Activities
The Magic School Bus Gets Planted

Grades: 3–5  Overview

With a Magic School Bus story as a lead in, kids build a simple maze and observe plant seedlings as they adapt their growth pattern to seek sunlight.

Field Trip Notes
Phoebe tries to grow a vine for the school play, 'Jack and the Beanstalk,' but her plant is more like a beansprout than a beanstalk! With the opening curtain of the play only minutes away, Ms. Frizzle turns Phoebe into a real plant. But Phoebe finds she doesn't know how to grow. With time running out, the bus and kids shrink and travel into a nearby plant to do research. They discover that its leaves are its own private food factory. With this information, the kids rush back to help Phoebe grow into the star of the show!
**A-Maze-ing Plants**

*Time:* Maze setup: 30 minutes; observation time: 5 minutes every 3-4 days for 3+ weeks  
*Group Size:* 2-4

Inside a plant, The Magic School Bus kids discover that plant food is made from air, water, and sunlight. Your kids discover that plants will go to great lengths to find light - even thread a maze.

**What You Need**
- Sunny window
- Water
- Copies of A-MAZE-ING PLANTS page
  - For each pair:
    - 2 lima bean seeds
    - Soil
    - Plastic cup (punch hole in bottom)
    - Saucer
    - Lidded box
    - Cardboard for dividers
    - Tape
    - Scissors
    - Ruler

**Talk About It**

Ask: Where do you get energy to grow, run, live? (food) Where do plants get energy? (also from food)
Where do plants get food? (They make it from air, water, sunlight.) What would you do to get food if you were hungry? What might a plant do?
What To Do
1. To speed sprouting, soak seeds in water overnight.
2. Help kids plant seeds at a depth about twice the length of the seed. Water well. (If both seeds sprout, pinch one out.)
3. Build the maze shown on the activity page. Use cardboard for the dividers. Cut a hole at the top end of the box.
4. Discuss experiment controls. Ask: What should we do to compare how plants grow in a maze with how plants grow outside a maze? (Grow control plant outside maze.) Plant and water seeds for the control.
5. Put the mazes and control plant in a sunny window. Open the mazes only briefly every few days to observe and water.

Next Stop
Plants make food in chloroplasts, tiny green organs mostly in leaves. What happens to chloroplasts kept in the dark? Sandwich a leaf of a hardy plant like philodendron or geranium with black paper taped together. Remove paper after a week. What has happened? (The green pigment is gone.)

Subjects: Science, Plants, Photosynthesis, Life Cycles, Observation, Light
**What to Do**

1. Build the maze. Cut pieces of cardboard as wide as the box to make dividers. Tape in place.
2. Ask an adult to cut a hole at the top of the box. Set your plant inside at bottom. Tape the lid on. Place box in a sunny spot.
3. Check your plant every few days. Each time, draw what you see on the maze here. Water plant if the top of the soil is dry.

**How It Grows:**
- Measure your plant when it grows out of the box: _____ inches (centimeters)
- Measure the control plant: _____ inches (centimeters)

**On the back, write why one plant might be longer.**

**COLOR DATE**

Each time you observe the plant, use a different color to draw how it is growing. Record the color and date here.