

## Plants Introduction Lesson

**Concept Objectives:** Plant Needs

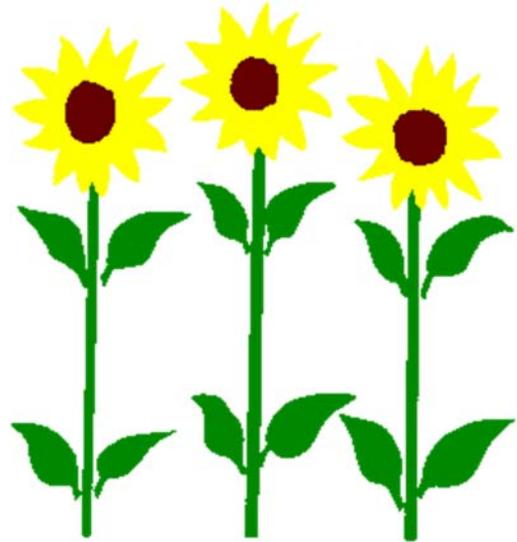
**Time:** 40-45 minutes

**Setting:** Indoors

**Activities:** Plant Needs, Light Variable Lab

**Materials Needed:**

- Large Plastic Plates or small trays
- Soaked Pinto Beans
- Plant Containers, 3 containers for groups of 3
- Soil
- Plastic Spoons
- Masking Tape
- Sharpies
- Journals
- Pencils



### Procedure

1. Have the students brainstorm all of the things they know about plants and record this information on the board.
2. Answers may vary, but be sure to discuss how plants provide food, medicine, shelter, and the oxygen we need to breathe. In fact, everything we eat comes directly or indirectly from plants. Herbivores (plant eaters) and omnivores (animal and plant eaters) depend on plants for survival. Even carnivores (meat eaters) depend on plants because they often prey on animals that eat plants. Plants also provide shelter and habitats for many animals.
3. Our soil also needs plants. When plants die they decompose and provide topsoil that is rich in nutrients and helps seeds to germinate and grow into seedlings. Plants also help to slow erosion because their roots hold soil in place. When plants carry out photosynthesis, they take in carbon dioxide from the atmosphere and release oxygen for us to breathe.
4. Next, ask what they want to learn about plants, and record their responses.
5. Ask students what their basic needs to live are. Food, water, air, shelter, space, warmth, clothing. List these on the board under the title Human Needs. Ask if they have needs

similar to plants. Ask if plants need anything that people do not. Discuss plant needs.  
Write the word PLANTS vertically on the board

P – Place	A place to grow, in a container or garden
L – Light	Sun or artificial light
A – Air	Oxygen and Carbon Dioxide
N – Nutrients	Nitrogen, phosphorous, potassium
T – Thirsty	Plants need water
S – Soil	Plants need soil or other material (sand, gravel, or water) to grow roots in

2. Sing some Plant Needs songs.

### **Plant Needs Chant**

By the Banana Slug String Band  
(students repeat)

Sun, soil, water and air  
(Sun, soil, water and air)  
Sun, soil, water and air  
(Sun, soil, water and air)

Everything you eat  
(Everything you eat)  
And everything you wear  
(and everything you wear)

Comes from  
(comes from)

Sun, soil, water and air  
(Sun, soil, water and air)  
Sun, soil, water and air  
(Sun, soil, water and air)

### **Green Plants Need Song (Tune:"Three Blind Mice")**

Three main things, three main things,  
Green plants need, green plants need.  
For plants to grow and plants to thrive,  
In order to keep green plants alive,  
What does it take for them to survive?  
Just three main things.

Plants need sun, plants need sun,  
That's number one, plants need sun.

For plants to grow and plants to thrive,  
In order to keep green plants alive,  
What does it take for them to survive?  
Just three main things.

Plants need air, plants need air,  
Be aware, plants need air.  
For plants to grow and plants to thrive,  
In order to keep green plants alive,  
What does it take for them to survive?  
Just three main things.

Plants need water, plants need water,  
Especially when it's hotter, plants need water.  
For plants to grow and plants to thrive,  
In order to keep green plants alive,  
What does it take for them to survive?  
Just three main things.

### **3. Light Variable Lab**

1. Organize the students into groups of 3.
2. Tell the students that they are going to conduct a science experiment. Remind them that plants need light to live. Tell them that this experiment will test how light helps plants grow. Tell them that you will be setting up 3 plants. Tell them that each plant container will be the same size and color. Each container will start with the same amount of soil, same amount of seeds, and the same amount of water. These are the constants in the experiment and that they will be treating all the plants in the same way except one factor: light.
3. Give each student group three small planting containers. Also give them 3 pieces of masking tape and a sharpie to write their names on the containers.
4. Tell them to measure out the same amount of soil in each container. Place a finger into the center of the containers down to their first knuckle and open the soil a little. Place 3 seeds into each container into the soil and cover. Water each container with the same amount of water.
5. Place one container on the plate/tray that will go under an artificial light source. Place one container on the plate/tray that will be placed in a window with natural light (not too hot or on a heater). Place the last container on the plate/tray in a dark location.

6. Have the students make a prediction on how the plants will grow, in a journal.
7. Set a few students to regularly water the plants. Be sure to check that they have been watered on a regular basis or the experiment will not work.
8. 1-2 weeks from setting up the experiment, check on the plants and see what happens.