

Little Red Hen

Purpose: The story of the Little Red Hen is used to explain the process of wheat production and bread making. Students are also given the opportunity to experience the threshing process and bread making first hand.

Time: 2 activities – 20-60 minutes (depending on detail)

Level: K

Materials:

- *Little Red Hen* book or story
- How To Do It! Threshing or Removing the Seed worksheet
- Wheat stems

Optional Materials

- *From Wheat to Bread* book written by Kristin Thoennes Keller
- Ingredients for making bread in a bag



Minnesota/Common Core Language Arts Standards and Benchmarks

0.1.1.1 With prompting and support, ask and answer questions about key details in a text

0.1.1.2 With prompting and support, retell familiar stories, including key details

0.1.1.3 With prompting and support identify characters, settings and major events in a story

0.8.2.2. Confirm understanding of a text read aloud or information presented orally through other media by asking and answering questions about key details and requesting clarification if something is not understood.

Background

Wheat is useful as a livestock feed, but its main purpose is as human food. It is nutritious, easily stored and transported and easily processed into various types of food. Unlike any other plant-derived food, wheat contains gluten protein that causes leavened dough to rise forming very small gas cells that hold carbon dioxide during fermentation. This gluten and fermentation process produces light textured bread. Bread and other wheat products are high in carbohydrates; contain valuable protein, minerals and vitamins.

Minnesota ranks tenth in the nation for overall wheat production and third in the U.S. for spring wheat production. There are five major classes or types of wheat grown in the United States. The most popular classes are hard red spring wheat and hard red winter wheat. Spring wheat is planted or seeded in April and May, and harvested in August and September. Winter wheat is planted August through October, begins to grow, goes dormant in the winter, and then continues to grow once the snow melts and the soil warms in the spring. Winter wheat is harvested in May, June and July. A piece of machinery called a combine is used by farmers to harvest the mature, golden colored wheat. The important part of the wheat plant is the seed head that contains the wheat seeds that are ground into flour. A combine cuts the wheat plant and separates the grain (seed) from the stem and seed covering or hull. The grain is collected and the rest of the plant – referred to as the chaff – is used for animal bedding or forage. In 2010, Minnesota farmers harvested wheat from 1.6 million acres or land. This produced over 88 million bushels of wheat that is valued at \$540 million dollars.

Both hard-red winter wheat and hard-red spring wheat are ground into flour that is used for making bread. Another class of wheat, durum wheat is used in macaroni, spaghetti and other pasta products. Soft-red winter and soft-white wheats are grown in the eastern part of the United States. These wheat classes are softer and have less protein. They are used to make flour for cakes, biscuits, pastries and other breakfast foods.

Information from:

http://www.agron.iastate.edu/courses/agron212/readings/oat_wheat_history.htm

This lesson will allow students to compare the little red hen and real life Minnesota wheat farmers.

Procedure

Activity 1 – Story of the Little Red Hen

1. Read the story of the Little Red Hen to the students, using the actual book or the attached story.
2. After you are done reading, divide the white board into three segments. Write “Beginning,” “Middle” and “End” at the top of the segments
3. Ask the students to retell the story based upon the three different segments. Write their comments on the board. You may wish to have the students elaborate on the emotions or feelings that may have been expressed by the Little Red Hen or other animals in the story. Students may also enjoy acting out the different segments of the story.

Activity 2 – From Wheat to Bread

4. Share information about wheat production in Minnesota with the students (use the **Background** information). Ask students how the Little Red Hen is like a farmer in Minnesota who is growing wheat for us to eat.
OPTIONAL: Use the book From Wheat to Bread by Kristin Thoennes Keller to describe and illustrate the steps taken to transform wheat grain into bread.
5. Give each student a wheat stem. Bundles of wheat can be obtained from area farmers or see the **Resources** section for where they can be ordered.
6. Ask students to predict the number of seeds in their seed head
7. Ask students to count the seeds they removed from their wheat stem.
 - a. Were their predictions accurate?
 - b. Do the students think they have enough wheat to make a loaf of bread? – *It takes about 4 cups of flour to make a loaf of bread.*
8. Using the threshing directions (see attachment), ask the students to thresh their wheat. Model this process so students can see what to do! Threshing means to remove the kernel from the hull or chaff of the plant.
OPTIONAL: Grind the bread into flour using a hand grinder.
9. Ask students to describe the similarities and differences between what they have experienced and what the Little Red Hen did in the story.

Additional Activities

- Use whole wheat or white flour to make bread in a bag. Instructions can be found at:
http://aitc.oregonstate.edu/resources/pdf/activity/bread_bag.pdf
- Take a field trip to the Mill City Museum or view their web-site for many great resources. www.millicitymuseum.org/
- Create an opportunity for students to write or draw pictures about the lessons they learned from the Little Red Hen.

Resources

- Bundles of wheat can be obtained from local farmers or ordered through Utah Agriculture in the Classroom; go to <http://agclassroom.org/us> and search “wheat” in the e-store.

- The *Little Red Hen* is available in multiple versions from bookstores and www.amazon.com. Free versions of the story are also available through many websites found through internet search engines.
- *From Wheat to Bread* by Kristin Thoennes Keller can be purchased through Minnesota Agriculture in the Classroom.
<http://www.mda.state.mn.us/kids/childrens-lit-bundle.aspx>

Adapted from North Carolina Agriculture in the Classroom

In accordance with the Americans with Disabilities Act, this information is available in alternative forms of communication upon request by calling 651/201-6000. TTY users can call the Minnesota Relay Service at 711 or 1-800-627-3529. The MDA is an equal opportunity employer and provider.

Little Red Hen

Once upon a time, a little red hen lived in a small cottage. She worked hard to keep her family fed. One day, when the little red hen was out walking with her friends, the goose, the cat, and the pig, she found a few grains of wheat.

“Who will help me plant this wheat?” asked the little red hen.

“Not I,” said the goose, “I’d rather swim in the pond.”

“Not I,” said the cat, “I’d rather sleep on the hay.”

“Not I,” said the pig, “I’d rather lie in the mud.”

“Then I’ll do it myself,” said the little red hen. And she did.

Time went by and the wheat grew, but so did the weeds.

“Who will help me pull the weeds?” asked the little red hen.

“Not I,” said the goose, “I’d rather swim in the pond.”

“Not I,” said the cat, “I’d rather sleep on the hay.”

“Not I,” said the pig, “I’d rather lie in the mud.”

“Then I’ll do it myself,” said the little red hen. And she did.

All summer the wheat grew taller and taller. It turned from brown to golden amber. And, at last, it was time to harvest the wheat.

“Who will help me harvest the wheat?” asked the little red hen.

“Not I,” said the goose, “I’d rather swim in the pond.”

“Not I,” said the cat, “I’d rather sleep on the hay.”

“Not I,” said the pig, “I’d rather lie in the mud.”

“Then I’ll do it myself,” said the little red hen. And she did.

At last, the wheat was harvested and put into a large sack, ready to be taken to the mill to be ground into flour.

“Who will help me take the wheat to the mill?” asked the little red hen.

“Not I,” said the goose, “I’d rather swim in the pond.”

“Not I,” said the cat, “I’d rather sleep on the hay.”

“Not I,” said the pig, “I’d rather lie in the mud.”

“Then I’ll do it myself,” said the little red hen. And she did.

The next day came and the little red hen was hungry.

“Who will help me bake this flour into bread?” asked the little red hen.

“Not I,” said the goose, “I’d rather swim in the pond.”

“Not I,” said the cat, “I’d rather sleep on the hay.”

“Not I,” said the pig, “I’d rather lie in the mud.”

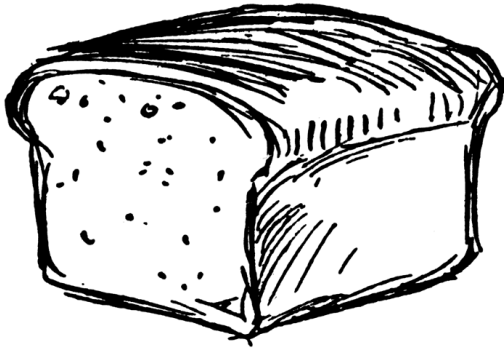
“Then I’ll do it myself,” said the little red hen. And she did.

At last, the bread was baked and the little red hen called to her friends once more. “Who will help me eat this bread?” asked the little red hen.

“I will,” said the goose.

“I will,” said the cat.

“I will,” said the pig.



“Oh, no you won’t!” said the little red hen. “I found the wheat, I planted it, I weeded it, and when it was time to harvest it, I did that too. I took it to the mill to be ground into flour and at last, I baked it into bread.

“Now,” said the little red hen, “I’m going to eat it with my family.” And she did.

Adapted from Utah Agriculture in the Classroom

How To Do It!

Threshing or Removing the Seed from the Plant

(A visual tutorial is also available online, visit <http://extension.usu.edu/aitc/teachers/elementary/food.html> see the Wheat Kit resource):

1. Place the seed head between both hands with the palms in a horizontal position and move the hands backwards and forwards repeatedly while applying pressure. This is similar to the threshing action in a combine.
2. After the grain has been "threshed," shake the separate parts in the palm of one hand letting the bigger and lighter parts of the head float to the top and the heavier grain kernels settle to the bottom. The students can now skim the empty spike and some of the hulls off to the side and discard. This is similar to the separating action of the combine by the straw walkers and sieves.
3. Now dean the chaff (seed hulls) from the grain that remains in your hand. A combine completes this job by blowing air through the grain and chaff, removing the lighter chaff, and blowing it out of the rear of the combine. Stand near a waste paper basket and pour the grain from one hand to the other while blowing lightly on the material as it drops through the air from one hand to the other.
4. Remember that the trip through the combine for the seed head only takes about 15 seconds, and that there are thousands of heads going through the combine at the same time. Historically, farmers would have had livestock walk on the wheat heads on a hard surface to thresh the grain out of the heads, separate the straw and spikes by hand, and then throw the grain and chaff up into the air for the wind to blow the chaff away.

Machine Power

This is a combine harvester. It cuts the crop and separates the grain from the straw.

The cab is air-conditioned to protect the driver from heat and dust.

This is the unloading spout. It is used to empty threshed grain from the harvester

