

Garden Lesson: Exploring Plant Growth

Season: Spring | Grades: Preschool, Kindergarten and 1st

Ohio Science Concept

- Kindergarten: Physical and behavioral traits of living things- Living things have physical traits and behaviors which influence their survival.
- 1st Grade: Basic needs of living things: Living things only survive in environments that meet their needs.

Next Generation Science Standard

- K-ESS3-1: Use a model to represent the relationship between the needs of different plants and animals and the places they live.
- K-2-ETS1-2: Develop a simple sketch, drawing or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Science Inquiry and Application

- Observe and ask questions about the natural environment
- Employ simple equipment and tools to gather data and extend the senses

Ohio Mathematics Standards

- Kindergarten: Classify objects and count the number of objects in each category
- 1st Grade: Reason with shapes and their attributes

Objectives

Students will...

- Investigate the different parts of a flower
- Model the stages in a plant life cycle with gross motor movement and observation
- Use a key to identify plants in the garden and remove unwanted plants.

Materials

- Transition signal (bell, chime, etc.)
- Introduction: Plant parts examples (roots, stem, leaves, fruit, flower seed)
- *Observe Station*: variety of fruits, cutting board, knife, magnifying glasses, fruit dissection worksheet, clipboards, pencils, paper plates
- *Explore Station*: Life cycle puzzle
- *Garden Station*: ID guide of spring plants as two week and four week sprouts, magnifying glasses, 12 spring seed varieties

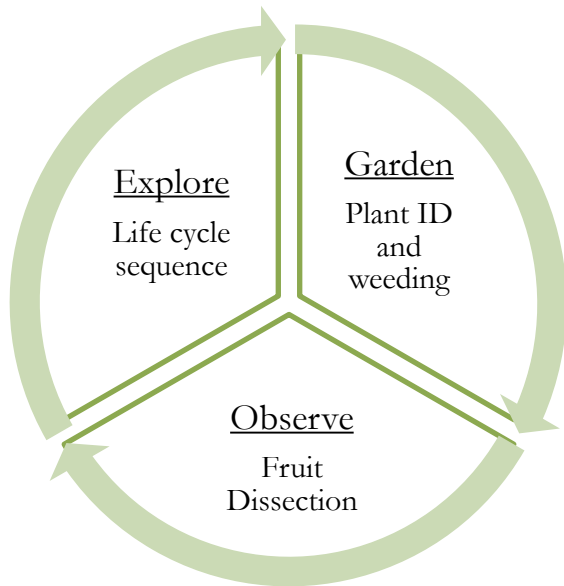
Overview

This lesson guides students in using tools, guide books and communication to explore plant parts and stages. At the observe station, students investigate the structure of a fruit and make connections about how these different parts help the fruit complete its job. At the explore station gross motor movements are used to model the life cycle of plants in the garden. At the garden station students use guide books to identify the sprouts of the spring seeds planted earlier in spring. They then use this information to remove weeds that have also sprung up. As students are supported in looking at the garden in a new way and making their own connections between observations and concepts, they will come to value to garden as proud stewards.

5 minutes Introduction

- Welcome & review expectations
- Review plant parts we've talked about in previous lessons (roots, stems, leaves). Ask students to use their senses and describe fruits and flowers.
- Break into three groups for station time

20 minutes Station Rotation (5 minutes per station + 1 minute for transition)



Observe: Fruit Dissection

Materials: variety of fruits, cutting board, knife, magnifying glasses, fruit dissection worksheet, clipboards, pencils, paper plates

- Ask for examples of fruits and their characteristics
- Explain that the job of the fruit is to store and protect seeds
- Go over nomenclature cards for parts of a fruit together
- Divide into groups and give each group a pre-cut fruit
- In groups have them identify the different parts and fill in the "Fruit Dissection" worksheet

Explore: Lifecycles

Materials: Life cycle poster & puzzle

- Share the plant life cycle poster; invite students to share observations
- Act out/gross motor for stages in plant life cycle:
 - First, there is a planted seed (body in a ball)
 - Next there is germination (stick out one leg)
 - Roots and stem grow (stretch out straight- arms at sides)
 - Leaves grow (stretch out arms- fists in balls)
 - Flowers grow (spread out fingers)
 - Sometimes these flowers grow fruit (make circle with thumb and forefinger)
 - You can find seeds in flowers and fruit (spirit fingers)
 - Seeds are then dispersed (return to ball shape)
- Have students complete the plant life cycle puzzle

Garden: Plant ID and Weeding

Materials: ID guide of spring plants as two week and four week sprouts, magnifying glasses, 12 spring seed varieties

- Choose a few of the spring plant varieties planted earlier this spring using the square foot planting method.
- Show the examples of the chosen seeds the plants started as and then look at them as sprouts in the pictures.
- Search for these sprouts in the garden and remove weeds that may be growing.

5 minutes Conclusion: What Can You Do?

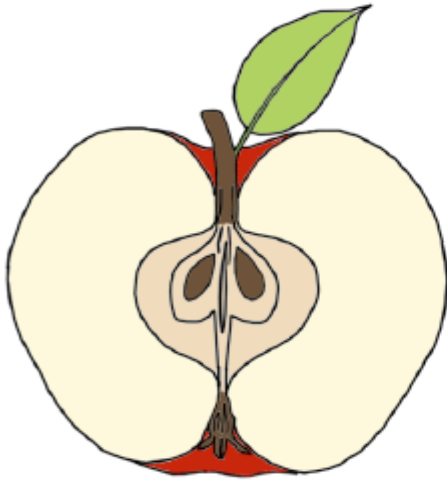
- Have students share what they learned.
- Ask the students why fruits are important

Discovering Plants **Fruit and Seeds—Student Handout One**

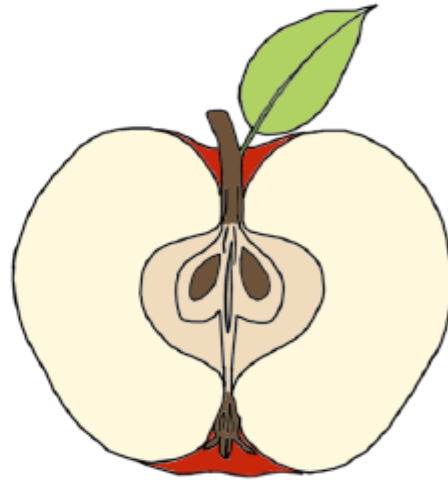
DATA SHEET
Does My Fruit Have Seeds?

<u>Name of Fruit</u> Illustrate your fruit			
<u>Does This Fruit Have Seeds?</u>	Yes	No	
<u>Number of Seeds</u>			
<u>Describe the Seeds</u> (Tiny, black, round, etc.)			

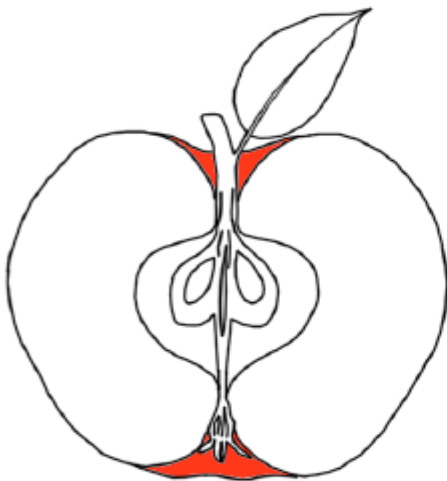
Parts of the Fruit



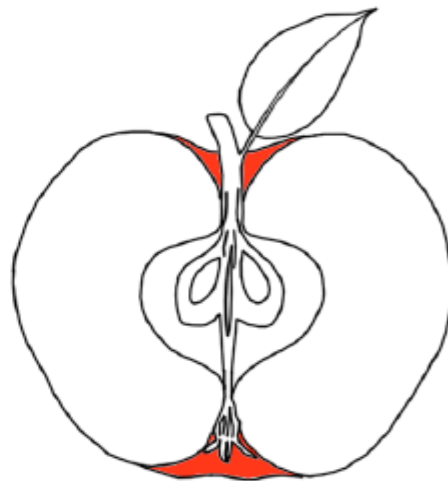
fruit



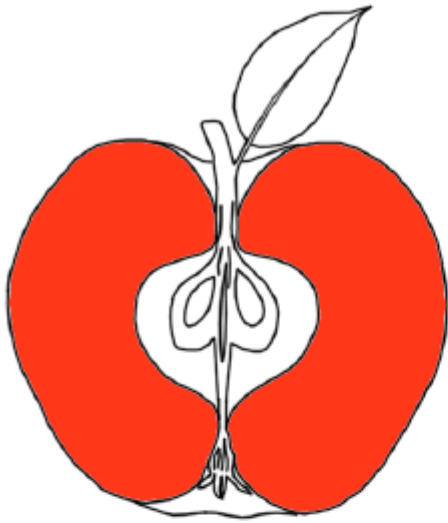
fruit



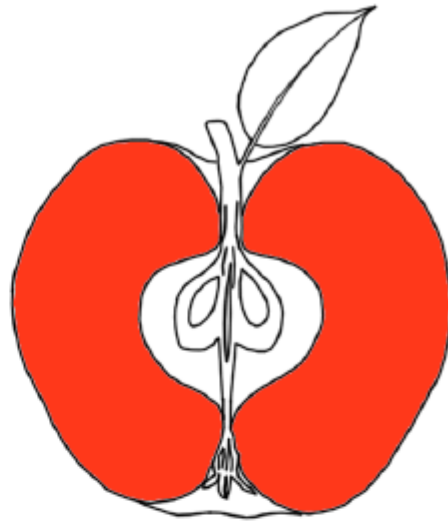
skin



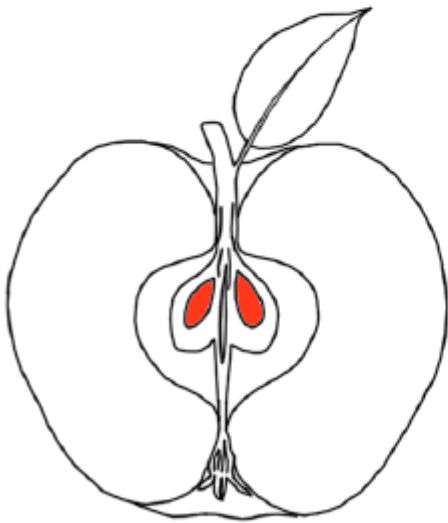
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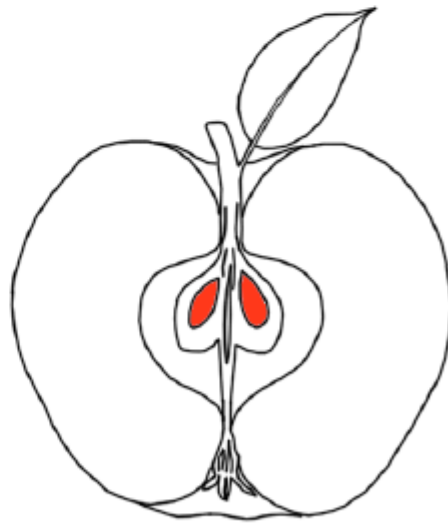
flesh



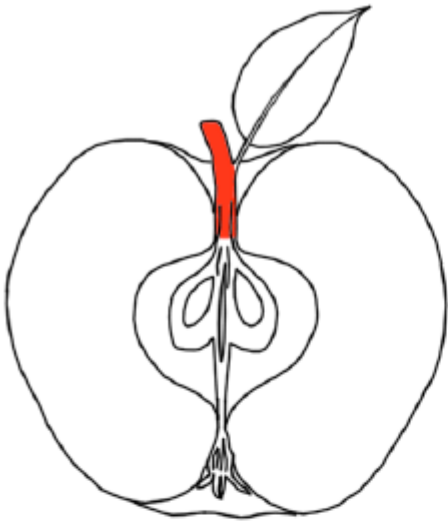
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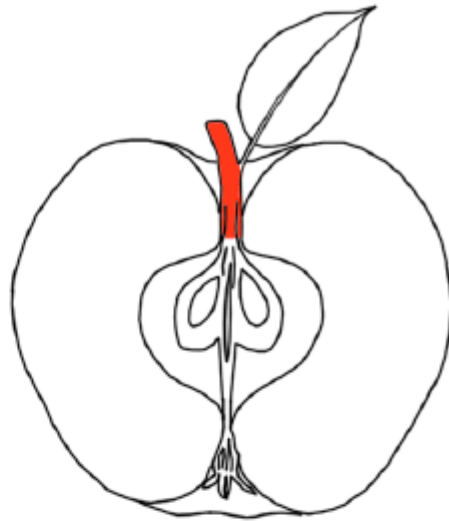
seeds



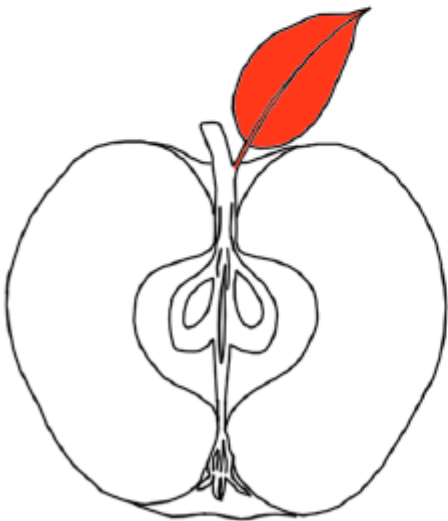
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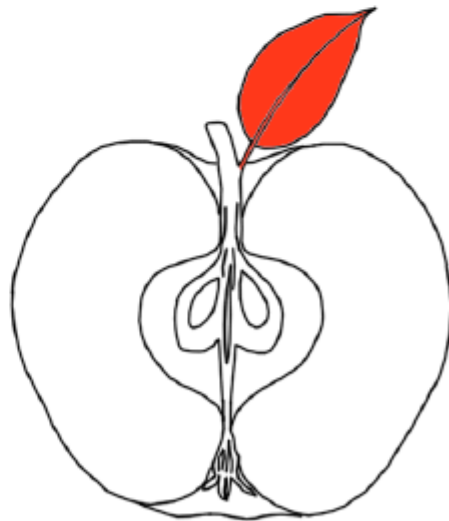
stem



stem



leaf



leaf