



Observing the Phototropism of Plants Toward Light

Name: _____

Date: _____

**QUESTION:**

Will a plant grow toward a light source?

**HYPOTHESIS:**

If a plant is placed near a light source, then it will grow toward the light.

BACKGROUND INFORMATION

Phototropism is the growth response of plants to light. When a plant senses light from one direction, it grows toward the light. This helps plants get more light for photosynthesis.

MATERIALS

- 2 small plant pots or cups
- Potting soil
- Fast-growing seeds (bean seeds or sunflower seeds work well)
- A lamp or flashlight
- A dark box or cardboard (to block light on one side)
- Ruler
- Optional: marker or label

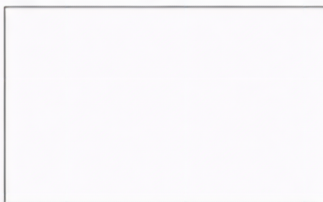
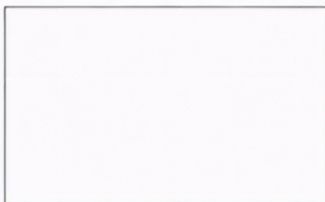
**PROCEDURE**

1. Fill both pots or cups with soil.
2. Plant the same number of seeds in each pot at the same depth. Water them gently.
3. Place both pots in the same location with light from the front for the first 1–2 days so the seedlings can sprout.
4. After seedlings appear, place one pot in a place where light can come from all sides (control pot).
5. Place the other pot inside a box or against a piece of cardboard with an opening on one side. Put a lamp or flashlight on that open side so the light shines on the seedlings from one direction only.
6. Keep both plants for 5–7 days. Water as needed and make sure the light stays on the same side of the experimental pot.
7. Observe and record your results each day.

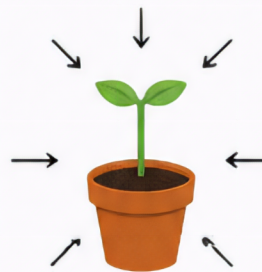
DRAW WHAT YOU SEE

Control (all sides light)

Experimental (light from one side)

**SETUP DIAGRAM**

Control (light from all sides)



Experimental (light from one side)

**OBSERVATIONS**

Measure the height of the seedlings and the direction they grow.

Day	Control (all sides)		Experimental (one side)	
	Height (cm)	Direction of Growth	Height (cm)	Direction of Growth
1				
2				
3				
4				
5				
6				
7				

ANALYSIS & CONCLUSION

1. What did you observe about the direction of growth in each plant?

2. Did your results support your hypothesis? Why or why not?

3. What does this experiment tell you about how plants respond to light?

**THINK MORE!**

How do you think phototropism helps plants in nature? _____