



# Plant Necklaces

## Grade 2

### Standards

S2E2 a, b

### Time

45 minute - 1 hour

### Supplies

*For each student*

- Seed
- Small 2" x 3" zip top bag
- Hole punch
- Cord for necklace (24")
- Cotton ball
- Water
- Popsicle stick to mark plant in garden
- Ruler

*For the class*

- Garden bed with water source

### Overview

Students will investigate the life cycle of a plant by germinating a seed and wearing it as a living necklace to monitor its growth. After leaves and roots appear, the seedling will be planted in the garden and its growth measured regularly. Students will design experiments to answer their questions about how plants grow.

### Preparation

Choose a species of seed appropriate to be planted outside in the school garden, after it germinates. In fall, this might include kale, spinach, or a winter squash. In spring, try bean, okra, yellow squash, or bell pepper. Radishes are a good choice because they mature very quickly, and students can observe the entire seed to seed cycle in less than two months.

### Engaging Students

To create curiosity about plant growth, students will create their own living necklaces by following this procedure:

1. Wet a cotton ball and squeeze out excess water
2. Insert the wet cotton ball in zip top bag with a seed
3. Seal the bag with the zip top closure
4. Punch hole in

### Exploration

After the seeds have germinated, they can be transplanted from the necklace bag to a paper cup or to the garden and monitored on a regular schedule. Students will measure height and number of leaves, record data on charts (attached).

Ask students to generate questions about plant growth and record the questions. Then ask students to suggest answers to the questions and think of how evidence could be collected to prove the answers correct or not. Based on these questions and suggested answers, let groups of students design experiments. For instance, to determine whether a particular set of leaves on a plant moves up as the plant grows, students can mark the spot measure it along with total plant height, each day. To determine whether sunlight is needed for plant growth, students could build a shade structure over one plant or cover a leaf with aluminum foil. The specific experiment is not as important as students learning to challenge each other by asking, "what is your evidence for that?" or "what proof do you have?" or "what could we do to prove or disprove that idea?"

## **Explanation**

Students should be able to illustrate plant growth in a series of cartoon cells (storyboard style) and use this prop to explain the process.

## **Environmental Stewardship**

Students can collect their school lunch leftovers (except meat) and create a compost heap that can eventually be used to nourish the garden soil and provide the benefits of creating their own organic fertilizer. Or some of the plants grown from seed can be used to donate to the Food Bank, for the benefit of families who cannot afford enough food.