



# CLASSROOM CONNECTIONS



Early Childhood and Lower Elementary:  
Root Vegetable Round-up  
Connections to Standards:  
**Science** 2-PS1-1; 2-LS4-1  
**Math** K.MD.1, 2; 1.MD.4; 2.MD.1, 4

Upper Elementary: Pioneer Storage Crop Experiment  
Connections to Standards:  
**English Language Arts** 3.W.10  
**Social Sciences** 3.1, 3; 4.3, 10; 5.11, 23

**Lesson:** There are a variety of shapes, sizes, tastes, textures and smells among the root vegetables commonly eaten. While the outward differences in appearance are vast, all the roots are nutrient storage organs for the plant. Talk about the importance of the role of these storage roots while also exploring their diversity. Using roots vegetables such as carrots, parsnip, turnip, jicama, radish, rutabaga and beets create stations around the room. Students can then move in groups to measure weight, length, and diameter of the different roots vegetables as well as noting shape, smell, texture and taste. Be sure to set up appropriate expectations for respectful tasting and encourage the use of objective rather than subjective words to describe the flavors. After students have completed the circuit, discuss the differences and similarities in measurements and observations.

**Materials:** Root Vegetables (carrots, parsnip, turnip, jicama, radish, rutabaga, beets, etc.)  
Measuring Tools: rulers, tape measures, scales  
Pencil and paper for students to record data

**Resources:** Oregon Harvest For Schools Posters: parsnips, carrots, beets, radishes

Root and Tuber Crops  
<http://aggie-horticulture.tamu.edu/vegetable/guides/the-crops-of-texas/root-and-tuber-crops/>

**Lesson:** Before refrigeration, humans needed to store food for the winter and times of year when fresh food was scarce, but how did that happen? There is a reason the term “storage crop” exists as these are the vegetables and fruits that could be stored for longer periods of time and still remain good. In this experiment, students will investigate whether some vegetables store better than others if left in the same environment.

Leave one of each vegetable out on the counter, on a clean plate, for at least 7 days. Have students make a prediction about which vegetable they think will store the best and why they made that prediction. Each day have students make observations to see if the vegetable is changing. At both the start and end of the experiment, students should draw the vegetable and then note the touch/feel, smell, visual observations and changes on a simple chart. This will serve as a reminder about the changes that happened from the first day to that last. Depending on the time available and class ability, you may choose to quicken the activity by assigning a vegetable or two to a group of students to observe and then have each group share their information with the other groups. At the end of the experiment, lead a discussion about changes noted, factors that may have influenced the experiment, storage potential of each crop and why this trait may be important.

**Materials:** Cabbage, potato, winter squash, tomato, parsnip, spinach; Plates; Simple Chart for noting information

**Resources:** 20 Storage Crops  
<http://www.motherearthnews.com/organic-gardening/storage-crops-zm0z12aszsie.aspx#axzz3O0yD-6Jan>



### Middle School: Food Traditions

Connections to Standards:

**Social Science** 6.8, 15, 23; 7.15, 24; 8.8, 12

**English Language Arts** 6.SL.1; 7.SL.1; 8.SL.1

**Lesson:** Food plays an important role in not only health and survival, but also in traditions, cultures, and communities. Explore family food traditions through this activity from the Center for Ecoliteracy's *Nourish Curriculum Guide*. This lesson begins with students interviewing each other to learn about different food traditions among students in the class. It is important to emphasize respect and acceptance in the classroom before beginning this activity to ensure students feel comfortable sharing and receiving this information. Once the interviews are completed, patterns of similarity and differences can be noted and discussed as a class. An extension of this activity would be to have students conduct a similar interview with family members or elders which can open discussion about how the time you live in can also influence food traditions. This activity can be adapted to a variety of age groups with numerous extension activities possible.

**Resources:** Nourish Curriculum Guide - Page 35  
<http://www.nourishlife.org/teach/curriculum/activity-3-food-traditions/>

### High School: Taproot Dissection

Connections to Standards:

**English Language Arts** HS-LS2-4

**Lesson:** The roots of parsnips and carrots, the part we eat, is a large tap root used for nutrient storage. Both vegetable taproots are similar and can easily demonstrate different internal and external plant structures when dissected. On the outside of the taproot, the epidermis is present and often root hairs. Inside, the phloem, xylem, cortex and more can be seen with a discerning eye. Have students think about how these different structures influence the cycling of nutrients, water and energy.

The carrot dissection resource lesson was created by a high school teacher in California and can be easily used to direct dissection of parsnips as well.

**Resources:** Carrot Dissection  
[http://edhsgreensea.net/PASS/Carrot\\_Dissection.pdf](http://edhsgreensea.net/PASS/Carrot_Dissection.pdf)

