

The Pumpkin Rot Experiment

What happens to our pumpkin after the fall season?



Duration: 50 minutes (plus ongoing observation)

Grade Level: 2nd-5th

Location: In class: Intro & conclusion

Outside: Rotting pumpkin observations

Recommended Pumpkin Books:

-[Pumpkin Circle: The Story of a Garden](#) by George Levenson

-[Rotten Pumpkin](#) by David M. Schwartz

Materials:

-One pumpkin for every student or small groups

-One “control” pumpkin for the class

-Magnifying lenses

-Measuring tapes/ scale

-Pumpkin Life Cycle handout (included)

-The Pumpkin Rot Experiment journal template (included)

-[6 Plant Parts Song](#)

Theme: Decomposition is an important part of the pumpkin life cycle that we can observe in the fall.

Goals: Students describe the entire pumpkin life cycle from seed to pumpkin (and beyond!), and identify the season when each part of the life cycle occurs. Students make predictions about how decomposition will affect their pumpkin under different “treatments” of their choice. Students make and record observations about the decomposition process of their own pumpkin over time using the Pumpkin Rot Experiment journal template.

Introduction (20 mins): *Read a favorite pumpkin book*

Have a class discussion about how pumpkins grow: what is their life cycle? Draw on board or have students act out the different stages, identifying which plant parts grow at each stage. (Optional: sing the [6 Plant Parts Song](#)!) Have students color the Pumpkin Life Cycle handout, cut out the stages, and practice placing them in the correct order, identifying the seasons when each stage occurs.

Transition into the activity by asking: “Is there another part of the pumpkin life cycle? What happens to our orange pumpkins after the fall season?” Introduce/review vocabulary: “decomposition,” “rot,” “experiment,” “treatment,” and “control”. What organisms are involved in the decomposition process? How might weather or other environmental factors influence decomposition? What else might affect the decomposition of a pumpkin?

Activity (20 mins):

In small groups, or individually, have students choose a “treatment” for their experimental pumpkin: carved, exposed to the weather, cooked first, kept in a sealed container, buried in soil, buried in fall leaves, cut open and filled with water, or whatever other creative experimental treatments they come up with!

Transition outside

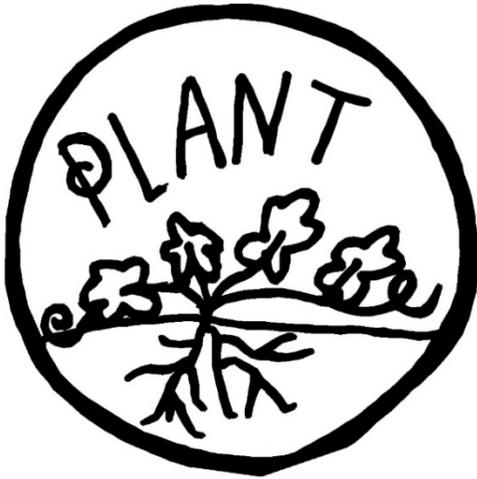
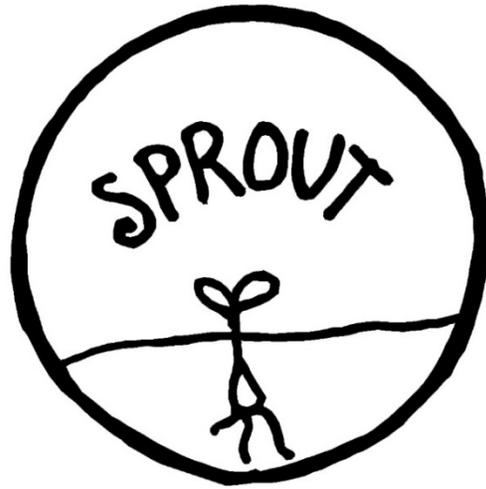
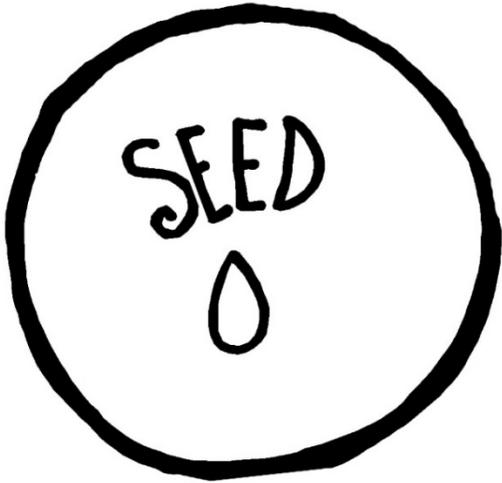
Note: No matter the treatment, it’s probably best to keep all pumpkins outdoors for odor control...use your discretion! Place each experimental pumpkin in its own test area, depending on the treatment students have chosen. Identify a class “control” pumpkin which will remain whole and should be placed in a sheltered outdoor location (try to minimize external influence on the pumpkin as best you can). Besides the chosen treatment, try to minimize all differences between experimental pumpkins and the control. Using The Pumpkin Rot Experiment journal template or blank science journal pages, have students record initial observations of both the experimental and control pumpkins and make predictions about what will happen to each over time. How might their “treatment” pumpkin compare to the “control” pumpkin?

Inquiry Q’s:

- What do you think will happen to the pumpkin in _____ days? Weeks? Months?
- What do you see/feel/smell? (Practice sensory observation)
- How do you expect your “treatment” to influence decomposition of the pumpkin?
- What can’t we control in this experiment? How can we make this experiment the most scientific?
- What organisms and natural processes contribute to decomposition around our school?
- Where did your pumpkin come from? (Trace it back to the farm and backwards through the pumpkin life cycle- where did that seed the farmers planted come from?)

Conclusion (10 mins):

Have students check on their experiment every day (or at least once a week), recording observations of both the “control” and “treatment” pumpkin every time, and noting any differences. Have students close their eyes and imagine what their pumpkins will look like in ten days... A month? Five months? How do students’ predictions compare to their actual observations over time? Compare observations between different treatments and explore any differences in their decomposition- what exactly caused those differences? Collect seeds to save and plant in the springtime!



My Name:

My Pumpkin's Treatment:

Date

Time

Weather

Size

Draw and Label What You See

What do you Smell?

What do you Feel?

What do you Wonder?