

Unit 4 - How Organisms Process Information

Content Area: **Science**
Course(s): **Science 4**
Time Period: **November**
Length: **Marking Period 2**
Status: **Published**

Unit Summary

In this unit of study, students are expected to develop an understanding that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. By developing a model, they describe that an object can be seen when light reflected from its surface enters the eye. The crosscutting concepts of Cause and Effect, Systems and System Models, and Structure and Function are called out as organizing concepts for these disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in Developing and Using Models. Students are expected to use these practices to demonstrate understanding of the core ideas.

Standards

LA.SL.4.5	Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.
SCI.4.4-LS1-2	Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.
SCI.4.4-PS4-2	Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.
TECH.8.1.5.A	Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.
TECH.8.1.5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
TECH.8.1.5.A.CS2	Select and use applications effectively and productively.

Student Learning Objectives

SLO 1: Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways. (4-LS1-2)

SLO 2: Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen. (4-PS4-2)

Essential Questions

Part A: How do animals receive and process different types of information from their environment in order to respond appropriately?

Part B: What happens when light from an object enters the eye?

Enduring Understandings

Students will understand that:

- different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions. (4-LS1-2)
- an object can be seen when light reflected from its surface enters the eyes. (4-PS4-2)

Application

Students will be able to independently use their learning to:

- describe a system in terms of its components and their interactions.
- use a model to test interactions concerning the functioning of a natural system.
- use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways
- identify cause-and-effect relationships.
- develop a model to describe phenomena.
- develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.

Skills

Students will be skilled at: