



Science



Literacy

WHEAT MILLING

Grade Level

K-4

Length of Lesson

45 minutes

Objective

By the end of this lesson, students will have a better understanding of wheat as a plant.

Materials Needed

- [Wheat Stalks](#) (available at agclassroomstore.com)
- Salt or Pepper Grinder

Standards

Common Core

CCSS.ELA-Literacy.RI.K.10; RI.1.6

CCSS.Math.Content.K.CC.A.1

NGSS

K-LS1-1; 2-LS2-2; 3-LS1-3

Lesson Summary

This lesson is designed to help students identify the parts of a wheat plant while learning about its uses in various food products.

Suggested Sequence of Events:

1. Set Up: Gather enough wheat stalks for each student in your class or for small groups of students. Draw or print out a diagram of a wheat stalk as a guide for you and your students.
2. Read "[Farmer George Plants a Nation](#)" by Peggy Thomas to capture student interest.
3. Read through the AITC Wheat Ag Mag to learn more about wheat. Interactive online versions can be found on our website.
4. Complete the activity following the procedures:
 - Show students wheat stalks.
 - Go over the parts of the wheat stalk with the students to familiarize them with the parts so they can understand the directions for dissection.
 - Stalk—the entire plant.
 - Head—the part of the wheat plant that contains the kernels.
 - Beard—the bristle-like parts of the wheat plant that cover and protect the kernels.
 - Kernel—the seed from which the wheat plant is grown or that people harvest from the wheat plant to grind into flour.
 - Stem/Straw—the part of the wheat plant that supports the head and is known as straw after harvest.
 - Dissect the wheat using the following steps:
 - Break the head off the stem.
 - Make a straw out of the stem by breaking it to avoid the nodes.
 - Lay the wheat head flat on a hard surface and pat with your hand to shake out the kernels.
 - Have the students count their kernels.
 - Put the kernels of wheat into a salt or pepper grinder and have the students mill their wheat into flour. What simple machines are being used?
 - Talk about different ways to grind wheat. The Native Americans did it using rocks, etc. Have students design their own method of grinding wheat and then test their machines.

TEACHER RESOURCES

Extension Ideas:

- Read “[Bread Comes to Life](#)” by George Levinson. Then, have students find the gluten in wheat by chewing the kernels. Before there was chewing gum in the store, farmers made their own with grains of wheat!
- Ask the students to list some of the foods that can be made using flour. (*Bread, cake, cookies, brownies, pasta, crackers, etc.*)
- Have students listen to “[The Little Red Hen](#)” by Paul Galdone.
 - Bring in seeds, stems, flour, and bread and put them down in a random order. Have student pay attention to the steps the hen takes to plant her wheat . Have students work together to put items in the correct order.
- Have students label and color a wheat stalk.
- Discuss what wheat needs to grow (Light, water, air, and nutrients). Then, help students plant their own wheat.
 - As their wheat grows, you can continue to discuss this lesson by asking these questions:
 - How many days did it take for the wheat seeds to sprout?
 - What do the wheat plants look like?
 - What do the plants need to grow?
- Watch a video of wheat being harvested.
- Watch a video from a local farmer discussing wheat growth and harvest.
- Invite a wheat farmer into the classroom.
- Have students research each step of growing wheat and write a paragraph explaining what happens at each phase. How long does each phase take?
- Bring in different types of bread (sweet, rye, sourdough, white, etc) and have students sample each type. After sampling have students write about which kind they liked the best and why.
- Encourage students to try making their own bread at home.
- Have students do IAITC’s Soil Sam lesson, using wheat seeds for the “hair.”
- Go to agintheclassroom.com to contact your County Literacy Coordinator for free classroom sets of our Ag Mags!

