

Cross Curricular Activity: Science

Lesson: *Growing With Gravity*

Grade Level: 1-3

Overview: This exercise will use 20 minutes of class time each week for 3 weeks and will teach students about the effect that gravity has on plants.

Approximate Duration: 20 minutes/week for 3 weeks.

National Social Studies Standards: [NS.K-4.3](http://www.educationworld.com/standards/national/science/k_4.shtml) Life Science
http://www.educationworld.com/standards/national/science/k_4.shtml

Objective: Students will use plants seeds to learn and make predictions about plant growth.

Procedure:

Materials:

- Wide mouth jars
- Paper towels to line the inside of the jar
- Sugar beans

Steps 1-4 can be done the day or night before to save class time.

1. Soak the beans overnight in water.
2. Line each jar with paper towels.
3. Pour water into each jar. Once the paper towels have absorbed as much water as possible pour the excess water out of jar.
4. Place beans near the top of the jar between the jar and the paper towels. Beans should be spaced evenly and should each be in a different position. Each jar should have a bean placed in the horizontal, vertical, and diagonal position.

Assessment:

- **Week 1:** Have the students draw each jar with seeds and make predictions about which direction they think the seeds will grown in. Have students write their predictions down.
- Keep the jars out of direct sunlight and keep the paper towels moist.
- **Week 2:** Once the seedlings have grown an inch over the lip of the jar (will take about a week), place one of the jars on its side.
- Have the students re-draw the jars and seeds. Have students make predictions about how they think the seeds will grow now.
- **Week 3:** Have students look at the seeds and how they have grown. The stems should have bent so that they seeds continued to grow upwards. Ask students if anyone predicted correctly. Ask students why they think the seeds grew as they did.
- **For older students:** Explain to the students that because of Earth's gravitational pull the roots will always grow down and the stems will always grow up. This is called **geotropism**.

Inspired by: <http://www.canteach.ca/elementary/life12.html>

