



Pumpkin Decomposition Exploration

For many folks, October is a time for carving pumpkins to set outside as festive decorations. But what happens when we leave these spooky squash out over time? Like other plant material, they will begin to **decompose** before your eyes.

Decomposition is the important process by which microorganisms and other *decomposers* turn dead plant and animal materials into basic nutrients in the soil. Explore this process over time by observing your pumpkins and experimenting with ripening hormones!



You will need:

- Carved pumpkins
- Tray or baking sheet (optional)
- Bananas (optional)
- Notebook

Step 1: Gather materials

Following fall festivities, **save your carved pumpkins** to observe the decomposition process. Uncarved pumpkins and squash will also work, but the process will be longer.

Step 2: Prepare your experiment stations

If you have more than one pumpkin, place one on a tray and another on bare soil. Alternatively, place two pumpkins on their own trays, and surround one with *bananas still in their peels*. Bananas produce *ethylene*, a natural plant hormone that promotes ripening (or rotting) in other fruits nearby.

Step 3: Observation period

Let the decomposers take over! Using your notebook, record any **daily changes** in your pumpkins' **decay process**. Are there differences between the pumpkins on the tray compared to those on soil, or between those with and without bananas? Look for signs such as:

- Growth of **fungal decomposers** like molds and mildews
- **Insect** decomposers
- Evidence of visiting **wildlife**, like scratch or bite marks
- Changes in **smell or texture**

Step 4: Composting

When you're finished observing the decomposition process, transfer your pumpkins to a garden bed or compost pile where they will complete their **transformation into healthy soil!**



Composting and Decomposition

A compost bin in your yard is a great way to reuse veggie scraps! If you can't compost at home, use **compost options** like yard waste pickup, a community garden, or the Chico State Compost Garden. Learn more: as.csuchico.edu/sustainability/compost-garden

What happens when **organic materials** (like food waste, yard waste, and pumpkins) go to the **landfill** with other trash? In a landfill, these materials **cannot decompose naturally**. Instead of turning to soil, they produce *methane*, a potent greenhouse gas!

