

Grade: Kindergarten – Body Systems

Lesson 1: Learning the Parts of the Body

Lesson 2: Introduction to the Systems of the Body

Lesson 3: Why Do We Have Body Systems?

Objectives:

- ✓ Students will name six body systems.
- ✓ Students will name one function of each system.
- ✓ Students will name six parts of the body and locate them on their own body.

Materials:

- Scotch tape, masking tape or glue
- Pen (to be disassembled)
- Simple objects that can be disassembled (examples: toy telephone, wooden car, pens.) NOTE: groups may receive the same object.
- Butcher paper
- From the **Kit** (optional): skeleton, muscle chart, anatomical charts, *Blueprint for Health* charts, and/or *Dimensional Man* chart.
- Outlined Pictures of Body Parts (**See Figure 1**)
- Child outline with picture/word cards (**See Figure 2**)
- Drawing of each body system (**See Figure 3**)
- Picture for cube #1 (**See Figure 4**)
- Pictures for cube #2 (**See Figure 5**)
- Words to *Body Systems Song* (**See Figure 6**)
- Vocabulary Title page (**See Figure 7**)
- Vocabulary Word page (**See Figure 8**)

Suggested Reading:

The Best Part of Me: Children Talk About Their Bodies in Pictures and Words by Wendy Ewald and M. Tingley

Head to Toe Science: Over 40 Eye-Popping, Spine-Tingling, Heart-Pounding Activities That Teach Kids About the Human Body by Jim Wiese

Activity Summary:

In this lesson students will learn six major body systems, a major function of each, and relate this information to their own body.

Vocabulary:

Body system - parts of our body that work together

Muscles – body parts that **help you move**

Heart – a part of the body that **pumps blood**

Lung – a part of the body that **helps you breathe**

Stomach – a part of the body that **changes food**

Brain – a part of the body that **helps you think and learn**

Lesson 1: Learning the Parts of the Body

Engage (5-7 minutes):

Hokey Pokey – Have the students stand and form a circle. Sing the following words to the Hokey Pokey and have the students use body actions to do the movements in the song. Teacher models and leads the movements throughout the song.

*You put your right foot in
You put your right foot out
You put your right foot in
And you shake it all about*

*You do the Hokey Pokey
And you turn yourself around
That's what it's all about.*

Repeat song with the following:

*Left foot . . .
Right/left leg . . .
Right/left arm . . .
Nose . . . ears . . . or tongue . . .
Head . . .
Whole body . . .*

Explore (10 minutes):

Have the students work in small groups. Give each group a simple object that is disassembled. This could be a toy telephone, wooden car, pen, etc.

Tell the students to cooperatively put their object back together, using **all** the parts. No part should be left out.

Have each group show its assembled object to the class, telling what it is, and showing any parts they didn't use.

Ask: ***“Would these extra parts change how the “thing” you took apart works?”*** (Yes.)

Explain (15 minutes):

Tell the students that many things have parts, and that each part of a toy, a game, a machine or a person has an important job to do. Emphasize that **each part works together with the other parts** to make a whole toy, car or person. This is called a **“system.”** Explain that they'll be learning about parts of our body and how they make up a system.

Demonstrate as you are talking by taking a ballpoint pen apart in front of the class. Demonstrate that the pen has many parts, **all** of which are important.

Try putting the pen back together a couple of times **with one part missing** (a different part each time.) Now use the pen to “write” something. Ask: **“Does the pen still work the same?”** (No.) Stress to the children that when the pen doesn’t have all its parts it **can’t** write.

Re-assemble the pen, using *all* the parts. Now write something on a paper so all the students can see. Ask: **“What happens when all the parts are together?”** (Once again the pen is **able** to write.)

Hand out the paper (**Figure 1**) with the outlines of body parts. Have the students cut out the pictures.

Next, ask the students to put the pictures in two groups, but don’t tell the students **how** to group them. After a short time ask the students how they grouped their pictures. Ask: **“Why did they put that group together?”** (Body parts you **can** see and body parts you **can’t** see.) Have students “NAME” each group.

- Emphasize that **people have parts that we CAN see and parts that we CANNOT see. We ALL need ALL of these parts.**

Ask: **“What are some parts of your body you can see?”** (Head, arms, hands, chest, back, legs, feet.) Write all of these on the board.

Ask: **“What are some parts of your body you don’t see?”** (Heart, lungs, stomach, etc.) Write these on the board.

Now have all the children regroup their pictures, if necessary, according to parts they *can* see and parts they *cannot* see. (Save these to be used in Lesson 2.)

Extend (20 minutes):

Organize the students to work in groups. Trace the body outline of a child volunteer within each group on a large piece of paper. This will be the **Parts of the Body Diagram**.

Have the students use the pictures they cut out and used previously in the “Explain” activity. Tell them to mix up their pictures on their desks. Ask the group to select all the pictures of the body parts we can see. Then have them work as a group to tape the pictures of those parts to the drawing in the appropriate place. Use one set of pictures per group. (Have them set aside the pictures of the body parts they cannot see for a later activity.)

Assign groups to check the other groups' Body Diagrams to be sure that the pictures are in the correct place. If one group thinks another group has some pictures in the wrong place, have both groups work *together* to put all the pictures in the correct area on the Body Diagram.

Evaluate:

The activity above (Extend) can be used as an assessment tool. If you prefer each child work individually, use a printout of the body outline included as part of this lesson. **(See Figure 2)** Also print out miniature cards that the students can cut out and paste on their body outline. **(See Figure 3)**

Or, ask the children to draw pictures of some parts of the body that we can see (head, arms, hands, chest, back, legs, feet) then have each student pair up with another student. Ask: ***“Where is your: Head? Arm? Hand? Chest? Back? Leg? Foot?”*** Have the students say the name of each body part and point to that body part on the other student.

Lesson 2: Introduction to the Systems of the Body

Engage (7-8 minutes):

Make a cube. Use a fairly large cube that is durable and will roll. (One option is to use an old milk carton.) On each side, place a picture of an activity that children do, such as running, playing ball, drawing, riding a bicycle, etc. **(See Figure 4)**
NOTE: If another adult helper is available this activity can be done in TWO circles. (A second cube would have to be made.)

Have the children sit in a circle. Tell the children you will all be playing a game. Roll the cube to one child and have that child identify the activity on the picture facing “up” on the cube. Next have the child name a body part that is used for that activity. If the answer is correct, the child gets to roll it to another child. If it is incorrect, the teacher takes the cube and rolls it again.

Ask: ***“What parts of the body are these?”*** (*These are parts of the body we can see.*)

Ask: ***“Can we see all the parts of the body?”*** (*No.*)

Explore (7-8 minutes):

Make a second set of cubes (one or two depending on the number of circles.) Paste the pictures of the inner body parts (heart, lungs, kidneys, muscle, brain, and stomach) on the cube(s). **(See Figure 5)**

Repeat the game. This time have the child say the name of the part and one thing that part does for us. (Guesses are ok.) Have the child roll the cube to someone else. In this game the student can pass the cube on whether or not

they know the right answer (they might not) and students can roll the cube to another student or the teacher.

Ask: ***“What is the same about all these parts?”*** (*We can’t see them.*)

Ask: ***“What are some parts of our body that we cannot see?”*** (*Heart, lung, stomach, kidney, brain, and muscles.*)

Explain (15-20 minutes):

If possible use the **Anatomical Man** or a **skeleton** from the **kit** with this part of the lesson as another way to show children what the inner body parts look like and/or where they are found in the body. Included in this section are the terms for the different body systems. Briefly introduce them. The names of the body systems will be expanded on in Lesson 3. However, these will probably be new terms for the students so it will be beneficial to introduce them here for extra reinforcement.

Have all the students stand in a circle. Ask the students questions about each of the following to get them to identify the name and location of that part.

Begin by saying, ***“There are many body systems inside our bodies. We are going to learn about SIX body systems in this lesson.”***

Ask: ***“What is in here?”*** while you touch your chest over your heart. (*The heart.*) Have students do the same, then ask: ***“How many hearts do we have?”*** (*Silly! One.*)

Ask: ***“What does our heart do?”*** (*Moves blood and air in our body.*) ***“What kind of a sound does the heart make?”*** (Let the children make up a sound such as “Lub-Dub.”) ***“The heart helps move blood and is called the CIRCULATORY SYSTEM.”***

Ask: ***“What else is in here?”*** while touching both sides of your upper chest. (*The lungs.*) Have students do the same on their body, then ask: ***“How many lungs do we have?”*** (*Two.*) ***“What do our lungs do?”*** (*Help us breathe.*) ***“What kind of sound does a lung make?”*** (Let children make up a sound.) ***“The lungs help move air in and out of our bodies and this is called the RESPIRATORY SYSTEM.”***

Ask: ***“What is down here?”*** while touching the front lower edge of your left ribcage. (*The stomach.*) Have students do the same, then ask: ***“How many stomachs do we have?”*** (*One.*) ***“What does our stomach do?”*** (*Helps us digest our food.*) ***“What kind of sound does the stomach make? The stomach changes food into energy and is called the DIGESTIVE SYSTEM.”***

“Now what is back here?” Touch the area of the mid-back around the lowest four ribs. (*Kidneys.*) Have students do the same on their body. ***“How many***

kidneys do we have?" (Two.) **"What do our kidneys do?"** (Help us control the amount of water we have in our bodies and help us get rid of waste.) **"What kind of sound does a kidney make? The kidneys control water and waste in your body and are called the URINARY SYSTEM."**

"What is in here?" Touch a muscular area of the body such as the upper arm where the biceps muscle is located. (Muscle.) Have students do the same on their body. **"How many muscles do we have?"** (Lots and lots.) Have students guess a number. (We have about 600 skeletal muscles.) **"What do our muscles do?"** (Our muscles help us run, walk, sit, draw, write, and a whole lot more.) **"What kind of sound does a muscle make? Muscles help us move and are called the MUSCULAR SYSTEM."**

"And what is up here?" Touch both hands on your head. Have students do the same on their body. (The brain.) **"How many brains do we have?"** (One.) **"What does our brain do?"** (The brain helps us think, speak, draw, run and play.) **"What kind of sound does a brain make? The brain controls our actions and is called the NERVOUS SYSTEM."**

Repeat the sequence in the order above. Ask questions by making the sound the students made up for each body part to lead them to say the name, touch their body where that part is, and say what it does.

Example: **"When we go 'Lub-Dub' our** (students respond, "Heart!") **which lives in our** (students respond by touching their chest area) **is doing what?"** (Students respond, "Moving blood!") **"What is this system called?"** (Students respond, "The Circulatory System!")

Repeat for lungs, kidney, brain, stomach, and muscles.

Review:

"It takes many, many parts for the heart to move blood around our body, and the lungs to move air. Body parts (organs) that all have a similar purpose (or job to do) work together in our body. They are called a BODY SYSTEM."

"What happened when I tried to write with the pen that had some parts missing? It couldn't write. What happened when ALL the parts were back in the pen in the right place? They all worked together and the pen could write."

"So, in each BODY SYSTEM there are many parts. We need all those parts for the system to work."

"And not only that, but each BODY SYSTEM works with all the other BODY SYSTEMS so we can breathe, run, jump and play, read a book, or

draw a picture. Our BODY SYSTEMS work together to give us the energy to do all of that and more.

“Each of the body parts we have talked about here and located on our own bodies is part of a BODY SYSTEM. The heart, lungs and brain are all parts of a BODY SYSTEM. Your arms, legs, head, and chest are all part of a BODY SYSTEM, too.”

Extend (15 minutes):

Have the students work in the same groups that participated in the first part of the “Parts of the Body Diagram” in Lesson 1.

Have each group select the pictures for the parts of the body that they cannot see. Put them in the correct place in the Body Diagram. Use one set of pictures per group. Have groups check each other’s Body Diagrams to be sure that the pictures are in the correct place. If one group thinks another group has some pictures in the wrong place, have both groups work together to place all the pictures in the correct area on the diagram.

Evaluate:

The activity above (Extend) can be used as an assessment tool. To assess children individually use the same printout of the child outline in Lesson 1 and the miniature cards. Have the students paste the pictures inside the body in the appropriate places. (See Figure 2 and Figure 3)

Lesson 3: Why Do We Have Body Systems?

Engage: (5-7 minutes):

Ask: ***“What are some parts of the body that we cannot see?”*** (Brain, heart, lungs, kidneys, stomach, muscles, etc.)

Have each student pair up with another student. Ask: ***“Where in the body do you keep your: Brain? Heart? Kidneys? Lungs? Stomach? Muscles and bones?”***

Have the students 1) say the name of the body part; 2) point to the area on the other student where that part is located; and 3) name the location. (Example: brain-head; heart-chest; kidneys-back; lungs-chest, next to the heart; stomach-belly under the lungs; muscles-under the skin, all over the body.)

Explore (15 minutes):

Organize six groups of students. Have each group select a Body System to study. Give each group the drawing for their Body System. (See Figure 9) Ask the children to think about how that system works and answer these two questions: **How does it work?** and **What does it do for the body?**

Have the groups color their drawings to show the different parts and illustrate how air, fluids and muscles might move within that system. If possible, use the Anatomical Charts (from the Kit) for each Body System. Allow time for each group to study the chart for their system. Finally, have each group to tell the class about their system.

Explain (15-20 minutes):

Using the Anatomical Charts from the **Kit** (or a children's basic anatomy book from the school or local library) so the students can see the illustrations, briefly explain the following concepts:

- The **HEART helps your blood move** all over your body. This is called the **CIRCULATORY SYSTEM**.
- The **LUNGS move air in and out** of your body. This is called the **RESPIRATORY SYSTEM**.
- The **KIDNEYS control the amount of water in your body and release waste**. This is called the **URINARY SYSTEM**.
- The **STOMACH changes what you eat** so the body can use it for energy. This is called the **DIGESTIVE SYSTEM**.
- The **BRAIN controls all your actions, sensations and thoughts**. This is called the **NERVOUS SYSTEM**.
- **MUSCLES and BONES help us move**. These are called the **MUSCULAR and SKELETAL SYSTEMS**.

Tell the children they are going to learn a special song about all their body systems called the "Body Systems Song." (**See Figure 6**)

Extend:

Vocabulary Picture Book

NOTE: This Activity is used throughout all the lessons (Exercise, Nutrition, Hygiene, Self-Esteem) in this Kindergarten unit. The intention is to build and reinforce basic vocabulary that students will need for the "Healer Within You" lessons at other grade levels.

Have the students create their own Vocabulary Picture Book.

Give each child a Title page (**See Figure 7**) and pages for each of the vocabulary words (**See Figure 8**): Body System, Muscles, Heart, Lungs, Stomach, etc. Have the students print their name and grade on the title page.

For each vocabulary word, have the child write the vocabulary word at the top of the page and do a drawing or paste a picture from a magazine or newspaper that represents that vocabulary word.

Each page should be three-hole punched. When the Vocabulary Book is completed for all the unit lessons, it can be assembled by tying yarn or colored ribbon through the holes.

Evaluate

Use the extend activity OR have the students create a picture story about the parts of their systems. Tell them to make sure they include **all** the systems they have learned.

Standards

Science: Grade Level Expectations

1. Science understanding is developed through the use of science process skills, scientific knowledge, investigation, reasoning, and critical thinking.
 - B. Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations.
 - a. Make qualitative observations using the five senses.
 - C. Evidence is used to formulate explanations.
 - a. Use qualitative and quantitative data as support for reasonable explanations.
 - E. The nature of science relies upon communication of results and justification of explanations.
 - a. Communicate observations using words, pictures, and numbers.

Strand 8: Impact of Science, Technology and Human Activity

3. Science and technology affect, and are affected by, society.
 - A. People, alone or in groups, are always making discoveries about nature and inventing new ways to solve problems and get work done.
 - b. Work with a group to solve a problem, giving due credit to the ideas and contributions of each group member (assess locally).

Health and Physical Education: Frameworks

1. Functions and interrelations of systems
 - A. Body Systems
What All Students Should Know:

3. The Skeletal/Muscular, Cardiovascular, Respiratory, Urinary, Digestive, and Nervous Systems have basic structures and functions that enable humans to live and perform a variety of tasks.

What All Students Should Be Able to Do:

- a. Identify and describe the basic structure and functions of the Circulatory, Respiratory, Urinary, Skeletal/Muscular, Digestive, and Nervous Systems.

V. Physical Activity and Life Time Wellness

A. Personal Fitness/Wellness

What All Students Should Know:

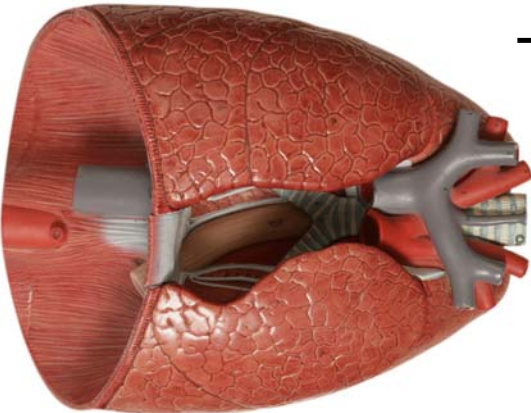
- a. Learning the internal and external body parts and their relationship to developing a healthy body helps in understanding their physical self.

What All Students Should Be Able to Do:

- a. Identify the major structures and functions of the circulatory, respiratory, muscular and skeletal systems and relate them to the development of a healthy body.

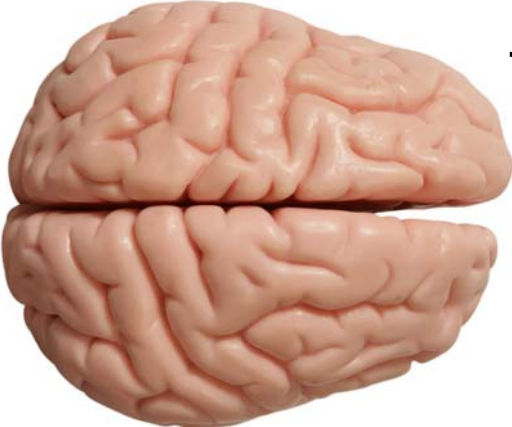
Figure 1

Lungs



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Brain



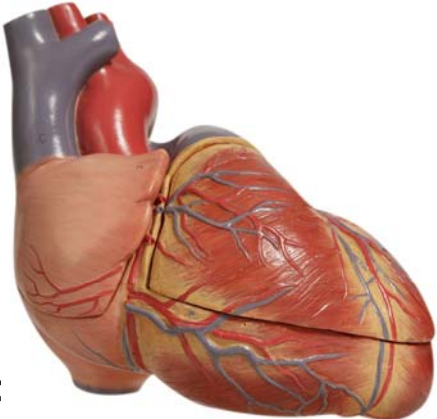
FRONT
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Muscles



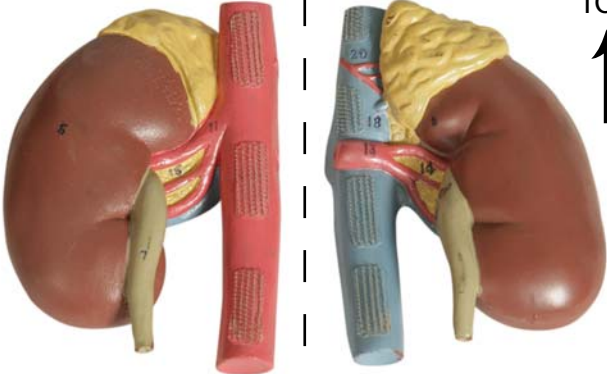
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Heart



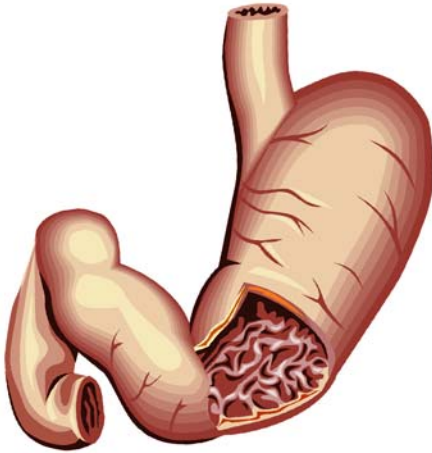
TOP
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Kidneys



TOP
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Stomach



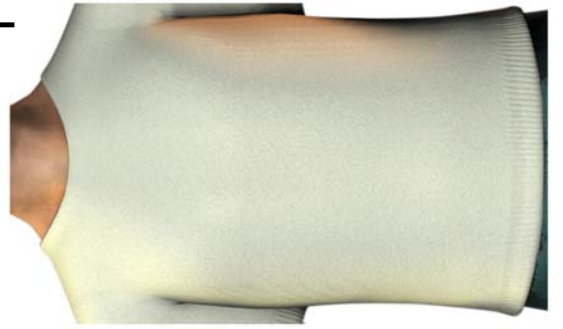
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Head

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Chest

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Hand

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Hand

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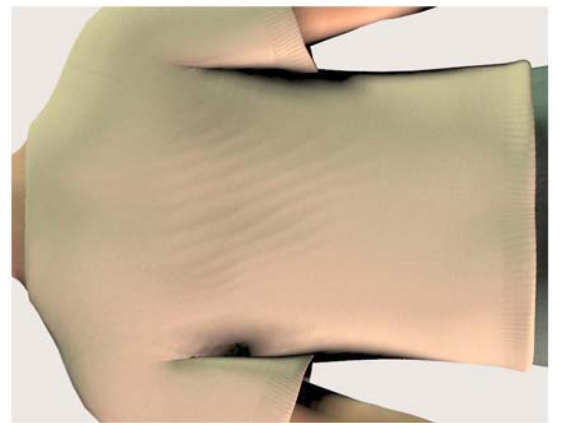
Legs

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Arm

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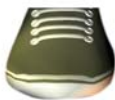
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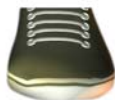
Arm

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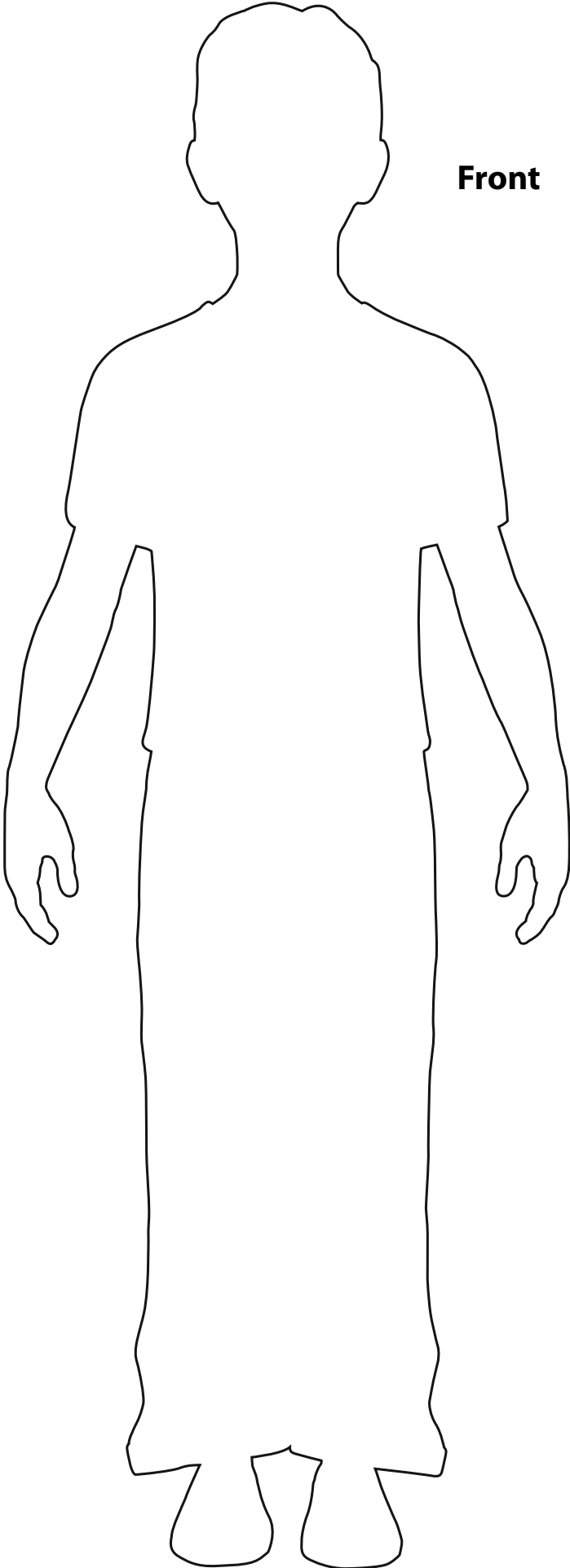
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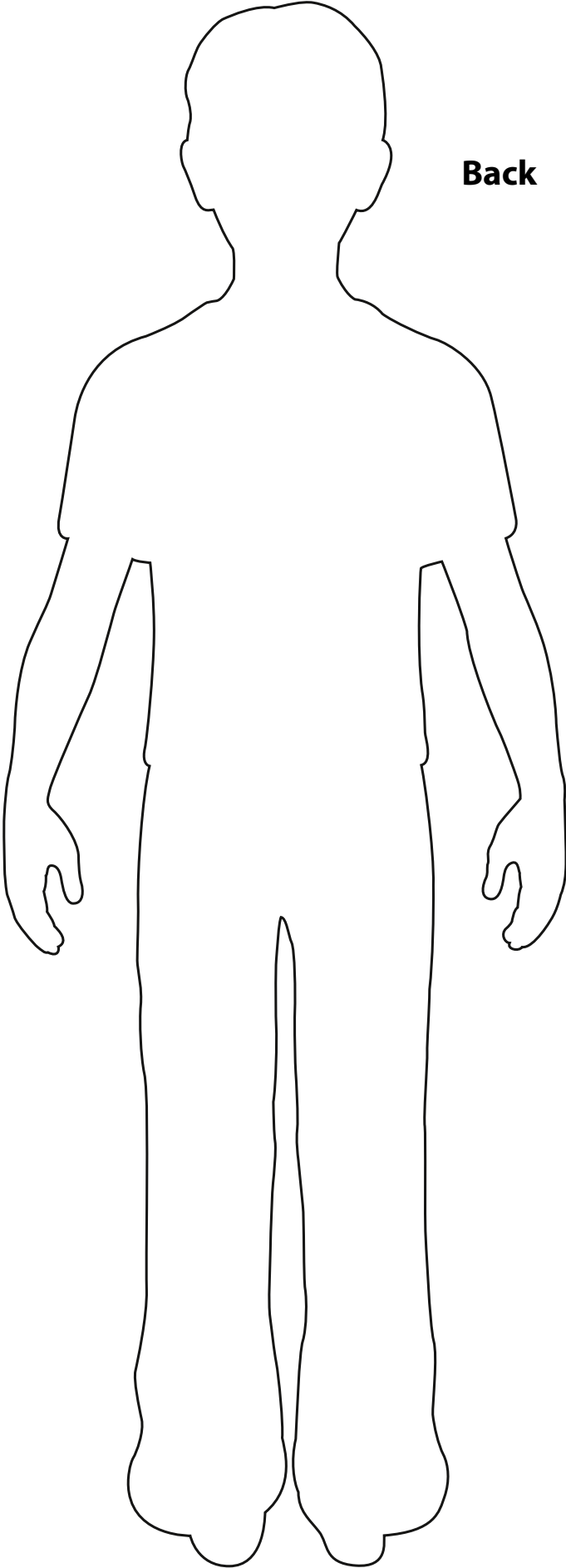


Foot

Figure 2



Front



Back

Figure 3

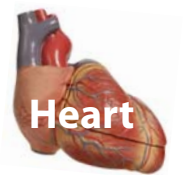
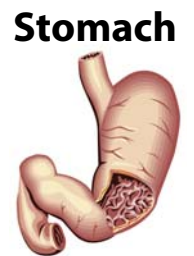
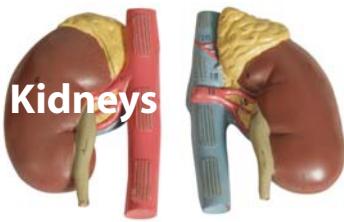
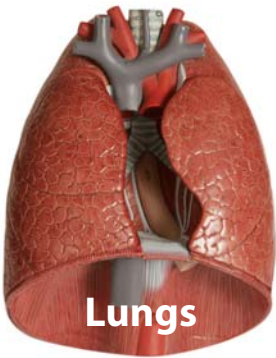
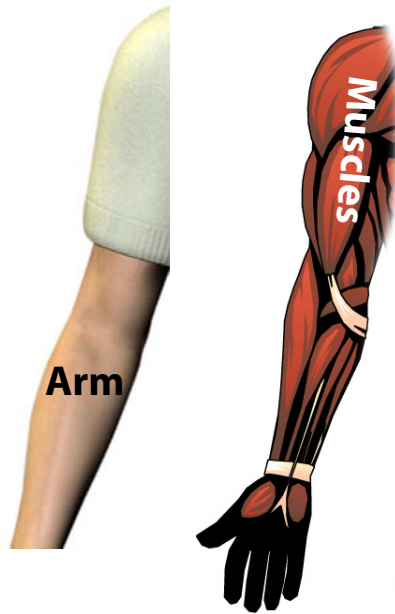


Figure 4

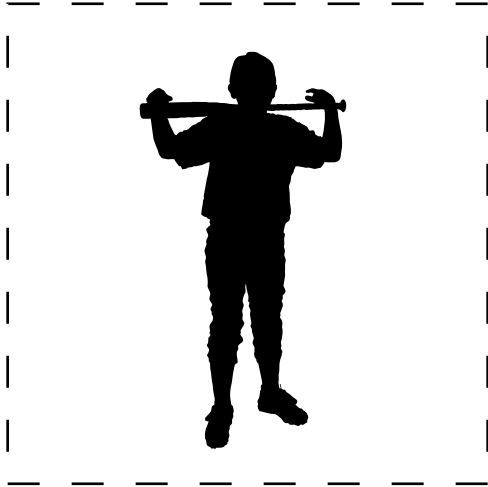
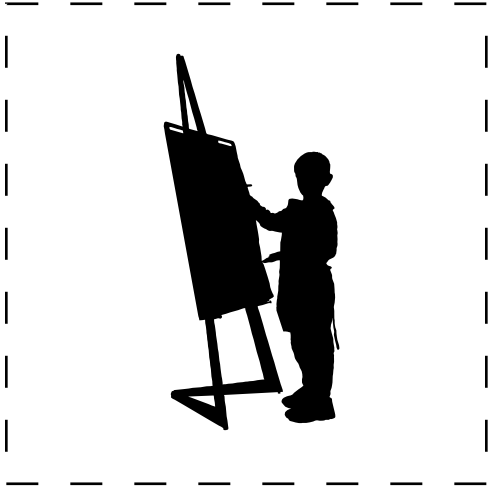


Figure 5

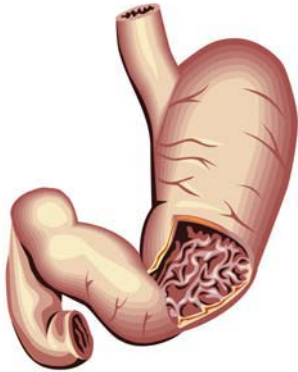


Figure 6: Words to “The Body Systems Song”

“The Body System Song” – By Lisa Perkins
(Sung to the tune of “The Ants Go Marching”)

The Respiratory System helps me breathe, me breathe.
The Respiratory System helps me breathe, me breathe.
I need my lungs to help me breathe, I need my lungs to help me breathe,
and my lungs are part of my Respiratory System.

The Urinary System keeps my body clean, me clean.
The Urinary System keeps my body clean, me clean.
I need my kidneys, I need my kidneys, I need my kidneys to keep me clean,
and my kidneys are part of my Urinary System.

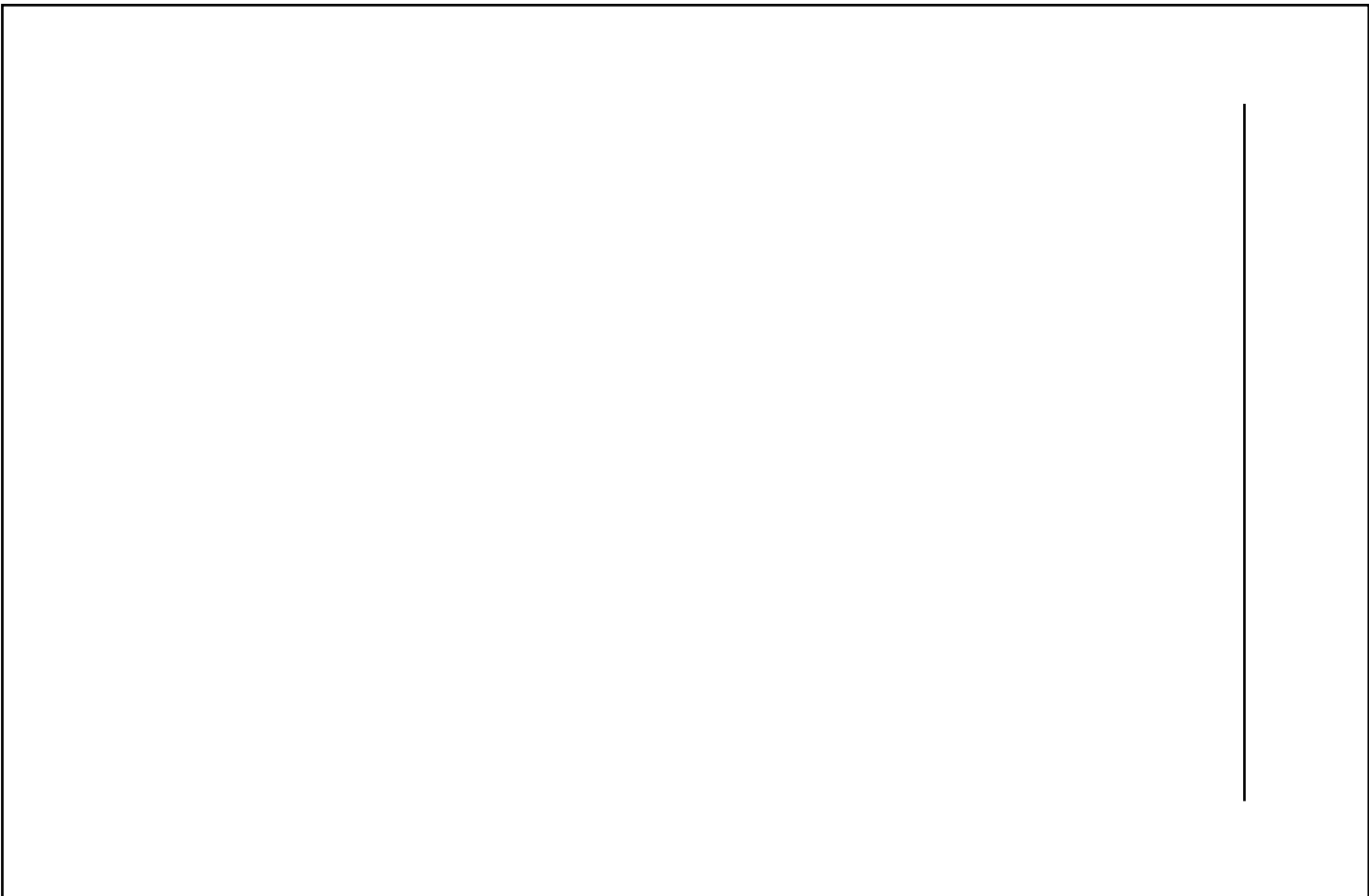
The Digestive System helps me use my food, my food.
The Digestive System helps me use my food, my food.
I need my stomach, I need my stomach, I need my stomach to use my food,
and my stomach is part of my Digestive System.

The Nervous System helps my brain to think, to think.
The Nervous System helps my brain to think, to think.
I need my brain, I need my brain, I need my brain to help me think,
and my brain is part of my Nervous System.

The Skeletal System helps my body move, to move.
The Skeletal System helps my body move, to move.
I need my bones, I need my bones, I need my bones to help me move,
and my bones are part of my Skeletal System.

The Muscular System makes my body strong, so strong.
The Muscular System makes my body strong, so strong.
I need my muscles, I need my muscles, I need my muscles to make me strong,
and my muscles are part of my Muscular System.

The Circulatory System helps me move my blood, my blood.
The Circulatory System helps me move my blood, my blood.
I need my heart, I need my heart, I need my heart to move my blood,
and my heart is part of my Circulatory System.



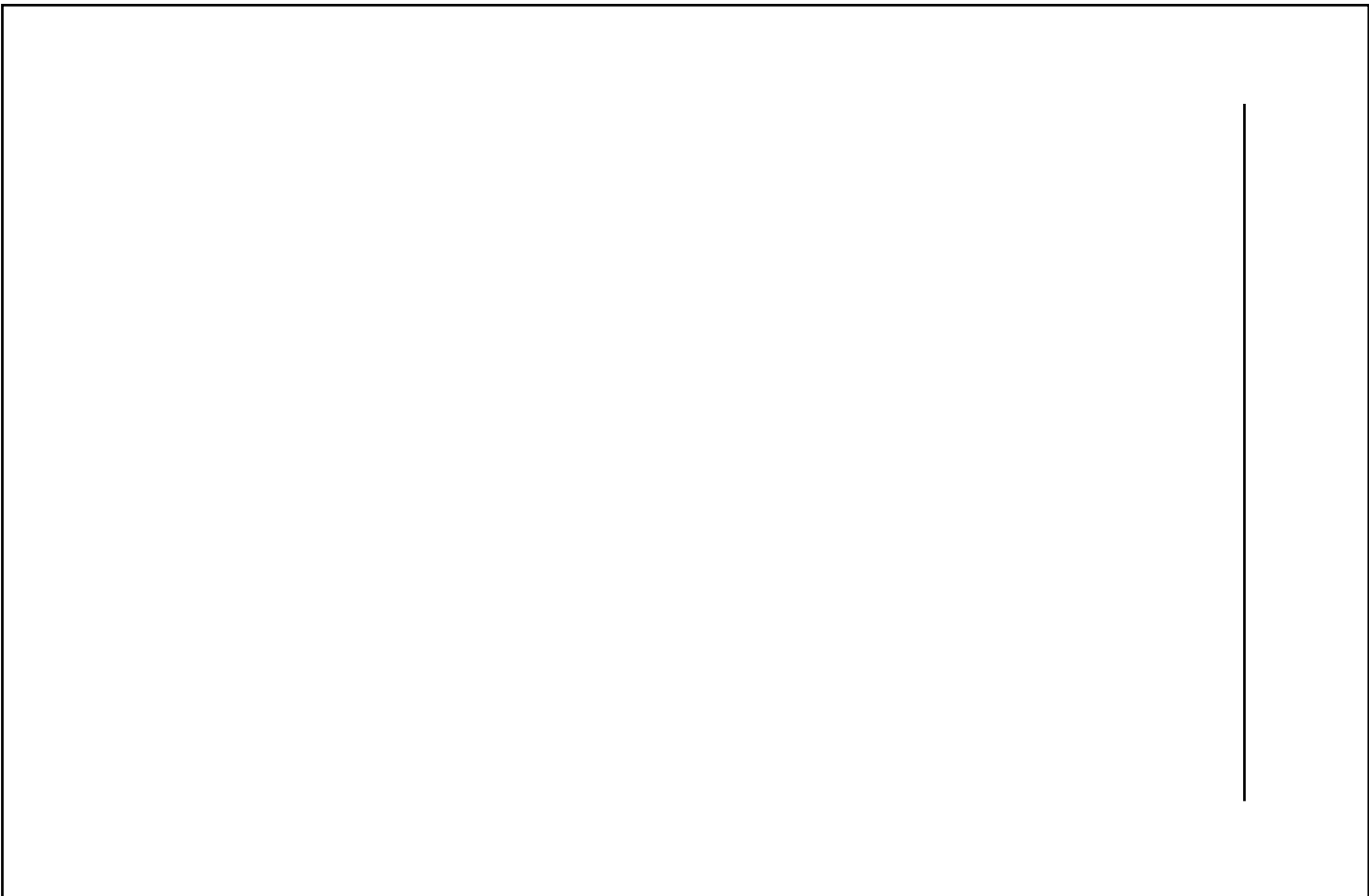
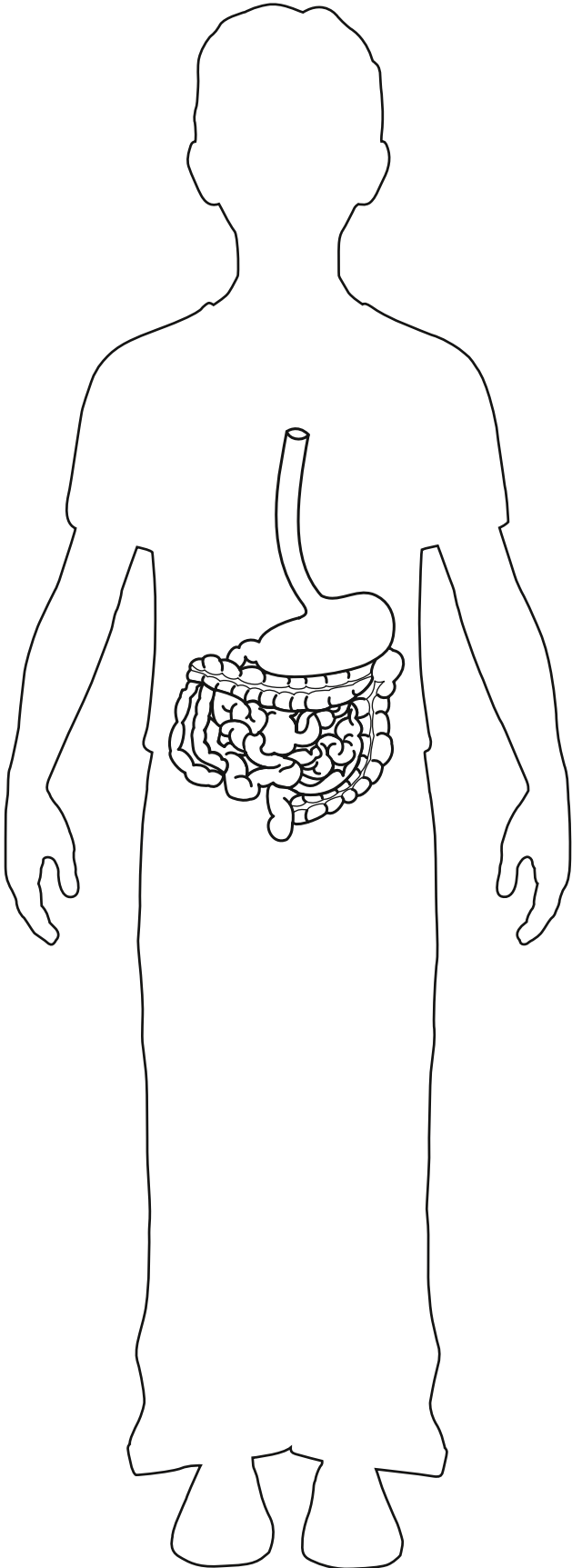


Figure 9

Digestive



Urinary

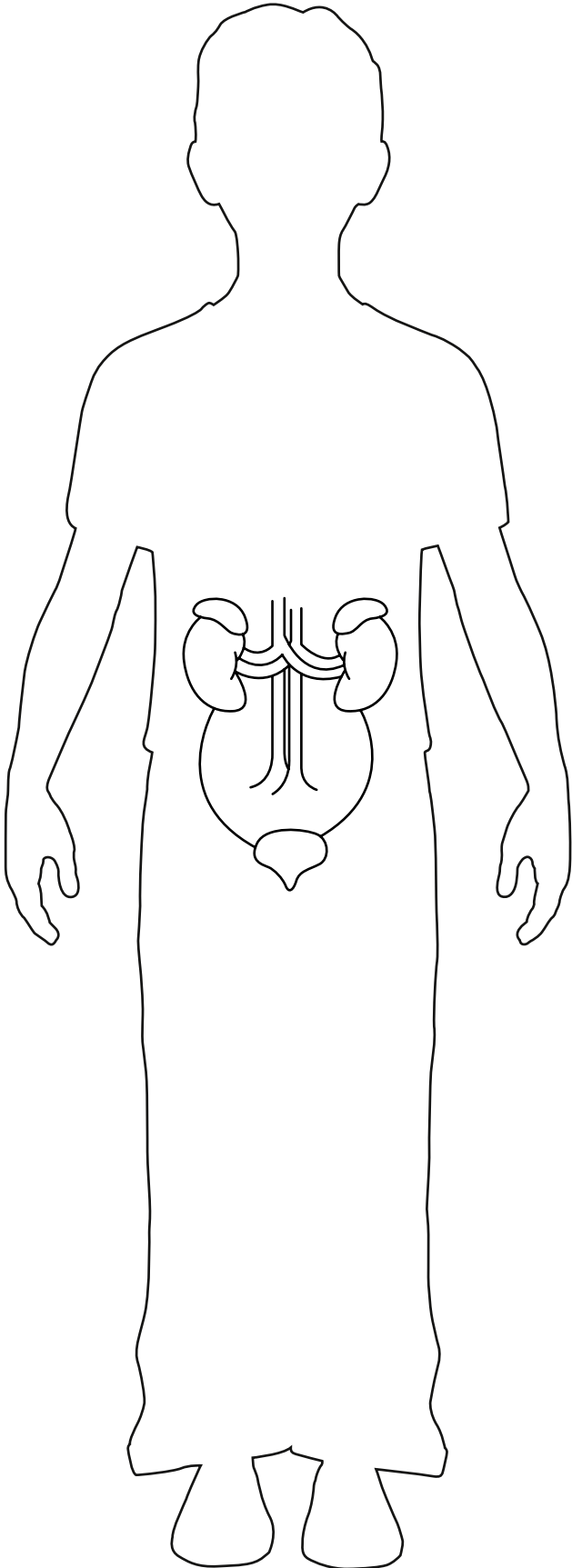
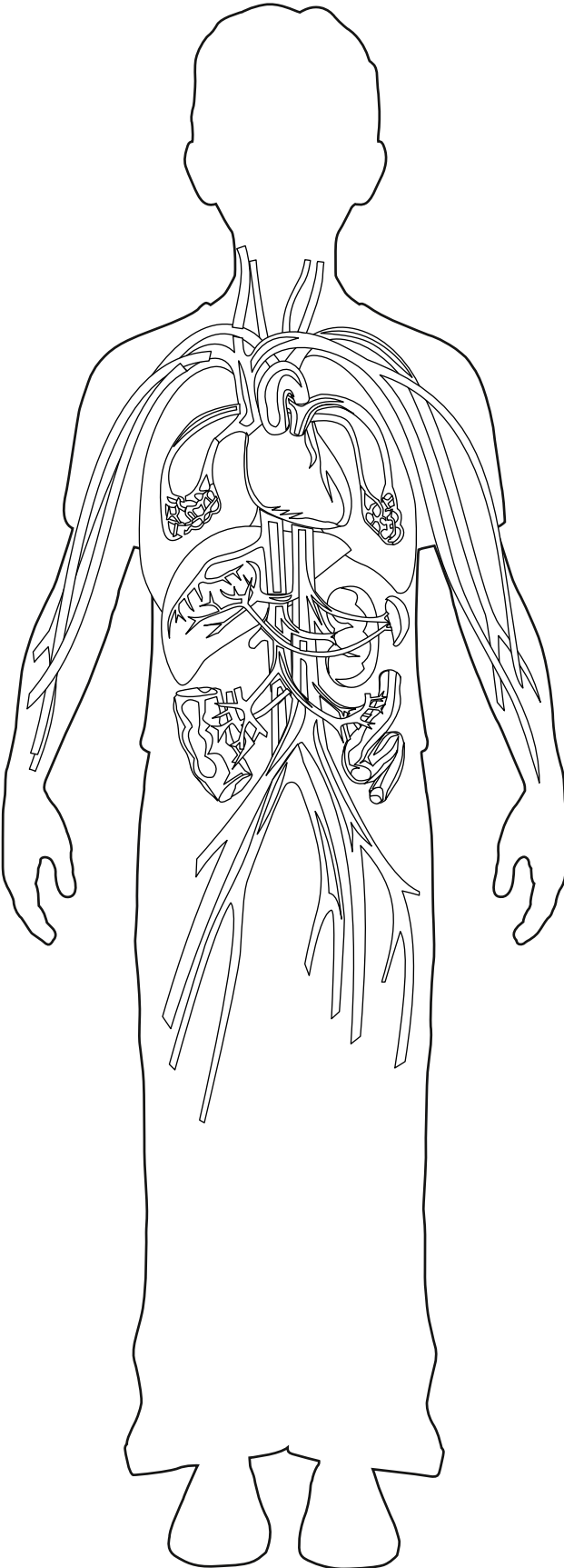


Figure 9

Circulatory



Respiratory

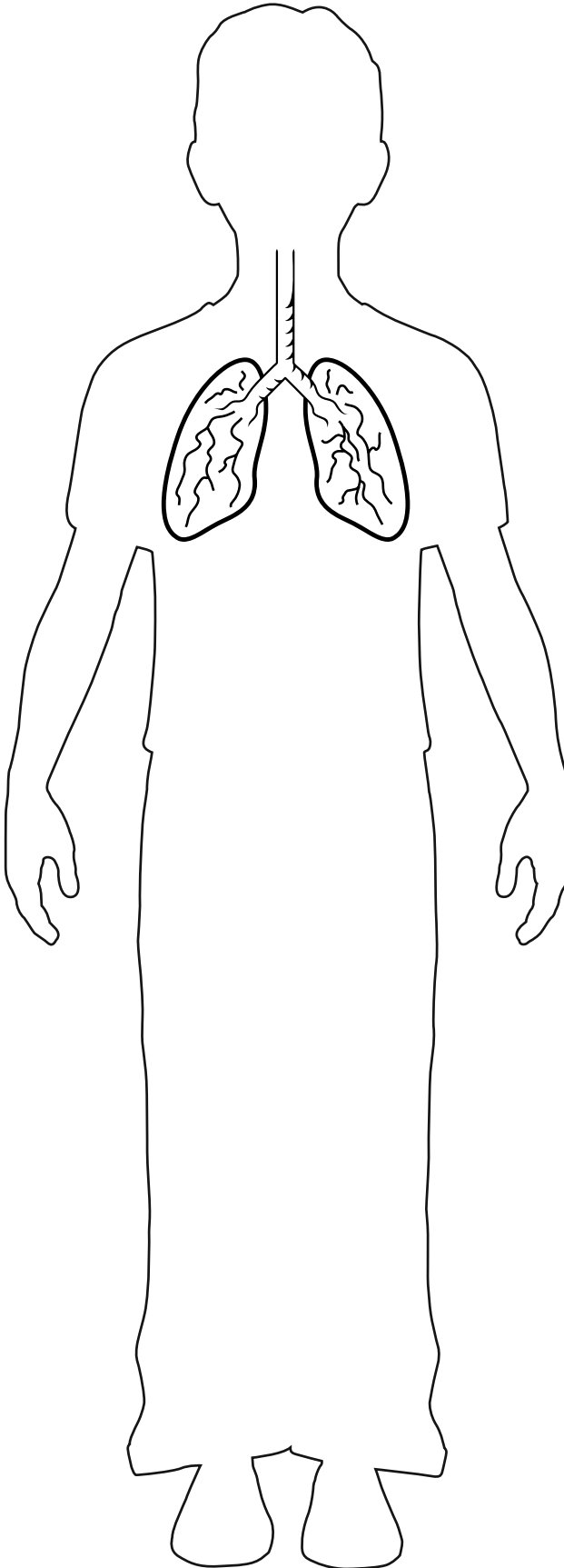
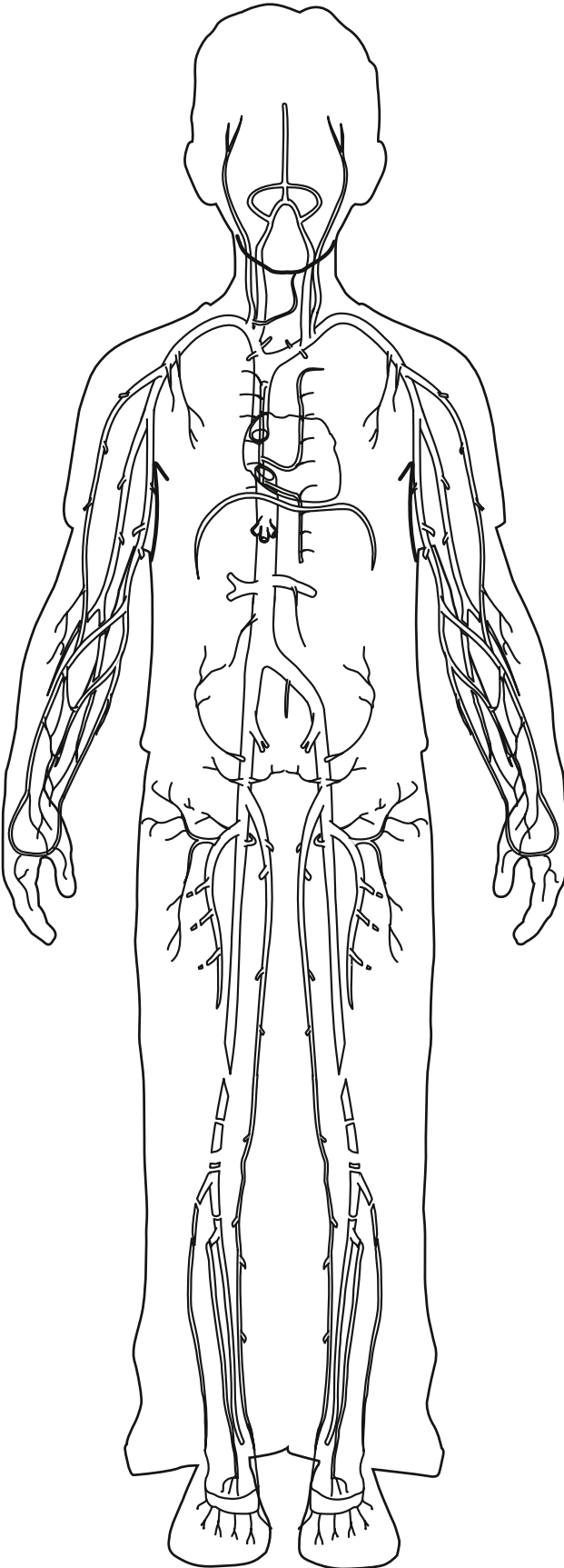


Figure 9

Nervous



Muscular

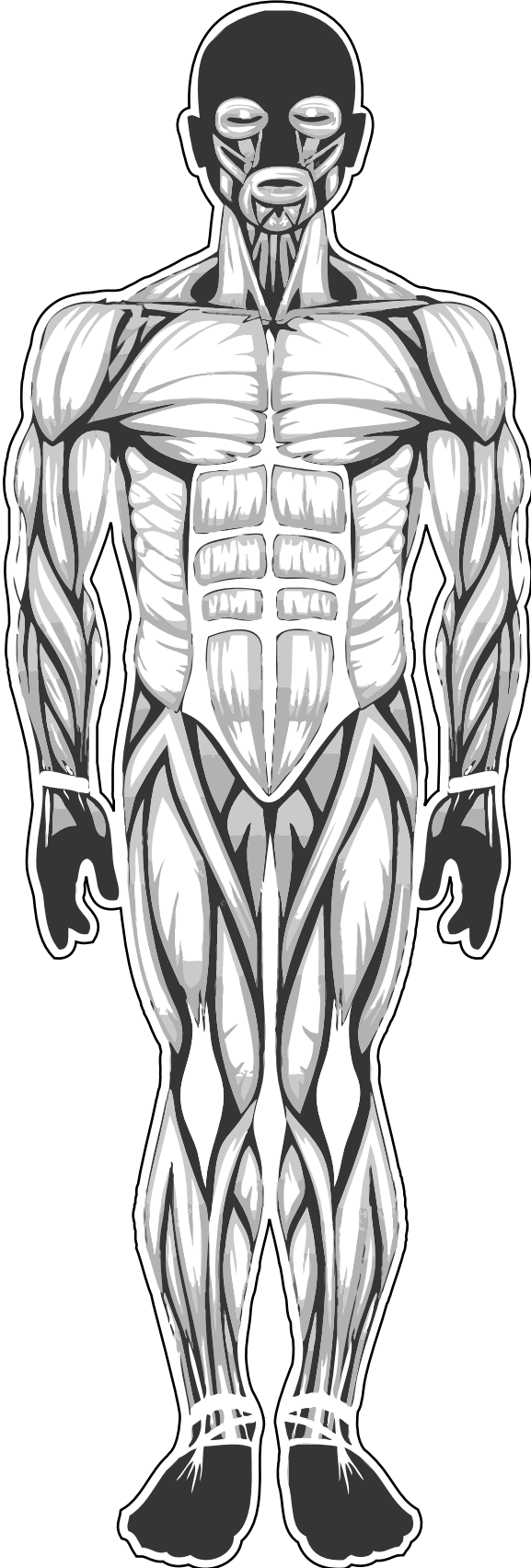


Figure 9

Skeletal

