

Window Garden/Food Waste Experiment

BACKGROUND:

Growing tasty, healthy produce from clean kitchen scraps can save money, cut down on food waste, and teach valuable lessons about nature and sustainability. From celery and green onions to romaine and ginger root, scraps often have plenty of life left. They just need a chance to avoid the trash can or compost pile.

LEARNING OBJECTIVES:

1. Scientists will ask questions, make inferences, and create a **hypothesis**
2. Scientists will learn how to grow food from food waste
3. Scientists will compare their questions, inferences, and/or **hypothesis** with the results

VOCABULARY:

- 1) **Food waste:** any food, and inedible parts of food, removed from the food supply chain to be recovered or disposed. This includes vegetable scraps such as tops of carrots or onions, egg shells, cheese rind, etc.
- 2) **Seasonal** refers to the times of year when the harvest of a given food is at its peak. This is usually the time when the given type of food is the cheapest and freshest.
- 3) **Locally grown** foods are grown within 100 miles from its point of purchase or consumption.
- 4) **Vegetable-** the leaves, stems, roots or other parts of certain plants that people eat.

MATERIALS:

- Food waste/scraps- Herb stems, base of celery, romaine lettuce, green onion, avocado pith, pineapple top, garlic cloves, etc.
- Glass jars (bowls will work also)
- Cold or room temperature water
- Cutting board and Knife
- Adult: should participate/be present during experiment
- [Introduction video](#)

ACTIVITY SOURCES:

- [Reduce food waste](#)
- [growing food from kitchen scraps](#)
- [plants from kitchen scraps](#)



I: Introduction

- a) What will happen when we place our food scraps in water?
 - i) How long do you think it will take to see changes?
- b) What food scraps do you think will grow the fastest?
- c) What other scraps and food waste do you think we could put in water, or plant?

II: Activity

Follow the steps to make **Your Food Waste Window Garden**.

1. Make sure you clean and sanitize your work surface, cutting board, knife, glass jars (or bowls) with soap and warm water
2. Cut vegetables (or prepare if they were food scraps from earlier)

a. Head-Form, Leafy Vegetables

Leafy vegetables that grow in heads, such as celery, romaine and bok choy, are some of the easiest scraps to grow. Just cut off the plant's base, which you normally wouldn't eat, so you have a piece about 1 inch tall. Place it cut side up in a jar or bowl, and then add 1/2 inch of water. Refresh the water regularly, and get ready for harvestable greens.

b. Bulb and Bulb-like Vegetables

Veggies with swollen, bulb-like bases root easily when following steps similar to those for leafy vegetables. For green onions, leeks, fennel and lemongrass, cut off the end with the tiny roots so you have a scrap about 1 inch tall. Place it root end down in water 1/2 inch deep. Be sure the water covers the roots, but not the top. Keep water fresh, and a supply of shoots will follow.

c. Root Crops and Root-like Vegetables

With vegetables such as turnips and beets, the root gets eaten and the top part, where leaves once grew, gets thrown away. These top scraps regrow tasty leaves for fresh salads or sautés. Cut off the top, but leave 1/2 inch of the beet or turnip attached. Place the scrap in shallow water, cut side down and leaf end up, and fresh greens will soon appear. Another easy-to-regrow scrap is ginger root, which regrows quickly in soil. If your scrap still has a fresh, wet cut, let it dry at room

temperature overnight. Then plant the root scrap 1 inch deep in soil. Ginger is a tropical plant that can bear unusual, striking blooms. Plant it in a container, and it can live for years indoors. When you want ginger in the kitchen, gently pull up a root and leave the rest for another time.

d. Avocados

Avocados regrow easily in water. Just clean the pit well, and then stick three or four toothpicks into it, evenly spaced about one-third of the way down from the pointy end. Sit the pit on a glass or watertight container, so that the toothpicks support it on the rim. Add enough water to cover the pit's bottom half, and refresh water regularly. Once the pit has roots and a sprout, transplant to a container with soil. Keep the top half of the pit above the soil line, while the bottom half goes below.

[Window garden day 1 example](#)

[Green onions on day 1, day 7 and day 10](#)

III: Evaluate

*Explain what happened in the experiment. Have a discussion around your observations and why you think you got these results. Did you find any answers to your questions? Was your **hypothesis** correct? Do you have more questions?*

Window Food Waste Garden Observation Sheet

Using the observation table below write what the vegetable/fruit scrap looks like on the first day and what the vegetable/fruit scrap looks like every 7 days, and what changes have occurred. Fill in an additional vegetable/fruit in the empty space.

	Scallions	Romaine	Avocado pitt	Cilantro	Celery	
day 1						
1 week						
2 weeks						
3 weeks						
4 weeks						
5 weeks						
6 weeks						