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!

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**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](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!