

## **Title:** Grow Plant, Grow

*\*Modified version of Project Wild's "Oh Deer"*

**Objective:** Understand the importance of water, light, air, optimum temperature, and nutrients in the survival of plants

**Time:** 5 – 10 minutes

**Materials Needed:** None

### **Directions:**

1. Ask the students to try to identify the five things needed in order for a plant to survive. Help the students out until you have talked about all (5): water, light, air, optimum temperature, and nutrients. Explain that for this activity only three of the components will be used for survival: water, light, and nutrients.
2. Demonstrate how to make the symbols for each component. For light, place arms over head forming a circle. For water, students will pretend they are drinking a glass of water. For nutrients, they will rub their stomachs.
3. Divide the class into two groups; one with 1/3 of the students will represent the plants while the other group with 2/3 of the students will represent the survival components.
4. Have the plants stand on one side of the play area while the survival components are on the other side.
5. Have the plants and the survival components turn around so they are not facing each other. Each person needs to choose their component - light, water or nutrients. The plants will be choosing which component they need while the components will be choosing which component they are going to represent. Each student needs to make and hold the symbol for his or her chosen component. Students may not change their symbol until the end of each round.
6. Once everyone has chosen their component and is showing their symbol, shout: "Grow Plant! Grow!" The plants and the components will turn to look at each other while still holding their symbol. The plants will walk quickly to the survival components searching for a component that matches what they need.
7. Once the plant has found a matching component, they link arms with the 'component' and bring that person to the plant side. They can only link with one person on the components side. Since the plant found what it needed to survive, the person who was the component now becomes a plant.
8. Any plant that fails to find what it was looking for dies and becomes a survival component.
9. Ask student to examine the plant population. Did the population increase or decrease why?
10. Repeat the process several times to allow for the plant population to increase and decrease.

### **Discussion Questions:**

1. Why did the plant population fluctuate? What are some ways that this happens in nature with plants?
2. What were the challenges? Was it hard to find what you needed to survive? How do plants obtain all their components to survive?

### **Activity**

Suggested Season: Any

Suggested Grade Level: 2-5

Indoors or Outdoors: Either

Theme: Plants

Topic: Crucial Survival Components

## Standards Addressed:

Science: 2.4.2.1.1.; 5.4.1.1.1.; 5.4.2.1.2.; 7.4.2.2.1.

Language Arts: K.I.B.; K.II.B.; K.III.A.; 1.III.A.; 1.III.B.1.; 2.III.A.; 3.I.B.1.; 3.III.A.1.; 3.III.A.2.; 3.III.A.3.; 4.I.B.1.

Math:

Social Studies:

## Background Information:

- Plants need five main things to survive: water, air, nutrients, light, and optimum temperature.
- **Water:** Liquid that moves the food from the root to the stem and through the plant. Without it, plants would dry up and die. It is one of the most essential factors needed for the plant growth. Most plants need optimum quantity of water to grow. Each plant has its own water requirement. Some plants grow well in dry atmospheric conditions, while some need a consistent supply of moisture.
- **Air:** Plants require carbon dioxide for manufacturing sugar through the process of photosynthesis. Oxygen is required for plant respiration and utilization of photosynthesis byproducts.
- **Nutrients:** Minerals that are in the soil get dissolved in the water and are absorbed through the plant roots.
- **Light:** Light is a main source of energy for plants. Plants produce their food through the process of photosynthesis, in which atmospheric carbon dioxide is converted into simple sugars, using the energy in sunlight. Light can be provided using natural or artificial sources.
- **Temperature:** Temperature of the soil, as well as surrounding atmosphere, greatly influences the plant growth. A range of optimum temperature varies from species to species. The most favorable atmospheric temperature for most plant species is between 65-85 degrees. Optimum temperature is necessary for several plant processes such as germination, respiration, photosynthesis and flowering.

## Additional Resources:

- *From Seed to Plant* by Allan Fowler
- *How Plants Grow* by Angela Royston

## Correlates with:

Greeting – Great Growing Greeting

News and Announcements – Design an Ideal Plant Environment