“100 Mile Diet” Bread Activity

Created by Emily Holden of Oregon State University

Description
Aimee Brown outlines the joys and struggles of her quest to eat locally in the “100-Mile Diet”. In her quest to support her local economy and to live sustainability she encounters the laws of supply and demand and the limitations of Oregon’s diverse agricultural industry. She must get creative in order to eat a balanced and varied diet. “100-Mile Diet” encourages readers to examine the foods they eat and the importance of global food trade.

The Bread Activity allows students to reach a higher level of Bloom’s Taxonomy of Cognitive Thinking as they explore the relationship between hard and soft wheat varieties. They will be baking breads made from bread flour (hard wheat), all-purpose flour (a mixture of hard and soft) and cake flour (soft wheat).

Time Estimate
- One 45- to 50-minute class period to read the article and prepare the bread
- Additional time to bake the bread
- One 45- to 50-minute class period to discuss the differences of the finished breads

Student Outcomes and Objectives
- Students will explore the relationship between wheat varieties and bread quality.

Standards
Language Arts
EL.HS.RE.01: Read at an independent and instructional reading level appropriate to grade level.
EL.HS.RE.02: Read and understand a wide variety of informational text.
EL.HS.RE.05: Match reading to purpose.
EL.HS.RE.06: Understand and use a variety of comprehension strategies as needed such as summarizing, class and group discussions and making predictions.
EL.HS.RE.08: Understand, learn and use new vocabulary that is taught through informational text.
EL.HS.RE.15: Read magazines and news stories.

Career-Related Learning Standards
CS.PM.02: Plan, organize, and complete assigned tasks on time, meeting standards of quality.
Materials

- Copies of “100 Mile Diet” from the 2009 issue of Oregon’s Agricultural Progress magazine, a special issue on Food in Oregon
- Recipe for bread making
  - Oregon Ag in the Classroom Foundation has a great bread recipe that is made almost entirely inside of a Ziploc bag.
  - [http://aitc.oregonstate.edu/resources/activity.htm](http://aitc.oregonstate.edu/resources/activity.htm) and click on bread in a bag.
- Materials required for your bread recipe
  - You want to experiment with bread flour, all-purpose flour and cake flour.

Vocabulary

**Commodity:** items that are traded, most commonly an agricultural product such as fruits and vegetables.

**Gluten:** The mixture of proteins found in wheat grains that are not soluble in water and give wheat dough its elastic texture.

**Locally Based Diet:** Eating foods that are grown and processed in close proximity to your home.

**Palate:** sense of taste.

**Sustainable:** The ability to maintain an ongoing process for an indefinite amount of time.

Extensions

Videos are available in the "Kernel Chemistry" article. One video demonstrates Oregon State University’s Andrew Ross baking breads from different types of wheat.
Procedure for “100 Mile Diet” Bread Activity

1) Have students read the “100 Mile Diet” article
2) Conduct a discussion about Aimee’s efforts to make bread from locally grown wheat.
   a. Was it easy for her to buy wheat?
   b. Was the wheat she bought the variety that is commonly grown in Oregon?
3) Bake bread following the directions for your recipe.
   a. Remember to make 3 varieties. Substitute the different varieties of flour, using the same measurements.
      i. Use bread flour, all-purpose flour and cake flour
4) Eat the bread and discuss the differences you see the following day.
   a. Are the “holes” in the bread the same size?
   b. Did all of the loaves rise to the same size?
   c. Is some of the bread tougher or chewier?
   d. Is some of the bread drier than the others?

*The Oregon Ag in the Classroom Foundation has a grinder that is available to teachers if you are interested in grinding your own flour.