Searching for Light

The Challenge:
Engineer a container that will show how plants find light as they grow

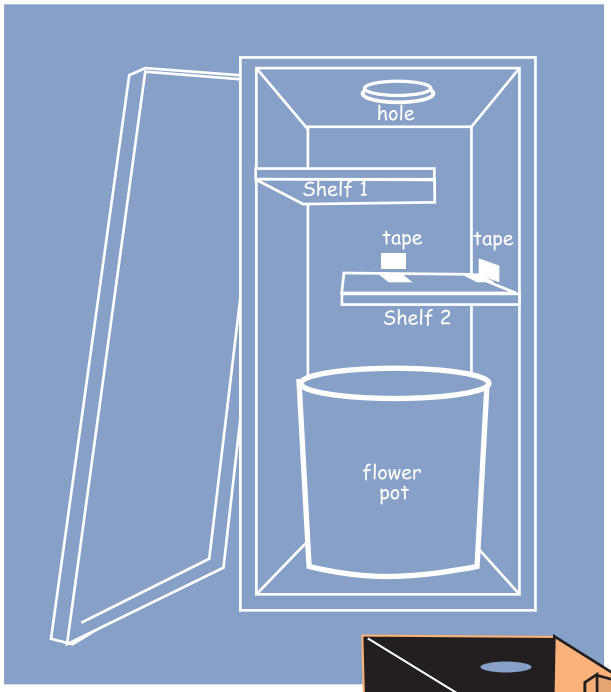
GrowingGreat Veggies & Fruits

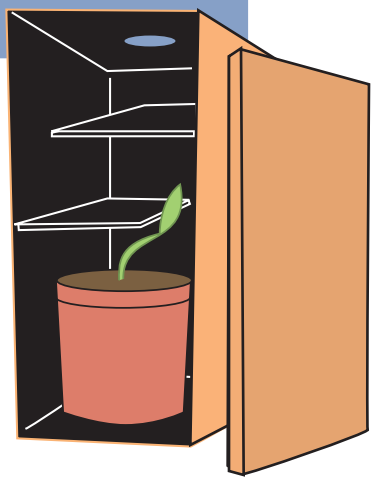
A National STEM Education Program

sponsored by Del Monte Quality

You will need: (enough for each student):
Cardboard, scissors, black construction paper, adhesive tape, shoebox, potting soil/compost, plastic flower pot and dried beans

1. Discuss: What do plants need to stay alive? (water, sunlight, soil, air, space) What might happen if plants don't have everything they need?
2. Cut out two identical pieces of cardboard, as deep as the shoebox and 2⁄3 as wide.
3. Cut a small hole in one end of the shoebox.
4. Cover the inside of the box and the pieces of cardboard with black construction paper. Be sure to leave the hole in the top of the box uncovered.
5. Using the tape, attach the cardboard pieces to the inside of the box. They should look like shelves.
6. Stand the box upright with the hole at the top.
7. Plant a bean in the flower pot, water it, and place it in the bottom of the box.
8. Fit the lid on the box, making sure that no light can get in around the edges.
9. Remove the lid once a day to watch the plant growing.





What Do You Think?

Do you think the plant will grow? Why or why not?
Why do you think the hole was cut in the top of the box?
Would the plant grow differently if the hole was cut in the side of the box?
What would happen if you planted another bean and this time closed the hole?

PARENT PAGE

Your child was a scientist today – making hypotheses, solving problems, measuring, recording data, learning about veggies and fruits, and eating their experiments!

Fun Facts about Food

Plants convert energy from the sun, water, and carbon dioxide into chemical energy that is stored in the form of carbohydrates. When humans eat plants, they convert the carbohydrates into ATP (Adenosine triphosphate) -- the energy needed for many essential processes in the body. Carbohydrates are found in plant foods such as fruits, vegetables, legumes/beans, nuts, seeds, and grains. Children and adults are encouraged to eat a wide variety of nutritious, carbohydrate-containing foods for optimal health.

-- Sarah Minkow MS RD

Science Discoveries

Most plants need sunlight to live. They search out light like animals search for their food. Light stimulates a plant to grow toward it - a process known as phototropism. Sunlight also plays an important role in photosynthesis, which is a process used by plants and other organisms to convert light energy into chemical energy.

At the Library

In these exciting stories, beans and many other special things grow tall and strong!
Dalia's Wondrous Hair/ El cabello maravilloso de Dalia by Laura Lacámara. Piñata Books, 2014.
Auntie Yang's Great Soybean Picnic by Ginnie Lo. Lee & Low Books, 2017.

Try This at Home

Mango Pops

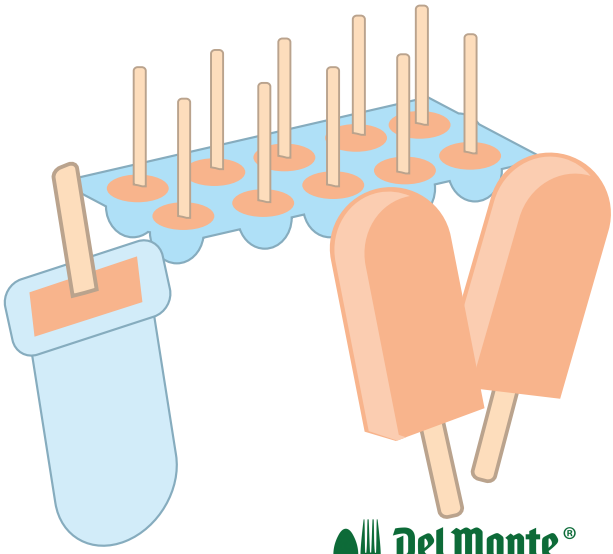
Fun in the sun! These delicious mango pops are perfect for sunny summer days.

Recipe Option 1

- 1 can (15 oz.) Del Monte® Diced Mangos in Light Syrup, not drained
- 2/3 cup (6 oz.) low-fat vanilla yogurt or Greek yogurt

Recipe Option 2

- 1 can (15 oz.) Del Monte® Diced Mangos in Light Syrup, not drained
- 3 Tbsp. fresh lime juice
- 6 to 8 fresh mint leaves



Pour mangos and mango syrup in a blender or food processor. Add yogurt (Option 1) or lime juice and mint (Option 2). Purée until smooth. Fill popsicle molds and insert popsicle sticks. If you don't have a mold, you can fill an ice cube tray instead! Freeze at least 4 to 6 hours. Run warm water over the outside of the mold to loosen pops. Wiggle sticks and gently pull.

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Adapted from *How Nature Works* by David Burne
Illustrated by Dennis Smith
Museum Partner: Detroit Zoological Society

GrowingGreat is a California nonprofit with the mission to empower children to make healthy food choices through hands-on science and garden education. Does your school have a garden or nutrition education program? Email info@growinggreat.org for more information.