

Hands on Ecology Activity 4

Topic: Ecology

Learning Objective: Students will learn about what differentiates insects from other animals. Students will learn how to use dissection tools and use them to dissect a grasshopper and observe its unique adaptations.

Alignment with NGSS Grades 3-5

Performance Expectations and Disciplinary Core Ideas for Grade 4

- 4-LS4-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
- 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.

Crosscutting Concepts and Connections to Engineering, Technology, and Applications of Science.

Systems and System Models

- A system is a group of related parts that make up a whole and can carry out functions individual parts cannot.

Structure and Function

- Substructures have shapes and parts that serve functions.

Materials:

- Dissection trays
- Pins
- Scalpels
- Forceps
- Gloves
- Grasshoppers
- Diagrams

Detailed Description

- Activity
 - Checkin
 - Students settle in, answer question of the day
 - Insect/grasshopper introduction
 - There are more insects than any other type of animal! Insects are characterized by their exoskeletons. Show students photos of grasshoppers, ask them to describe grasshoppers:
 - Why would grasshoppers need wings?
 - How would grasshoppers' coloring help them in their habitat?
 - Do you think insects have blood why or why not?
 - How is an insect's skin different than yours, etc.
 - Use photos, books from library, and worksheet to guide students through.
 - Dissecting tools overview
 - Review types of dissecting tools, their uses, and safety precautions with students.
 - Grasshopper dissection
 - Using [worksheet](#) as guide, have students dissect their grasshopper and draw what they find in their dissection

How will you conclude the lesson to enforce the learning objective:

Have students thoroughly clean and dry their dissecting trays and tools and wash their hands. Students share one thing they learned or one thing they wonder about before they leave class.

What science process skills will this lesson exercise?

Observing, communicating, formulating models

Safety precautions

Ensure students are properly trained on how to use the dissection tools safely.