

Do something COOL

SEED LIFTING POWER

A soybean sprout needs to be strong to push up through the soil. How strong is it? Can it lift up a penny, a nickel, a dime, or a quarter? What do you think will happen? Do the following experiment to find out. That's what a scientist would do. Before you start, read pages 2 and 3 in *COOLBEAN the Soybean* and use the scientific method doing this experiment.

What you need

- Soybean seeds or other bean seeds
- Potting soil
- Large spoon
- Eight 12-oz. paper or Styrofoam cups
- Aluminum foil baking pan large enough to hold the cups
- Water
- Coins: 2 pennies, 2 nickels, 2 dimes, and 2 quarters

What you do

Before you start:

Create a journal for this experiment in a notebook or on a computer.

Write down the question that the experiment will answer.

Write down your hypothesis: What do you think the answer to the question will be?

Set up the experiment:

1. Assemble your supplies.
2. Poke a small hole in the bottom of each cup to allow water to drain out.
3. Fill the cups with potting soil up to one-half from the top of the cup.
4. Place one seed in each cup. Push the seed down about one inch into the soil. Fill the hole lightly with soil.
5. Lightly water the soil. It should be moist but not wet.
6. Place one coin over each seed.
7. Place the cups in the baking pan.
8. Keep the soil moist.

Observe your experiment and record your observations in your journal. As you observe answer these questions:

How many days does it take for the seeds to sprout? Did they all sprout on the same day?

Describe what happens to each coin when the seed sprouts. Does the seedling lift the coin? Does it flip the coin? Does the seedling creep out from underneath the coin? Or does nothing happen?

How much weight was each seedling able to lift? To find the weight of each coin go to http://www.usmint.gov/about_the_mint/?action=coin_specifications.

