

# GRETCHEN SEIBEL

gretchenseibel.com • gretchenseibel@gmail.com • (734) 718-1665

## Science

### 4th Grade Interactive Model of Body Systems Lesson Plan

Based on Accelerated Learning STEMSCOPES lesson

1. **Goal** –  
During this lesson, students will act as a model of how our various internal body structures interact to function as body systems necessary for animal survival, growth, behavior and reproduction.
2. The **national and/or state standard** addressed are Next Generation Science Standards  
A. 4. LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
3. **Objective(s)** –  
A. Students will be able to explore internal structures of the human body that work together as a system.  
B. Students will identify body systems that work together and what internal structures are part of each system.
4. **Connections** –  
A. This lesson builds on previous lessons because students have already explored and learned about various plant structures that help plants survive, grow, behave and reproduce. This lesson connects to future lessons as students will look at different traits and adaptations that help animals survive in their environment.

#### 5. **Instructional Activities**

*Introduction:* Place hula hoops on the ground as modeled in the diagram. Each hula hoop will represent an organ or a body system.

Respiratory System: cup of red squares labeled “Oxygen Red” and empty cup labeled “Carbon Dioxide Blue”

Digestive System: cup of green squares labeled “Food Green”

Muscular System: cup of blue squares labeled “Carbon Dioxide Blue,” empty cup labeled “Oxygen Red,” cup of yellow squares labeled “Waste Yellow,” and empty cup labeled “Food Green”

Excretory System: empty cup labeled “Waste Yellow”

Heart does not have any cups

*Activity:* Assign students to hold a system card when standing in an assigned hula hoop. Students should monitor what is being picked up and dropped off.

The rest of the students are going to be blood. The heart must pump the blood in order for it to move and the brain (nervous system) will give directions.

Students will move through the model, stopping first at the respiratory system and pick up oxygen entering the blood. Discuss what systems are working together and what internal structures are part of the systems.

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Students then move to the digestive system and pick up nutrients from food entering the blood. Discuss what systems are working together and what internal structures are part of the systems.

Students then move to the heart and are pumped to the muscular system. Students will drop off their food and pick up waste. Then they will also drop off their oxygen and pick up carbon dioxide. Discuss what systems are working together and what internal structures are part of the systems.

Students will then move to the excretory system and drop off their waste.

Students will then move back to the heart and get pumped back to the respiratory system and drop off carbon dioxide and repeat the cycle. Discuss what happens when carbon dioxide is dropped off in the respiratory system.

*Discuss:* Which system played the largest role in the model? Which internal structures do you think are most important for survival?

### 6. **Instructional resources and materials** –

Interactive Model of Body Systems Recording Sheet

Body System Cards

8 Large Plastic Cups

5 Hula Hoops

Small squares of red, blue, green and yellow construction paper

### 7. **Assessment** –

*Formative:* Interactive Model of Body systems recording sheet, which asks students to draw a picture of the model labeling parts, the process and body structures involved.

Students will also be asked to reflect on what exchanges were made at each system, what allowed them to move through the model and how the structures work together to form systems of the body.

*Summative:* Claim-Evidence-Reasoning that asks students to write a scientific explanation of how a lion's internal and external structures were useful to help a lion get its prey.