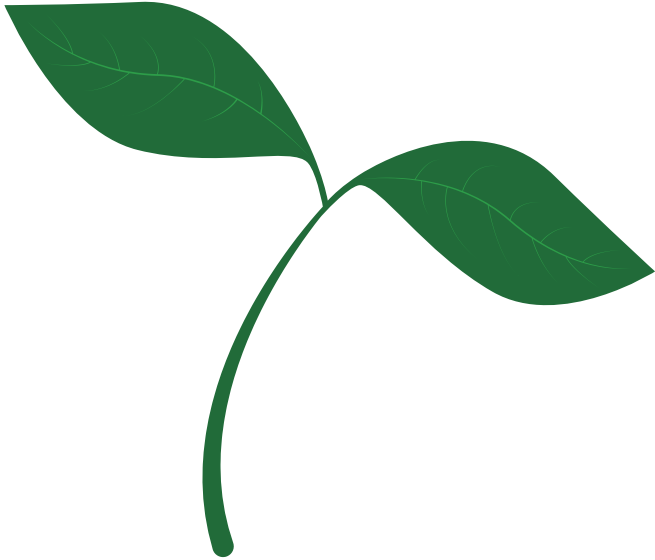


SOIL-FREE PLANTER



Materials needed:

- Large plastic bottle
- Modeling clay
- String
- Cotton balls
- Bean seeds
- Scissors
- Wood skewers
- Pitcher of water

How It Works:

Water from the bottom of the planter soaks up through the strings and wets the cotton balls. The seeds grow roots and a shoot when they absorb water. Water, air, and light are all a plant needs to start growing.

After a few weeks, you will need to transfer your plants to a pot with soil or ask an adult to add fertilizer to the water, so the plants can get all the nutrients they need to flourish.

Instructions on next page

This project comes from the book *Smithsonian Maker Lab Outdoors* by Jack Challoner. Check it out for more fun projects!

Instructions:

- 1.** Cut five pieces of string about as long as the bottle. Four will soak up water to feed the plants and one will tie the wood skewers together to make a tripod to support the growing plants.
- 2. ADULT SUPERVISION REQUIRED.** Use the scissors to carefully cut a 2 inch section from the middle of the bottle. Keep the top and bottom, and recycle the middle section.
- 3.** Place the top section upside down in the base section. This provides a platform for the seeds and it stops the water from evaporating.
- 4.** Pour water into the planter so it fills the bottom almost up to the bottle's neck. The water should be about 4 inches deep.
- 5.** Feed four of the pieces of string down through the opening of the bottle, but leave a few inches of each string in the top section.
- 6.** Put several cotton balls into the top of the planter, then drop a few bean seeds onto the cotton balls.
- 7.** To make a tripod, put a blob of modeling clay on the pointed end of each wood skewer.
- 8.** Stand the 3 skewers on end and bring the tops together so they cross. Use the final piece of string to tie them together to make a tripod.
- 9.** Place the tripod on top of the cotton balls, and put the planter in a bright place.
- 10.** The seeds should germinate after a few days. After a few weeks, transfer your plants to a pot with soil, or ask an adult to add fertilizer to the water, so the plants can flourish.