove waste from the blood and body and turn it into urine.

Large intestine: converts digested food that has been broken down by the small intestine into feces, which will then be excreted.

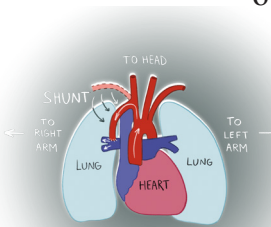
Liver: helps us digest and turn food into energy, and gets rid of toxins in our bodies or our blood.

Lungs: filter the air we breathe, removing carbon dioxide or anything that's bad for us. The lungs work with the heart to add oxygen to our blood.

Nerves: carry electrical messages between your brain and the rest of the body.

Small intestine: absorbs water and fully breaks down digested food that has traveled through the stomach.

Stomach: breaks down and digests our food, helping to turn healthy food into energy and unhealthy food into waste.



Major Organs and Organ Systems continued

4. After reviewing the vocabulary, have the students divide into small groups and work on the "Major Organs" worksheet together, which asks the students to label organs using a word bank. Give the students as much time as they need to complete the worksheet together. Circulate through the classroom to offer help, suggestions, or corrections when needed.
5. Bring all the students together and ask them to discuss the activity. Did they find it easy or difficult to identify the major organs? Did it help them understand how the organs work to see them all together in the body? Why or why not? Can they understand how all the organs must work together to make the body function based on what the organs look like together?

ACTIVITY PART 2

1. Introduce the students to the vocabulary below.

Arteries: tubes that carry oxygen-containing blood from the heart to tissues and organs in the body.

Circulatory system: the organ system that circulates blood through the body.

Digestive system: the organs that take in food and liquids and break them down into substances that the body can use for energy.

Esophagus: the passageway for food that travels between the mouth and the stomach.

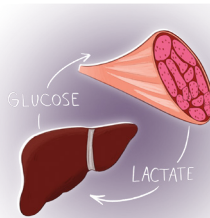
Excretory system: the organ system that finds and releases waste from the body.

Nervous system: your body's "command center." Starting from the brain, it uses electrical signals to control movements, thoughts, and more.

Organ system: a group of organs that work together to perform a specific function in the body.

Trachea: the passageway for air that travels between the throat and the lungs.

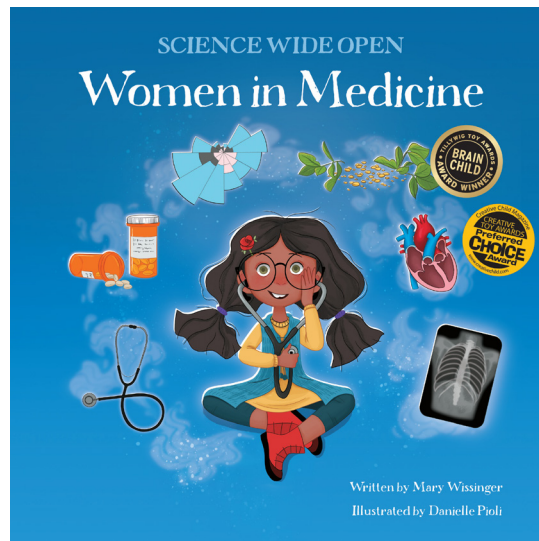
Veins: tubes that collect blood from throughout the body and carry it back to the heart to receive more oxygen and nutrients.



2. Split the students into the same groups from Part 1 and give the students one copy of the "Organ Systems Fill-in-the-Blank" worksheet per group. Give the students as much time as they need to complete the worksheet together. Circulate through the classroom to offer help, suggestions, or corrections when needed.
3. Bring all the students together and ask them to discuss the activity. Was this worksheet easier or more difficult than the last? Did it help them to understand how organs work together? Do they think internal organs rely on external organs? How so? Why is it important for sense organs to communicate with other organs?

DISCUSSION

Ask the students specific questions about how the heart and lungs work together, or the small and large intestines, or the liver and stomach. Do organs have to be part of the same systems to work together? Why or why not? Can organs be a part of more than one system? How does the communication between organs in the body affect how doctors treat their patients?



This activity was excerpted from the Teacher's Guide to
Women in Medicine / Las mujeres en la medicina

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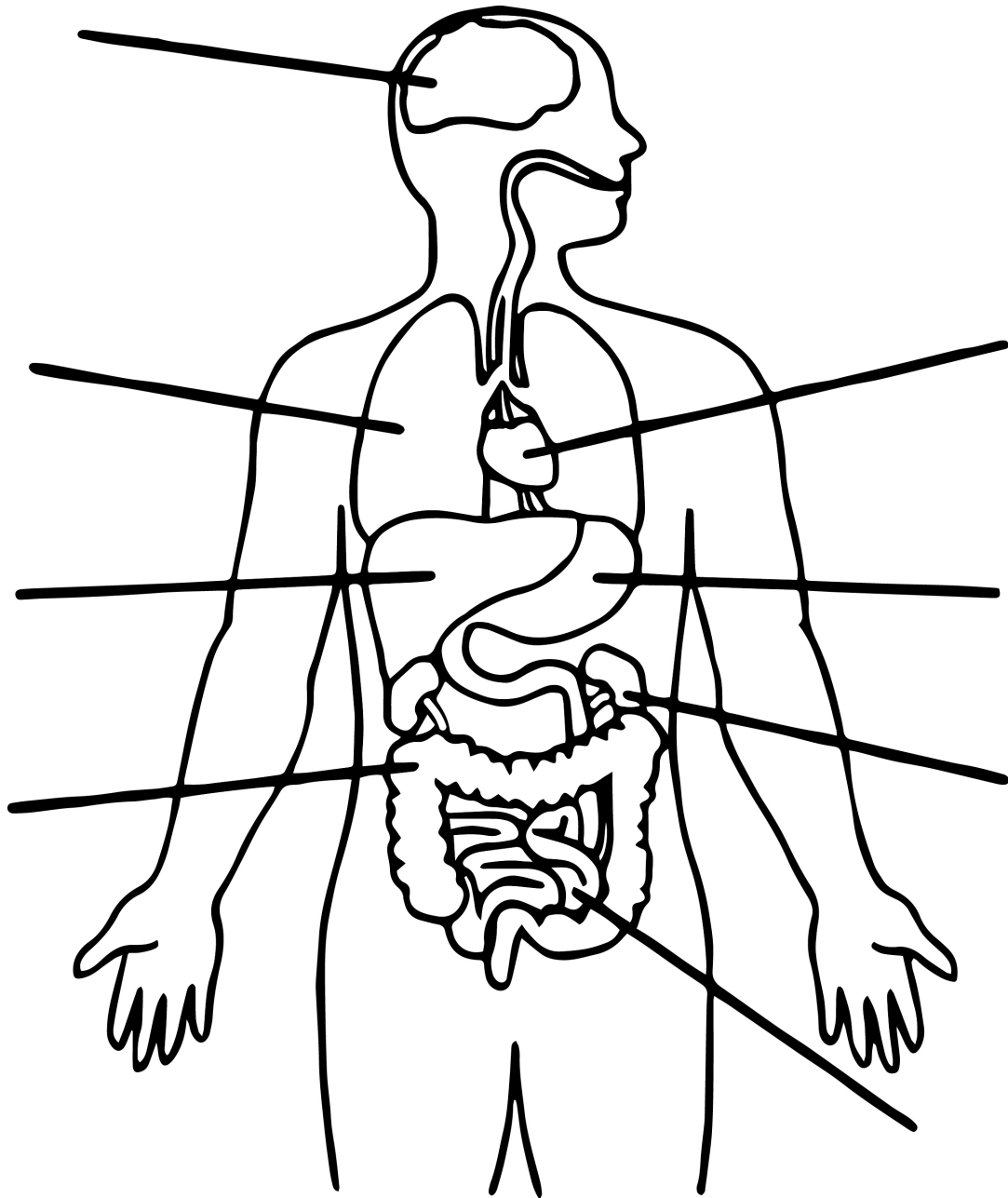
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Labeling Major Organs



Heart

Liver

Lungs

Brain

Stomach

Small Intestine

Large Intestine

Kidneys

Organ Systems Fill-in-the-Blank

respiratory

systems

carbon dioxide

trachea

oxygen

Body organs work together to form organ _____.

The lungs and _____ are part of the _____ system, which brings _____ gas into your body and releases _____ gas into the air.

oxygen

veins

circulatory

arteries

Your heart, which pumps blood, is part of the _____ system. Blood takes _____ to all parts of the body by travelling through _____.

Then _____ bring the blood back to your heart.

mouth

food

esophagus

intestines

digestive

The _____ system is responsible for breaking down _____ so that your body can use it. When you eat food, you use your _____. From there, food travels through the _____ to your stomach, where it is digested. The _____ then absorb nutrients from the digested food and break down waste.

excretory

nervous

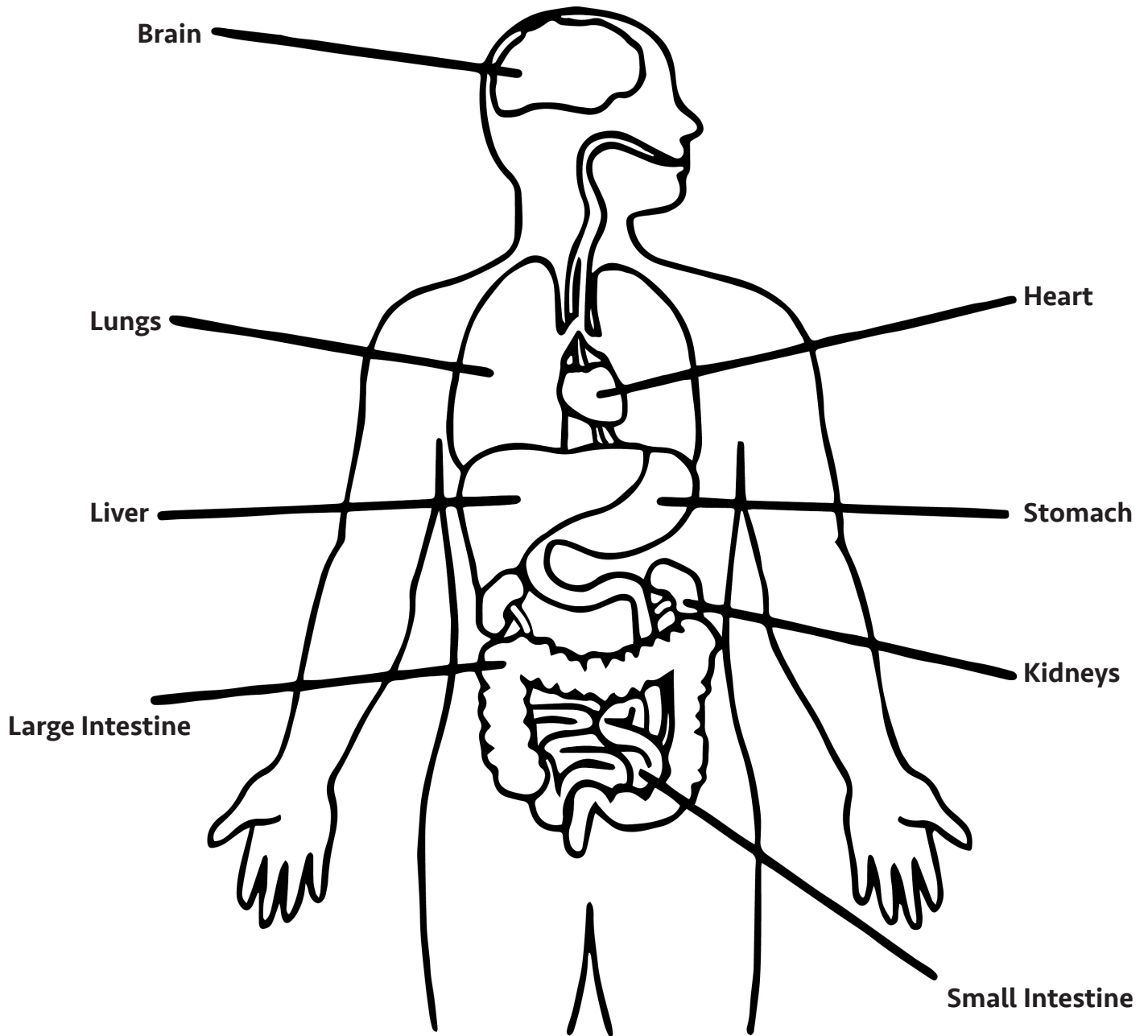
nerves

waste

muscle movement

Your kidneys are part of the _____ system, which removes _____ from your body. Your brain and _____ form the _____ system, which controls your heartbeat, breathing, _____, _____, and senses.

Labeling Major Organs Answer Key



Heart	Liver	Lungs	Brain
Stomach	Small Intestine	Large Intestine	Kidneys

Organ Systems Fill-in-the-Blank Answer Key

respiratory	systems	carbon dioxide	trachea	oxygen
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Body organs work together to form organ **systems**.

The lungs and **trachea** are part of the **respiratory** system, which brings

oxygen gas into your body and releases **carbon dioxide** gas

into the air.

oxygen	veins	circulatory	arteries
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Your heart, which pumps blood, is part of the **circulatory** system. Blood takes

oxygen to all parts of the body by travelling through **arteries**.

Then **veins** bring the blood back to your heart.

mouth	food	esophagus	intestines	digestive
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The **digestive** system is responsible for breaking down **food** so that

your body can use it. When you eat food, you use your **mouth**. From there,

food travels through the **esophagus** to your stomach, where it is digested. The

intestines then absorb nutrients from the digested food and break down waste.

excretory	nervous	nerves	waste	muscle movement
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Your kidneys are part of the **excretory** system, which removes **waste**

from your body. Your brain and **nerves** form the **nervous** system,

which controls your heartbeat, breathing, **muscle movement**, and senses.