
What's Your Function?

Overview

This lesson and related activities are designed to give students hands-on experience differentiating between structure and function.

Grade: 6

TEKS

Scientific Processes

6.1 A

6.2 B, C, D, E

6.4 A

Science Concepts

6.10 A, C

Literature

What Do You Do With A Tail Like This?

Jenkins and Page

Vocabulary

Structure

Function

Inference

Observation

Materials

1 Insect Observation Kit per 4 students

(Petri dish, hand lens, forceps, ruler)

Pencils

Variety of animal teeth (shark, cow, human)

Safety Goggles

Earthworms

Waxed Paper

Paper Towels

Downloadable Sheets

*Structure/Function Insect Data Collection Sheet

*Sorting Activity Cards

*Structure/Function of Locomotion Table

*Earthworm Lab Data Collection Sheet

Pre-Eastman Classroom Activities

Before Class Begins:

1. Collect a variety of animal teeth for students to observe.
2. Write and display the definitions for *structure*, *function*, *inference*, and *observation*.
3. Make one copy of Structure/Function of Locomotion Table for each student. (Students could create own table.)
4. Duplicate Structure/Function Sorting Activity Cards onto tag board and cut apart. Make one set for each group of 4 students.

Lesson:

1. Hold up a shark tooth. Guide students in making observations of the tooth. For instance, it is sharp, pointed, jagged, thin.
2. Relate these observations to the definition of structure—how the tooth is built.
3. Repeat using other types of teeth.
4. Discuss each tooth's function—how it works. Stress how each structure complements its function. Guiding questions are: What would a cow be like with a mouth full of shark teeth? Could it survive? Could it function?
5. Read the book *What Do You Do With A Tail Like This?* to the class. Discuss the structure and function of the items in the book, stressing the difference between a structure and its function.
6. Introduce the Structure/Function Sorting Activity. Create groups of four students. Give each group a set of Structure/Function Sorting Activity Cards. The groups will sort the cards into two categories: **Structures** and **Functions**. This is to help students distinguish between the two terms.

Independent Practice:

1. Discuss locomotion of organisms.
2. Have students complete the *Structure/Function of Locomotion Table*.

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In The Field

1. Prior to leaving the school, make sure you have:
 - One Insect Observation Kit for each group of 4 students
 - Pencils
 - Structure/Function Data Collection Sheets (1 per group)
 - Safety Goggles (1 per student)
 - First Aid Kit
 - Water and snacks if needed
 - Digital camera
2. Set behavior expectations and go over safety issues with the students. Include humane treatment of insects. Remind students that some insects will sting and some are very fragile. Repeat that they are not to touch anything without permission, but to use the forceps gently.
3. Distribute Insect Observation Kits. Instruct groups to collect an organism for observation. They are to place it in their petri dish using the forceps, and then return to the station to complete the activity.
4. As groups return, the teacher should photograph the organisms. If there is no camera available, students can sketch their insect.
5. Review definitions of structure and function. Discuss how we can infer the function based on observation of the structure.
6. Students will complete the Structure/Function Insect Data Collection Sheet using their insect. Trade petri dishes with another group when finished, repeating the activity using the new organism. Continue until each group has observed all insects and recorded them on their collection sheet.
7. Return insects to their natural habitats.

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Post-Eastman Classroom Activities

1. View the pictures of the organisms collected in the field. Let each group share their observations and inferences for each organism.

Earthworm Lab Activity

Before Class Begins:

1. Put an earthworm in a petri dish for each group. Also have waxed paper sheets and moist paper towels for each group.
2. Copy Earthworm Lab Data Collection Sheet—1 copy per group.

Lesson:

1. Go over Lab Safety Procedures related to this activity. Remind students to keep the earthworms moist throughout the activity.
2. Distribute earthworms and Data Collection Sheets.
3. Students will list observations about the earthworm on their Data Collection Sheet.
4. As a class, discuss observations. Make sure to guide students toward observing the bristles (setae) on the underside of the earthworm. Relate this back to the definitions of *structure* and *function*.
5. Have students make predictions on their Data Collection Sheets on which surface, waxed paper or paper towel, is better for the earthworm's movement.
6. Distribute waxed paper. Students will put the earthworm on the waxed paper and make observations.
7. Discuss the observations. Explain to the class that if the room is quiet enough, they can hear the setae scratching on the waxed paper. Add this observation to their Data Collection Sheet.
8. Distribute the paper towels. Students will now put their earthworm on the moist paper towel and make observations.
9. Students will complete their Data Collection Sheet by answering the final question.