

Recommended Grade Level:

1-5

Season:

All

Indoor/Outdoor

Plants Are Needy

Description:

Students will learn about the needs of plants and the nutrients they require for healthy growth. They will compare factors in plant development that can't be controlled (weather, pests and beneficial insects) and can be controlled (water, nutrients in soil, sunlight). They will apply what they learn about plants to factors that affect their health and discuss controllable and uncontrollable factors in their lives.

Background:

Plants need water, soil, nutrients and sunlight to grow. When plants are exposed to pests, disease or negative human impact, they don't grow well. There are things that we can and can't control in the garden. Like plants, humans need such as water, healthy foods, rest and exercise to grow healthy bodies. Some factors, such as genetics, can affect health but can't be controlled. This lesson will show students a connection between plant health and human health.

Materials:

- Plant Growth Scenarios
- My Healthy Habits Checklist

Preparation:

Students should already have been introduced to the concept that plants need water, sunlight and nutrients. They should also have background on what people need to be healthy. They'll be aware of some factors that can impact healthiness (diabetes, obesity, high blood pressure, etc.).

Activity:

1. Gather your students in a central spot and explain to them that there are things that can be "controlled" and "can not be controlled." Use these examples: *your stomach growls and you control it by eating; you want to play soccer on the playground, but it's night time (uncontrollable)*, etc. Have students brainstorm more examples.
2. Ask students what things can be controlled when growing plants (water, adding compost, pruning, etc.). Then, ask what things can go wrong in the garden (pests, weather, sunlight, disease). Explain that those things "cannot be controlled."
3. Explain to students that like plants, controllable and uncontrollable factors affect our health. When we control these factors, our bodies can stay healthy and strong. Give students a few examples of controllable

and uncontrollable factors and ask them to come up with examples.

- Controllable factors: Eating a healthy diet that includes fruits and vegetables, children being physically active for at least 60 minutes every day, not smoking, etc.
- Uncontrollable factors: Gender, age, family health history, genetics.

4. Students are given different scenarios to read or act out, showing things that can happen in the garden. The audience decides if the scenario can be controlled or not controlled.
5. After completing the scenarios, have students complete the My Healthy Habits Checklist. After one week discuss the checklist with the students to see if they reached their goals and what changes they can make in the future. Younger students that cannot write can draw their healthy habits in the checklist.

Tying it Together:

1. What did you learn about factors that can impact plant growth?
There are things that we can control in plant growth and things that we can't.
2. What things can be controlled?
Water, soil, compost
3. What can't be controlled?
Weather, pests, plant diseases
4. What can you control about your health?
Diet, physical activity, not smoking
5. What can you not control about your health?
Gender, age, family health history, genetics

Special Care:

Students can make a poster with pictures of controllable and uncontrollable factors in the garden. Poster can be shared with the class.

Digging Deeper:

Students can apply their knowledge to investigate plants in the garden looking for problems and healthy growth, to apply what they learned about controllable and uncontrollable factors.

National Standards:

NGSS: Structure, function and information processing.

NGSS: Interdependent relationships in ecosystems.

NGSS: Matter and energy in organisms and ecosystems.

NHES: Students will comprehend concepts related to health promotion and prevention to enhance health.

Lesson Extensions:

Language Arts: Write a composition about the importance of healthy lifestyle choices that you can control.

Literature Connections:

How Do Plants Grow by Julie K. Lundgren

A Seed in Need: A First Look at the Plant Cycle by Sam Godwin

My Healthy Habits Checklist

There are many things we can do to be healthy, like eating well, being physically active, visiting the doctor and getting enough sleep. Create a list of habits you can do to stay healthy. Then track your healthy habits for one week.

Healthy Habit	How many times you did this in a week
Example: <i>TRY A NEW FRUIT.</i>	✓✓✓

Garden Scenarios

1. A lot of water is around you.
2. Your sunshine is blocked by a taller plant.
3. You don't have any water and you're shriveling up.
4. Your roots are exposed out of the soil.
5. Aphids are all over you.
6. A leaf disease is attacking you.
7. Your growing space is too crowded.
8. Squirrels love to eat your fruit.
9. A basketball keeps landing on you when kids miss the basket.
10. You're too heavy at the top of the plant and your roots can't hold you up.
11. It's going to freeze overnight – and that means you could freeze and die.
12. Bunnies are nibbling your leaves.
13. Squash bugs are on you.
14. Ladybugs are eating aphids off of you.
15. The sprinkler doesn't reach you when it waters.
16. It's getting hot in the summer and you don't thrive in the heat.
17. A tree limb falls on you and breaks your stem.
18. Hail crushed your stalk and you're broken near the soil.