

Student Name _____

Phototropism Lab

Have you ever noticed how plants grow toward the light? Build this simple light maze, and watch the plant grow around the obstacles to reach the light! Try experimenting with different mazes and see how the plant reacts. Can your plant complete its maze?



Things you will need:

- Box
- Black card stock or construction paper
- Scissors
- Tape
- Ruler
- Soil
- Water
- Pot/cup
- Seeds – bean seeds work great for this

Procedures:

1. Prepare your plant. Plant the seed in a pot/cup of soil (about 1 inch under the surface) and add water so that the soil is moist. You may want to plant several cups ahead of time to make sure the bean sprouts.
2. Place your plant in a warm, sunny location until it sprouts and develops true leaves.
3. Build your box. Start by cutting a hole at the top of your box. Close your box and make sure nothing obscures the hole you just made. If needed, cut off any blocking material and open the box back up.
4. Measure the inside of the box to create a divider. Add about a 1/2-inch border to three sides. Those will act as a glue flap in the later steps.
5. Draw and cut out a circle in the black card stock divider. Placement of the hole is up to you.



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6. Place your plant cup inside the box, and glue or tape in the black card stock divider above the plant cup.
7. Close the box up and place it near a window or in your school greenhouse.
8. Make sure to keep your plant well hydrated. Check back to see your plant travel through the light maze.



Answer the following questions:

1. How many days did it take for your plant to grow through the hole in your black center divider?
2. How many days did it take for you plant to grow outside the hole in the top of your box?
3. Where your results different from those of your classmates? Why do you think that was/wasn't?
4. What is phototropism?
5. What causes plants to grow towards the light?
6. Can you think of a time you saw a plant displaying signs of phototropism outside naturally?
Explain

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