1.2 Growing Potatoes in a Bag

# Instructions

**Materials Needed:**

* Potato seeds (small seed potatoes or potato pieces with at least one eye)
* Large plastic bag (clear or opaque) or a large container with drainage holes
* Potting soil (or a mix of garden soil and compost)
* Watering can or spray bottle
* Ruler or measuring tape
* Notebook or journal for observations
* Optional: Gloves for handling soil

**Setup:**

1. **Prepare the Bag or Container:**
	* If using a bag, choose a large, sturdy plastic bag that is big enough to accommodate soil and potatoes, and make a few small drainage holes at the bottom. If using a container, ensure it has drainage holes as well.
2. **Add Soil:**
	* Fill the bottom of the bag or container with about 10 cm (4 inches) of potting soil.
3. **Plant the Potatoes:**
	* Place one or two seed potatoes (or pieces of potatoes with eyes) in the soil, about 5 cm (2 inches) deep.
4. **Cover with Soil:**
	* Cover the seed potatoes with more soil, leaving enough space at the top for additional soil to be added as the plants grow.
5. **Position for Growth:**
	* Place the bag or container in a location with plenty of sunlight, such as a windowsill or outside in a sunny spot.
6. **Watering:**
	* Keep the soil moist, but not too wet, using a watering can or spray bottle. Students can track their watering schedule in their journals.

**Activity Instructions:**

1. **Daily or Weekly Observations:**
	* Over the course of several weeks, students will monitor the growth of the potato plants. They should note when the first shoots appear, when the plants begin to sprout, and how the plant grows taller.
	* As the plant grows, students can add more soil to the bag or container, covering the stems and encouraging more potatoes to grow underground.
2. **Measuring Growth:**
	* Students can measure the height of the potato plants at regular intervals, noting how much the plant grows each week. They should also track the number of leaves and the overall appearance of the plant.
3. **Tracking Watering:**
	* Students will track their watering schedule in their journals, noting how much water they apply each week and any changes in the soil or plants due to overwatering or underwatering.
4. **Harvesting:**
	* After several months, when the plants are fully grown and starting to die back, it’s time to harvest the potatoes. Carefully remove the bag from the area and gently dig up the soil to uncover the potatoes. Students can measure how many potatoes have developed and note their size.

**Safety Note:**

* Ensure that the bag or container is secure and placed in a stable location to prevent spillage.
* Encourage students to handle the soil and plants gently to avoid damaging the potato plants.
* If using gloves, make sure they are safe for students to wear and remove.

**Learning Outcomes:**

1. **Understanding Plant Growth:** Students will observe how potatoes develop underground, gaining an understanding of plant growth, roots, and the role of soil in providing nutrients.
2. **Hands-On Science:** Through measuring growth and tracking their observations, students will practice scientific methods, such as measuring, recording, and analyzing data.
3. **The Importance of Careful Observation:** Students will learn the importance of watering and how environmental factors, like sunlight and soil type, affect plant growth.
4. **Developing Patience and Responsibility:** Growing potatoes in a bag will teach students patience as they watch the plant grow over several weeks. They’ll also develop a sense of responsibility by caring for the plant.

This activity provides students with a practical and visual way to understand plant growth and the life cycle of a potato, while also fostering skills in observation, data collection, and care for living things.