

Hands on Ecology Activity 1

Topic: The Plant Life Cycle

Learning Objective: Students will learn about a plant's life cycle and what it needs to survive as it grows. Students will learn about the different parts of a flower and construct a model of a three dimensional flower.

Alignment with NGSS Grades 3-5

Performance Expectations and Disciplinary Core Ideas for Grades 4

- 4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

Performance Expectations and Disciplinary Core Ideas for Grade 5

- 5-LS1-1 Support an argument that plants get the materials they need for growth chiefly from air and water.

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

Structure and Function

- Different materials have different structures that can be observed. Substructures have shapes and parts that serve functions.

Materials:

- Gardening gloves
- Tools
- Life cycle cards
- Paper
- Pens
- Markers
- Pipe cleaners
- Popsicle sticks
- Puff balls
- Tissue paper
- Construction paper
- String/yarn

Detailed Description

- Activity
 - Checkin
 - Have students introduce themselves and answer question of the day
 - Plant Life Cycle Lesson
 - Give students plant life cycle cards and see if they can arrange them in a cycle in the correct order.
 - (seed > root > stem > leaf > flower > fruit > seed).
 - Encourage students to think of a plant or a tree they might have near their home or their school that they see go through this cycle every year.
 - Learn flower parts
 - Review the parts of a flower with the class, including the importance of pollinators like bees.
 - (A good question to ask here is “how are new seeds made?”)
 - Have students play charades to learn about the different parts
 - (Anther, Filament, Ovary, Petal, Pistil, Receptacle, Sepal, Stamen, Stem, Stigma, Style).
 - Build 3D flower model
 - Using what students know about flower reproduction, students will build a model of a flower using available materials. Have students start by sketching a design of their flower and listing the materials they’ll need.
 - After instructor approval, students can begin to lay out their flower pieces, then finally glue them together and label each part on their final piece.
 - Observe and harvest outdoors
 - Take students outside to the garden and see if they can identify what stage our plants are in the garden.
 - If applicable, harvest tomatoes, carrots, and peas for the students to eat while we sum up.

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

Take students inside to wash their hands. Before switching classes, encourage students to share one thing they learned today or one thing they still have a question about.

What science process skills will this lesson exercise?

Observing, communicating, formulating models

Safety precautions

None