



Plant Parts

Grade Level

Grade 3

Engage

This activity is designed to start your students in recognizing themselves as scientists and thinking critically about problem-solving. The goal is to teach concepts through discovery and to encourage using scientific thought processes. As with all lessons provided, please feel free to adapt them according to your students' abilities. Some of your students may be early readers, in which case you may find it more successful to lead activities and discussions as a whole group rather than using individual Research Plan sheets. Take these ideas, make them your own and your students will have a greater chance at success.

Do individual plants of the same type look exactly the same? What are similarities and differences between individual plants of the same type?

1. This lesson involves student observations of live plants. You can either plant seeds in the classroom and have the students observe them as they grow, or have students observe plants of the same type that are growing in the school yard. If you grow the plants, you will need topsoil, seeds, and individual pots. You can look online for ideas on ways to recycle classroom materials and household items to create pots.
2. Begin by asking students to draw a picture of a plant. After they have drawn their pictures, encourage them to share what they drew. Discuss with the class things that pictures had in common. This can lead to a discussion about characteristics of plants, including roots, stems, leaves, flowers, and seeds.
3. Ask your students that even though all plants have some things in common, like leaves and roots, do they think that all plants look exactly the same? Discuss how there are many different types of plants that look very different from each other. Feel free to show images of different types of plants from around the world.
4. At the conclusion of the discussion, explain that we know that different types of plants may look different from each other, but now they need to think about the same type of plant. Would individual plants of the same type look exactly the same, or would there be differences? Have your students give not only their answer to the question, but encourage them to explain their answer.

Explore

5. Have the students use the attached Research Plan to think through how they will further examine this question. They should think about materials they will need to answer the questions, what type of information they will need to collect, and how they will go about answering the questions (the procedure they will use).
6. Allow students to follow their Research Plans, but encourage them to observe different individuals of the same plant species, recording the similarities and differences between them. Encourage them to use counts and measurements (for example, number of leaves, number of flowers, height, etc) when gathering their data.

Explain

7. When the students have finished gathering data, explore what they learned with the entire class. Discuss the similarities and differences that were seen between the plant individuals. Consider creating a chart or diagram as a class to make this comparison.
8. Ask students why they think there are similarities between individual plants of the same type. Next, ask students why they think individual plants of the same type have some differences? Why aren't they completely identical?
9. After hearing some ideas from the students, explain that individuals have differences that may help them to survive in different environments. For example, a taller plant might be able to get more sunlight than a shorter plant. Or different color flowers may attract different types of insects to pollinate them.

Expand

10. Explain that just like plants have differences, so do animals. Tell students to think of a dog. Ask them if all dogs look the same. Have them list ways that dogs may be different from each other. Ask them to think about how those differences may be helpful in some environments or situations. (For example, a dog with a large nose might be able to smell really well, which could help it find food. A dog with a thick coat might be able to stay warm in colder environments).

Assess

11. Ask students to draw pictures of two of the plants that had some differences. They should label the pictures to show how each plant was different from the other.
12. Collect student observations and data that was recorded.

Standards

Ohio Academic Content Standards
<p>Grade 3 Life Science Topic: Behavior, Growth and Changes</p> <p>Individuals of the same kind of organism differ in their inherited traits. These differences give some individuals an advantage in surviving and/or reproducing.</p>



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Supplemental Materials

My Research Plan

Do individual plants of the same type look exactly the same? What are similarities and differences between individual plants of the same type?

1. What is my research question?
Is it a good question?



2. How can I get my information?



3. What will I do with this information?



4. How will I know I did my job well?

