

Sun, Soil and Watermelon

Science 3rd-4th Grade (Extension for upper grades)

Objective:

Form a hypothesis about watermelon plant growth and test it

Supplies:

Watermelon seeds
Containers for planting seeds (pots, cut plastic soda bottles, etc. with hole(s) for good drainage)
Soil
Clear watering vessels
Graph paper
Rulers
Pencils/Pens
Journal, notebooks, or computer access for recording findings

Lesson:

1. Discuss what is needed for plants to grow – light, soil, and water and what would happen if you had too much or too little of any of these.
2. Ask class what kind of growing conditions do they think are best for watermelon.
3. Divide class into small groups.
4. Let each group plant 3-4 seeds in their container and label it. (Each group should use the same kind and amount of soil.)
5. Place containers in a sunny window.
6. Ask each group to decide how much water they will give their container each day or how often they will water and then write a hypothesis. (Make sure no two groups have the same plan.)
7. Review what a hypothesis is.

hypothesis – a theory made on the basis of limited evidence as a starting point for further investigation.

- It should include the words “if” and “then”.
- Example: If a plant receives fertilizer, it will grow larger than a plant that does not receive fertilizer.

8. Tell each group to record their findings as the seedlings grow over the next month (when seed sprouts, height or length of plant, condition of plant, etc.)

9. Encourage each group to share their findings with class.

Extension for Upper Levels

Additional Supplies Needed:

3 containers per small group
3 different kinds of soil

Lesson:

1. Discuss the variables that affect plant growth – light, soil, and water.
variable – not consistent or having a fixed pattern; liable to change
2. Ask class why you need to keep some things the same while changing others when conducting an experiment. (Controlling and testing variables.)
3. Discuss how you could test the variables that affect plant growth.
4. Divide class into small groups and assign different variables to test for each one. Make sure they label each container differently.
 - Light – place each container in a different light source. (Bright, partial sun, shade.) The amount and kind of soil in each container and amount of water given each day should remain the same. These are the controlled variables.
 - Soil – use different soils in each container. The amount of light the containers receive and amount of water given each day should remain the same. These are the controlled variables.
 - Water – water each container so many times per week (every day, twice a week, etc.). The amount of light the containers receive and amount and kind of soil should remain the same. These are the controlled variables.
5. Each group writes a hypothesis and tests it.

