

# Educational Resources from *Phenomenon Science Education*

## Student Proficiency Goals for **NGSS MS-LS1-3**



### Information about MS-LS1-3

#### **NGSS Performance Expectation MS-LS1-3.**

Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

#### **Clarification Statement.**

*Emphasis is on the conceptual understanding that cells form tissues and tissues form organs specialized for particular body functions. Examples could include the interaction of subsystems within a system and the normal functioning of those systems.*

#### **Assessment Limits.**

*Assessment does not include the mechanism of one body system independent of others. Assessment is limited to the circulatory, excretory, digestive, respiratory, muscular, and nervous systems.*

#### **Science and Engineering Practice (Engaging in Argument from Evidence)**

- Use an oral and written argument supported by evidence to support or refute an explanation or a model for a phenomenon.

#### **Disciplinary Core Idea (LS1.A: Structure and Function)**

- In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions.

#### **Crosscutting Concept (Systems and System Models)**

- Systems may interact with other systems; they may have sub-systems and be a part of larger complex systems.

## Educational Resources from *Phenomenon Science Education*

### Student Proficiency Goals for **NGSS MS-LS1-3**



#### Student Proficiency Goals

##### SEP (Engaging in Argument from Evidence):

- Students identify and describe a claim that explains a phenomenon or a model of a phenomenon including the idea that the body is a system of interacting subsystems.
- Students identify and describe evidence to support or refute the claim.
- Students identify strengths and weaknesses in the collected evidence including the type of source the evidence came from, the validity and reliability of the evidence, and the ability of the evidence to strengthen the identified claim.
- Students use reasoning to link the collected evidence to their claim.
- Students construct a written argument that supports or refutes an explanation for a phenomenon or a model of a phenomenon.
- Students use oral arguments to support or refute an explanation for a phenomenon or a model of a phenomenon.

##### DCI (LS1.A Structure and Function):

- Students know that an animal body is a system of many interacting subsystems.
- Students know that animal bodies are comprised of organ systems.
- Students know that organs and organ systems are comprised of different tissues.
- Students know that tissues are made of groups of cells that work together to accomplish specific body functions.
- Students know that in a normally functioning animal body the different organ systems, organs, and tissues work together.
- Students know that tissues and organs are specialized for particular animal body functions.

##### CCC (Systems and System Models):

- Students consider how the systems and subsystems in a body interact with other systems and subsystems in the body.
- Students analyze how subsystems within systems work together for particular body functions.
- Students analyze how subsystems are part of larger complex systems.