

Garden Lesson: Investigating the Life Cycle of a Plant

Season: Spring

Grades: 2nd and 3rd

Ohio Science Concept

- 2nd Grade: Interactions with habitats- Living things cause changes on Earth
- 3rd Grade: Behavior, growth and changes- Offspring resemble their parents and each other

Next Generation Science Standard

- 2-LS2-2: Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.
- 3-LS3-2: Use evidence to support the explanation that traits can be influenced by the environment.

Science Inquiry and Application

- Communicate about observations, investigations and explanations
- Employ simple equipment and tools to gather data and extend the senses

Ohio Mathematics Standards

- 2nd Grade: Add and subtract within 20
- 3rd 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*: Flowers, tape/glue, “Exploring Flowers” worksheets, magnifying glasses, scissors
- *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 lessons 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 flower and make connections about how these different parts help complete the flower function. 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.

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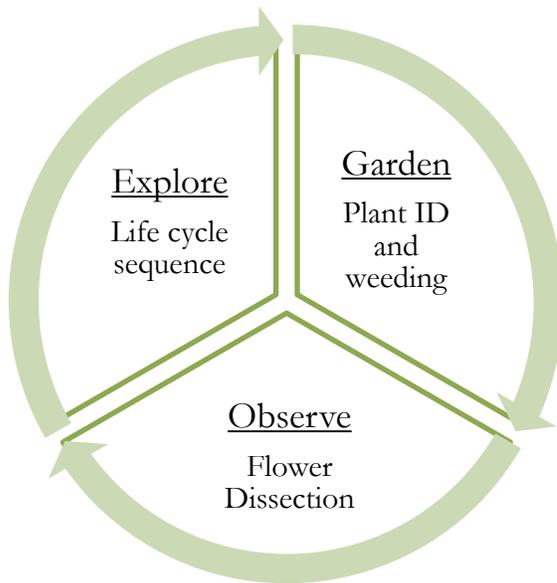
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5 minutes Introduction

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

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



Observe: Flower Dissection

Materials: Flowers, tape/glue, "Exploring Flowers" worksheets, magnifying glasses, scissors

- Have students share observations about flower characteristics
- Explain the role of flowers in a plant lifecycle and use diagram to show parts of a flower
- In partners, have students use scissors to dissect the flower and categorize the different parts on the worksheet
- Use magnifying glasses to observe different parts

Explore: Lifecycles

Materials: Life cycle puzzle and poster

- 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)
- In partners, complete the life cycle puzzle
- (If time) Walk or look around garden and identify the stages

Garden: Sprout 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 in the 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.
- Why are flowers important? What do flowers need to make seeds?

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In class literary component (pre or post garden)

- “Plant Life Cycles”

In class science continuation component:

- Parts of a Flower Nomenclature Cards
- Build you own Flower

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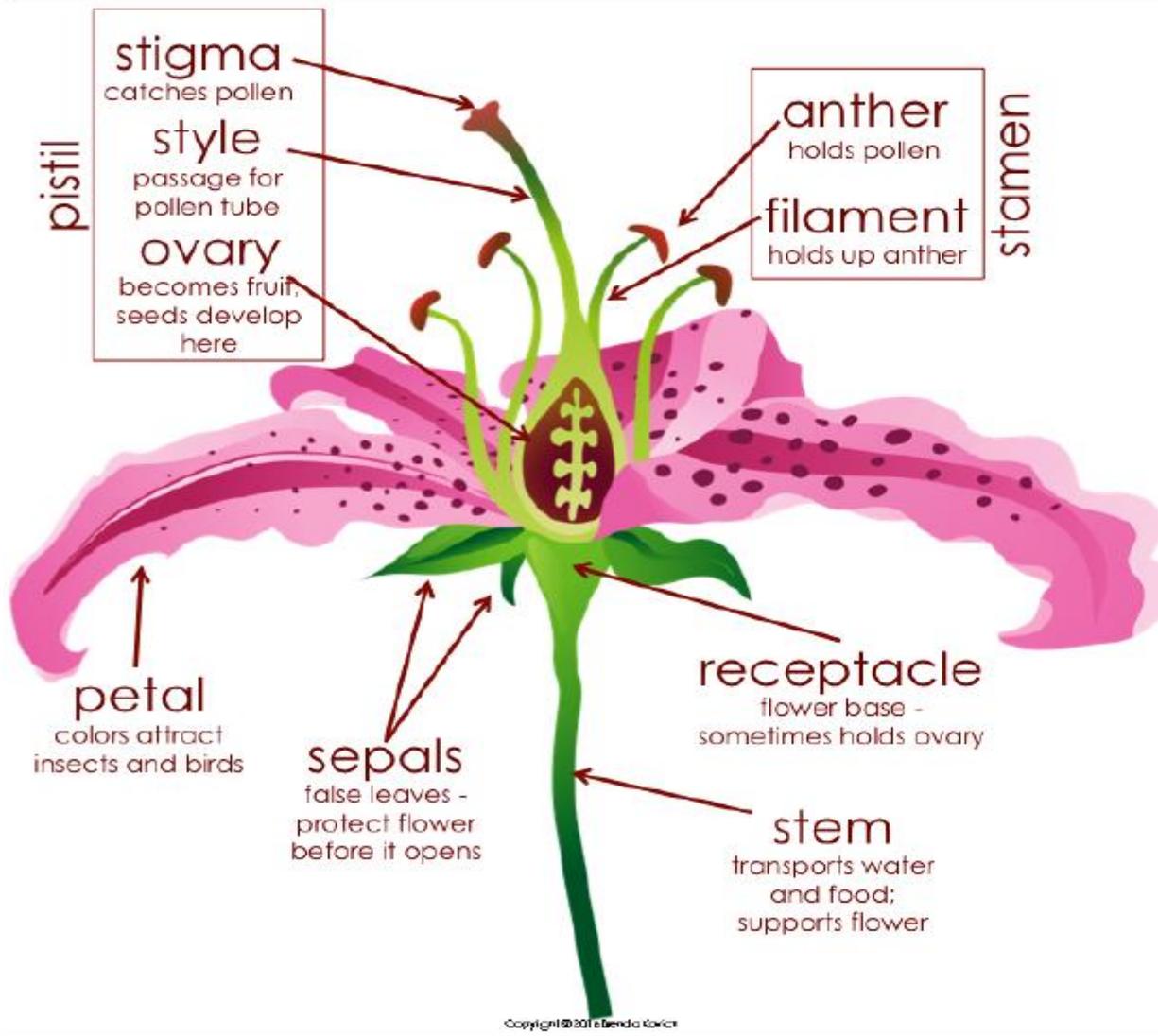
Flower Dissection

Exploring

FLOWERS

For seeds to develop, pollen must land on the stigma. Then a pollen tube forms and stretches down into the ovary. A seed is formed.

A few plants can be pollinated by wind, but most require help. Insects, bats, and birds are pollinators. Pollen sticks to their bodies as they drink nectar from the flower, and the pollen drops off as they travel from flower to flower.



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Exploring FLOWERS

Name _____

Dissect the flower. Draw, count, and measure each part.

	Draw & label parts.	Count and record number.	Measure and record length.
petals			
stamen			
pistil			

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