LESSON:

8/10

SIXTH GRADE GARDEN ROTATION

STANDARDS ALIGNED:

YES

Flower Discovery

PLACE OF LEARNING:

Garden Classroom

DURATION:

90 minutes

GRADE LEVEL:

Grade 6

CONTRIBUTOR

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TAGS:

Structure and Function

Summary:

In this sixth-grade science lesson, students explore and study flowers like

scientists do, learn about and practice scientific drawing, label a flower's structures and their function, and discuss their findings, questions, and ideas.

Student Learning Goals & Objectives:

After this lesson, students will be able to:

Name some of the structures of a flower.
Draw what they see.
Make an inference of the function of flower structures.

Assessments:

During this lesson, students will:

Describe and name some flower structures.
Explore the flowers in the garden during a flower hunt activity, create a scientific drawing, and label the parts of a flower using a key.

Materials & Prep:

MATERIALS

- Visual aid: Structure and Function – PDF
- Hand lenses
- Pencils
- Clipboards (one for each student)
- Blank paper
- Biology of a Flower key (one copy for each student) – PDF
- Fresh flowers growing in the garden for drawing
- Student cross-pollinating questions (one copy for each garden teacher) – PDF
- Think-Pair-Share questions (one copy for each garden teacher) – PDF

BEFORE YOU BEGIN

- Ensure there are enough flowering plants in the garden
- Copy prompts, questions, and Flower Discovery keys
- Put a Flower Discovery key and blank paper on each clipboard
- Sharpen pencils

Procedure Steps:

FULL GROUP, 7-12 MINUTES

1

AT THE OPENING CIRCLE

Welcome students and introduce this Flower Discovery lesson.

1. Explain that this lesson is an opportunity for them to learn how flowering plants reproduce by studying real flowers.
2. "*We will be doing a guided exploration of flowers in the garden, primarily looking at their structures and functions. Does anyone know what structure and function mean?*"
3. Ask students to share responses and then read out the definition.
4. Divide students into groups for the flower hunt.

SMALL GROUPS, 40-60 MINUTES

2

CHECK-IN

Get students excited about exploring the garden by telling them there's cool stuff all around us!

1. Explain that their focus of study will be flowers in the garden.

   "*We're going to explore and study flowers kind of like scientists do.*"
2. Ask a student to read the structure and function definition out loud.
3. Practice the definition using a Think-Pair-Share activity. Ask students to come up with an example of a structure and its function with their neighbor (this will be

their partner in the activity). Share out.

3

FLOWER HUNT

Introduce sketching and recording information as a scientific tool.

1. Explain that looking at structures and how they function is something scientists do.
2. Introduce techniques that are used in scientific illustrations: draw what you see, detail, labeling, questions, multiple angles.
3. It's not about making a pretty picture. It's about noticing things accurately and writing them down.
4. Sometimes a drawing will help show what you noticed; sometimes words will communicate it better. Use both in your study.
5. Tell pairs that they are going to go on a flower hunt to explore and find as many types of flowers as they can. Explain boundaries and safety for the flowers.
6. Give out hand lenses:

   "*In pairs, you'll have five minutes to explore this area and observe as many flowers as you can.*

   We will not be harvesting the flowers, but rather focus on their structures.

   Your goal during exploration time is to be gentle with these plants and to find as many different kinds as possible, so you can choose a favorite.

   You can grab a clipboard, pencil, and blank paper either now or in five minutes, after your exploration.

   You will choose your favorite flower and make a scientific drawing of it, recording as many observations and questions as you can, like a scientist would."
7. Facilitate student exploration; circulate and troubleshoot.

SCIENTIFIC DRAWING

After five minutes, inform students it's time to choose their flowers and begin drawing.

1. Each pair chooses one flower to focus on.
2. Make sure each student has a clipboard, pencil, and blank paper; each student

records observations through writing and drawing.

Give them about 15 minutes to draw.

SWAP CONVENTION

Assign each student pair to a different group.

1. One will be “Student A,” the other “Student B.”
2. Circulate to each pair to explain how this “swap” time will work. The “A” students stay with their flower to share findings. “B” students will circulate among the “A” students, like a pollinator. The "B's" are to visit at least two flowers.
3. Let students/scientists know they’ll be discussing their discoveries and questions, not just lecturing each other on what they found.

   This should be a discussion, not a one-way lecture.

   Using the sentence prompts “I noticed,” “I wonder,” and “It reminds me of,” "A's" and "B's" will discuss flowers.
4. Begin swap convention with “B” students circulating and instructor participating.

4

THINK-PAIR-SHARE

After the "B's" have visited two flowers, ask students to circle up for a share out of their discoveries.

1. Do a Think-Pair-Share activity

   "*What do you notice about the flowers in the garden? What are some plant structures that help them survive here?*"

   Students will be sharing out this information in the Closing Circle, so give them the opportunity to practice using the sentence structure “I noticed, I wonder, It reminds me of.”
2. Provide students with a targeted exploration time in which they apply the structure and function lens to the garden scape, including the chickens! Ask that they be prepared to share their observations in Closing Circle.

FULL GROUP, 10-15 MINUTES

AT THE CLOSING CIRCLE

Gather students for a closing reflection activity.

1. Share observations from the day.

Download Lesson Materials

STRUCTURE AND FUNCTION VISUAL AID

BIOLOGY OF A FLOWER KEY

THINK-PAIR-SHARE QUESTIONS

Vocabulary:

Petal
Pistil

Stamen

Sepal

Academic Standards

Next Generation Science Standards

MOLECULES TO ORGANISMS

MS-LS1-4

Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

Edible Schoolyard Standards

In the Garden Clasroom, Grade 6

CONCEPTS

3.07

Edible Schoolyard students and teachers use observation and awareness to explore, investigate and be inquisitive learners in the garden. The garden classroom provides the opportunity for students to tap into their inherent curiosity about the natural world, observe patterns and connections and understand cause and effect.

The Edible Schoolyard Program

CONCEPTS

3.13

Edible Schoolyard students and teachers are mindful of bio-diversity as it pertains to the ecology of the garden, the development of food throughout history, and within our own faculty and student body. We explore the garden as an ecosystem and understand that embracing and preserving diversity builds a strong, healthy, and resilient planet.

Contributors:

All lessons at the Edible Schoolyard Berkeley are a collaboration between the teachers and staff of the Edible Schoolyard and Martin Luther King, Jr. Middle School.

This lesson follows the BEETLES Project's Learning Cycle (Invitation > Exploration > Concept Invention > Application > Reflection) and uses their Discussion Routines (e.g. Think-Pair-Share and Whip-Around). For more information, review the BEETLES Learning Cycle (PDF) and Discussion Routines (PDF) documents or visit beetlesproject.org.

PREVIOUS LESSON

LESSON:

8/10

IN "SIXTH GRADE GARDEN ROTATION "

NEXT LESSON