

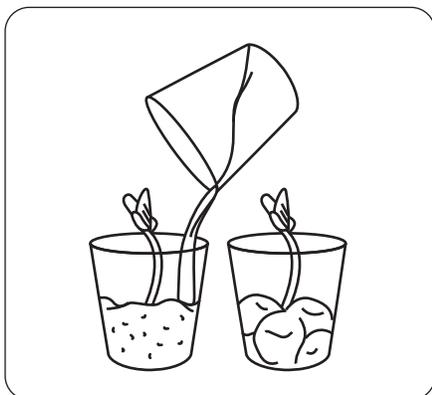


NATURE ACTIVITY:

# Soil vs. Cotton

### What You'll Need:

- ✓ Mom or Dad's help
- ✓ Cotton balls
- ✓ Potting soil
- ✓ Lima bean seeds
- ✓ Water
- ✓ Three clear plastic cups
- ✓ Notebook



Do seeds need soil to grow?

As you may know, a plant uses the sun to make food for itself through a process called photosynthesis. Chlorophyll in the "green" part of the leaves captures energy from the sun and this powers the building of food from very simple ingredients – carbon dioxide from the air and water. So why do plants need to be planted in soil? Do this experiment to find out.

### Directions:

1. Fill one plastic cup half way with soil. Place a few seeds on top of the soil leaving a little space between them. Then fill the rest of the cup with soil, so you can bury the seeds.
2. Fill the other plastic cup half way with cotton balls. Randomly place one or more seeds between the cotton balls. Fill the rest of the cup with cotton balls, again burying the seeds.
3. Fill the third plastic cup with water.
4. Carefully pour a small amount of water over the cup containing the soil. Make sure the soil is not soupy, but moist to the touch (sticks to your fingers).
5. Carefully pour a small amount of water over the cup containing the cotton balls. Start with a VERY SMALL amount of water and add more water a little at a time. The cotton balls should just be moistened, not soaking.
6. Place the cups on a sunny window ledge (make sure the ledge is not too cold).
7. Water the cups as needed when the soil/cotton balls are dry to the touch.
8. What will happen? Watch everyday and write down what you observe.

The moisture in the soil and cotton balls will allow the seed to germinate or begin to grow roots and sprouts. While the cotton can hold water to help germinate the seeds, it does not contain the kind of nutrients found in soil, which the seeds need to thrive and grow. The seeds in the cotton balls will grow but not as well as the seeds planted in the soil.