

From Wheat to Bread

Suggested Grade Level: K-2

Time: 60 minutes

Subject: Science, Biology/Plant Science, Social Studies, Goods and Services, Food Production Systems, Farming, Language Arts, Informational Reading, Speaking and Listening, Health, Community Health, Nutrition, Agriculture, Farm to Table

Overview: In this cross-curricular lesson, K–2 students explore how wheat is transformed into bread through hands-on investigation, discussion, and representation of learning. Students engage in an introductory activity and read-aloud to build background knowledge, then observe and analyze wheat samples using descriptive language. They identify and sequence the steps in the wheat-to-bread process through guided discussion and matching activities. Students apply their understanding by creating a visual poster that illustrates and labels each stage of production, and they practice retelling the process with a partner to strengthen communication skills. Throughout the lesson, students develop skills in sequencing, observation, categorization, and informational understanding while making connections between agriculture, food systems, and everyday life.

Objectives:

1. Sequence the steps in the wheat-to-bread process using words and visual representations
2. Observe and describe physical characteristics of wheat using appropriate vocabulary and sentence frames
3. Construct a visual model (poster) that accurately represents the stages of food production with labels and illustrations
4. Retell an informational process using key details in the correct order during partner discussions
5. Explain the role of wheat in Kansas agriculture and daily life using information from texts and discussions

Background Information:

Wheat is the quintessential (or perfect) Kansas crop. In fact, wheat is grown in every county in Kansas! Wheat is a type of grass that has berries, called kernels, which we eat. Wheat kernels are full of nutrients and gluten, a protein valued for its ability to act as a glue that holds baked goods together. Kernels of wheat have three parts: the endosperm, the bran, and the germ (Eat 2021). There are several types of wheat: hard

red winter, hard red spring, soft red winter, hard white, soft white, and durum. Most Kansas farmers grow hard red winter wheat. Producing wheat takes hard work. First, farmers plant the wheat seeds. In Kansas, wheat is usually planted in mid-September to mid-October. Farmers monitor the wheat as it grows for signs of disease and insect damage. Then, the wheat kernels are harvested with combines and loaded onto semi-trucks. The semi-trucks drive the grain to grain elevators, where it is stored for later or sold. These local country elevators sell their grain to larger terminal elevators for cleaning and processing. From there, the separated grain is sent to a mill. At the mill, the grain is crushed and ground into a fine powder—flour. There are several types of flour wheat can become: whole wheat, all-purpose, bread flour, and more. Then the flour is shipped to grocery stores or continues down the road to factories, where it becomes foods such as bread, buns, cookies, and cake (Eat 2018).

Kansas Connections:

Kansas is famous for growing wheat, so much so that our state earned the nickname “Breadbasket of the World.” That means our state grows so much wheat that it helps feed people all around the globe! Every year, Kansas farmers grow about 320 million bushels of wheat. That’s a huge amount! One bushel of wheat can make about 70 loaves of bread. So when you multiply that out, Kansas grows enough wheat to make about 22 billion loaves of bread — just from one year’s harvest! That’s enough for every person on Earth to have two loaves of bread, with plenty left over. Wheat is grown in every single county in Kansas. About 20,000 farmers grow it, which is about 0.7% of all the people in Kansas. Most Kansas farmers grow a special kind of wheat called hard red winter wheat. This wheat is high in protein and gluten, which makes it perfect for baking. It’s used to make bread, rolls, biscuits, all-purpose flour, quick breads, and baking mixes. Some Kansas farmers grow soft red winter wheat or hard white wheat. Soft red winter wheat is used to make flat bread, pastries, cake, and crackers; while hard white wheat is usually used to make yeast breads, hard rolls, tortillas, and noodles (Eat 2021).

Materials:

Engagement

- 2 pieces of wheat bread
- Plastic knife
- Jelly
- Peanut butter
- “Bread Comes to Life” by George Levenson OR “Bread, Bread, Bread” by Ann Morris
- Large poster paper (for the anchor chart)

Per student: Post-It note

- Pencil

Discussion

- Bundle of wheat: <https://agclassroomstore.com/wheat-bundle/> (\$5/bundle) or from a local farmer.



- Wheat kernel samples: <https://agclassroomstore.com/wheat-kernel-samples/> (\$18/30 students) or from a local farmer.
- “From Wheat to Bread” by Stacy Taus-Bolstead

Per student:

- Magnifying lens

Activity

- Vocabulary/Picture cards, cut out.
- Pocket chart
- Brown lunch sack (cut into pieces)
- Flour
- Brown paint
- Sponges (cut into pieces)

Per student:

- 12x18” light blue construction paper
- Glue
- Wheat seeds/handful of Chex/Shredded Wheat/Triscuits
- A piece of wheat bread
- Butter
- Tongue depressor (to spread butter)

Instructional Format:

1. Review Background Information and Kansas Connections.
2. Conduct engagement activity.
3. Lead a class discussion.
4. Complete the activity.

Engagement: *Note: Before teaching this lesson, be sure to check that none of your students have gluten or peanut allergies.*

To introduce this lesson, gather two pieces of wheat bread, peanut butter, and jelly. Prepare a peanut butter and jelly sandwich in front of the class. Then, eat the sandwich and make small comments about the sandwich being delicious. Then say, “What kind of sandwiches do you all like to eat?” and collect answers from the class. Continue the discussion by asking students, “What does every sandwich have in common?” After the discussion, transition into the read-aloud. Say, “People all over the world eat bread. Let’s find out more about bread.” Read “Bread Comes to Life” by George Levenson (or watch this read aloud. Learning Explorer: Bread Comes to Life <https://www.youtube.com/watch?v=e7hzEA8eHTs>). Alternatively, read “Bread, Bread, Bread” by Ann Morris (or watch this read aloud. Bread Bread Bread By: Ann Morris Read Aloud By: Fabiola Ramirez https://www.youtube.com/watch?v=K48p0_sNVvY&t=4s). After the read-aloud, create an anchor chart labeled “Bread Facts.” Give each student a Post-It note to write down or draw one thing they learned, and then add it to the anchor chart.



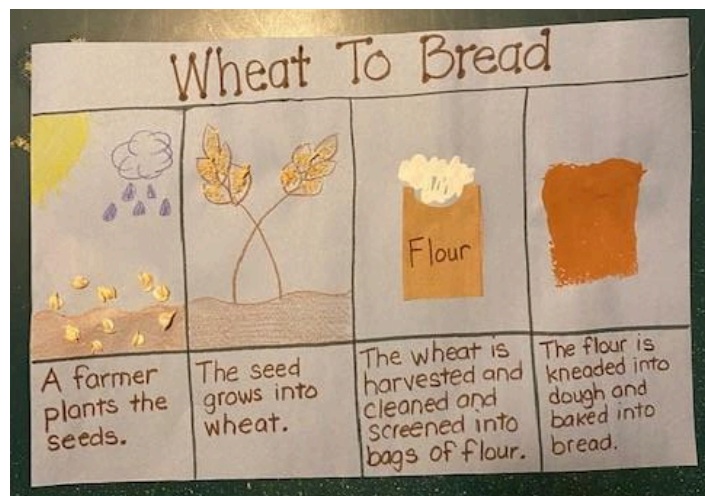
Procedures:

Discussion

1. Begin a class discussion by saying, "We learned that bread comes from wheat. Let's look at some wheat!"
2. Pass out magnifying lenses to each table or pair.
3. Set out the bundle of wheat and wheat-kernel samples. Instruct students to investigate and discuss with their table mates using "I wonder..." and "I noticed..." statements.
4. As students investigate, share a few facts about Kansas wheat from <https://eatwheat.org/learn/wheat-facts/>
5. Transition into another read-aloud by saying, "Let's learn more about where this wheat comes from." Then, read "From Wheat To Bread" by Stacy Taus-Bolstad. Discuss the steps that wheat goes through to become bread.

Activity

1. To introduce the activity, hand out picture and vocabulary word cards. Instruct students to walk around, find their match, and bring it to the pocket chart. (see end of this lesson)
2. When students are done with the introductory activity, pass out blue 12x18 light blue construction paper. Instruct your students to write "Wheat to Bread" in large letters at the top, a line below, and three lines below that to create four columns underneath the title.
3. Next, students will write and illustrate the steps that wheat takes to become bread. Help students write the sentences below, or provide cut-out words for them to glue onto the page.
 - Step 1: The farmer plants the seeds. (Glue on wheat seeds and draw the ground, sun, and rain.)
 - Step 2: The seeds grow into stalks of wheat. (Draw the ground and two stems and the outlines of the wheat plant. Crush up wheat, Chex, Triscuits, or Shredded Wheat and glue inside the outlines.)
 - Step 3: The wheat is cleaned, dried, ground into powder, and packed in bags. (Glue on a little rectangle of a brown lunch sack and glue flour on top.)
 - Step 4: Flour is made into dough and baked into bread (Sponge paint a piece of bread with brown paint.)
4. As the project dries, have students pair up and retell the steps wheat goes through to become bread. Ensure that they say the steps out loud.



5. After students are done discussing, wrap up the lesson with a snack! Butter some slices of bread and serve them to the students.
6. As students eat, review the Career Information section and emphasize that a baker made the bread they are eating.

Vocabulary:

- **Seeds:** Tiny parts of a plant that can grow into new plants.
- **Wheat:** A tall grass grown by farmers that has seeds called kernels used to make flour.
- **Kernels:** The small, hard berries from wheat that are ground into flour.
- **Tractor:** A big machine that helps farmers plant seeds and work in the fields.
- **Dough:** A soft, squishy mixture made from flour and water that can be baked into bread.
- **Combine:** A large machine that cuts wheat and collects the kernels during harvest.
- **Yeast:** A tiny living thing added to dough to help it rise and become fluffy.
- **Screen:** A tool used to separate pieces of wheat and remove anything that doesn't belong.
- **Knead:** To press and fold dough with hands to make it smooth and ready to bake.
- **Loaf:** A big piece of bread that's baked in one shape.
- **Truck:** A vehicle used to carry wheat from the farm to the elevator or mill.
- **Flour:** A soft powder made by grinding wheat kernels.
- **Bake:** To cook food using heat in an oven.

Kansas Standards:

Next Generation Science Standards

Kindergarten

From Molecules to Organisms: Structures and Processes

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

Earth's Systems

K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

History, Government, and Social Studies

Standard 3: Societies are shaped by the identities, beliefs, and practices of individuals and groups.

3.1 The student will recognize and evaluate how societies are shaped by the identities, beliefs, and practices of individuals and groups.

3.2 The student will analyze context and draw conclusions of how societies are shaped by the identities, beliefs, and practices of individuals and groups.

3.3 The student will investigate and connect how societies are shaped by the identities, beliefs, and practices of individuals and groups with contemporary issues.

3.4 The student will use their understanding of how societies are shaped by the identities, beliefs, and practices of individuals and groups to make a claim or advance a thesis using evidence and argument.

Language Arts

Kindergarten



Reading: Informational

Range of Reading and Text Complexity

RI.K.13 Actively engage in individual or group readings of informational text with purpose and understanding.

Writing

Text Types and Purposes

W.K.2 Use a combination of drawing, dictating and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

Speaking and Listening

Comprehension and Collaboration

SL.K.1 Participate in collaborative conversations with diverse partners about topics and texts with peers and adults in small and larger groups to expand language comprehension.

Presentation of Knowledge and Ideas

SL.K.4 Use details to describe familiar people, places, things or events with prompting and support.

SL.K.5 Add drawings or other visual displays to supply additional detail to descriptions.

1st Grade

Reading: Informational

Key Ideas and Details

RI.1.3 Describe the connection between two individuals, events, ideas or pieces of information in a text.

Speaking and Listening

Comprehension and Collaboration

SL.1.1 Participate in collaborative conversations with diverse partners about topics and texts with peers and adults in small and large groups to expand language comprehension.

SL.1.2 Ask and answer questions about key details in a text read aloud, information presented orally or through media.

Presentation of Knowledge and Ideas

SL.1.4 Use relevant details to describe people, places, things and events, expressing ideas and feelings clearly.

SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts and feelings.

2nd Grade

Reading: Informational

Key Ideas and Details

RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts or steps in technical procedures in a text.

Speaking and Listening

Comprehension and Collaboration

SL.2.1 Participate in collaborative conversations with diverse partners about topics and texts with peers and adults in small and larger groups to expand language comprehension.

SL.2.2 Recount or describe key ideas or details from a text read aloud, information presented orally or through media.

SL.2.3 Ask and answer questions about what a speaker says to clarify comprehension, gather additional information or deepen understanding of a topic or issue.

Health

Standard #2: Students will analyze influences on health behaviors (including family, peer, culture, media, technology and other factors).

Community Health

2.1 Community helpers (police, firefighters, nurses, sanitation, doctors, EMT, etc.)

Nutrition

2.2 Role of food and nutrients in providing energy

2.3 Balanced diet



National Agricultural Literacy:

Agriculture and the Environment

- Describe how farmers/ranchers use land to grow crops and support livestock (T1.K-2 a.)

Plants and Animals for Food, Fiber, & Energy

- Explain how farmers/ranchers work with the lifecycle of plants and animals (planting/breeding) to harvest a crop (T2.K-2 a.)
- Identify examples of feed/food products eaten by animals and people (T2.K-2 c.)

Food, Health, and Lifestyle

- Identify healthy food options (T3.K-2 a.)
- Recognize that agriculture provides our most basic necessities: food, fiber (fabric or clothing), energy, and shelter (T3.K-2 b.)

Culture, Society, Economy, and Geography

- Discuss what a farmer does. (T5.K-2 a.)
- Explain why farming is important to communities (T5.K-2 b.)
- Identify places and methods of exchange for agricultural products in the local area (T5.K-2 c.)
- Identify plants and animals grown or raised locally that are used for food, clothing, shelter, and landscapes (T5.K-2 d.)
- Identify the people and careers involved from production to consumption of agricultural products (T5.K-2 e.)
- Trace the sources of agricultural products (plant or animal) used daily (T5.K-2 f.)

Supporting Resources:

America's Heartland: Wheat Videos by PBS

<https://agclassroom.org/matrix/companion-resources/395/>

Bread in a Bag by Utah Agriculture in the Classroom:

<https://agclassroom.org/matrix/companion-resources/50/>

Farming in a Glove Lesson Plan: <https://www.ksagclassroom.org/kslesson/farming/>

Getting to Know Plants, Wheat – A Member of the Grass Family, and Wheat Across the Prairies Lesson Plans:

<https://ksagclassroom.org/kansas-lesson-plans/wheat-genetics-elementary/>

Insider Food: 29 Types of Bread Around the World | Around the World | Food Insider

<https://www.youtube.com/watch?v=C8U23AS1irY>

Little Red Hen by Vanae Morris, Debra Spielmaker, Pat Thompson, and Lynn Wallin

<https://agclassroom.org/matrix/lessons/27/>

Pancakes! By Rose Judd-Murray <https://www.agclassroom.org/matrix/lesson/534/>

UK Flour Millers: The industrial bread process: an overview for children (KS2):

<https://www.youtube.com/watch?v=w3O8lKnBhu8>



Wheat Byproducts Poster:

<https://ksagclassroom.org/supporting-resources/wheat-byproducts/>

Wheat Fun Facts Poster: <https://ksagclassroom.org/supporting-resources/wheat-fun/>

Wheat Growth Cycle Poster:

<https://ksagclassroom.org/supporting-resources/wheat-growth/>

Wheat Plant Part Labeling: <https://ksagclassroom.org/supporting-resources/wheat-plant/>

“Where Does Wheat Come From?” teaching unit (\$8.00)

<https://www.teacherspayteachers.com/Product/Where-Does-Wheat-Come-From-Farm-to-Table-Ladybug-Learning-Projects>

Career Information: Baker

A baker is someone who makes bread, cookies, cakes, and other baked goods by combining ingredients and baking them in an oven. Bakers follow recipes, measure and mix ingredients, shape dough, and decorate treats. They often work early in the morning in bakeries, stores, or restaurants, preparing fresh food for people to enjoy.

Author: Nancy Smith, first-grade teacher at Heatherstone Elementary and 2019 KFAC Teacher of the Year, KFAC Curriculum Advisory Team; edited by Marissa Cook, Secondary Art Education Major at Kansas State University, KFAC Intern.

References:

Eat Wheat. (2021, October 27). *Wheat Facts*. <https://eatwheat.org/learn/wheat-facts/>

Eat Wheat. (2018, June 23). *Wheat's Journey From Field to Table*. <https://eatwheat.org/learn/from-field-to-table/>



Seeds



Tractor



Combine



Screen



Bag



Truck



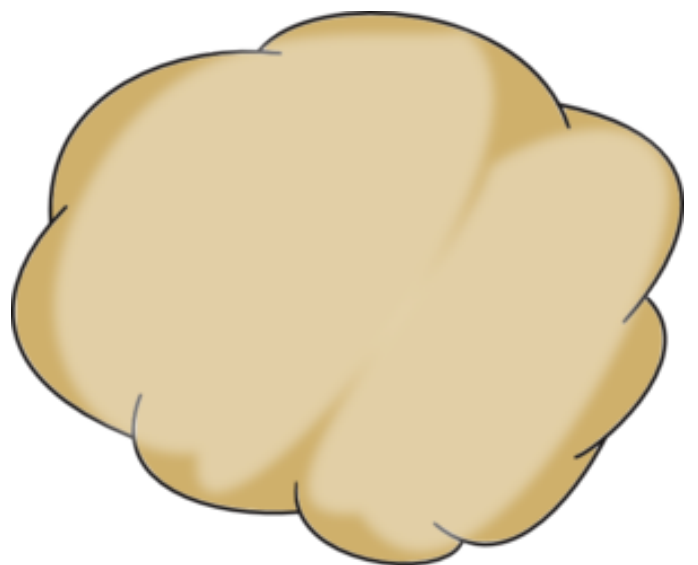
Flour



Wheat



Dough



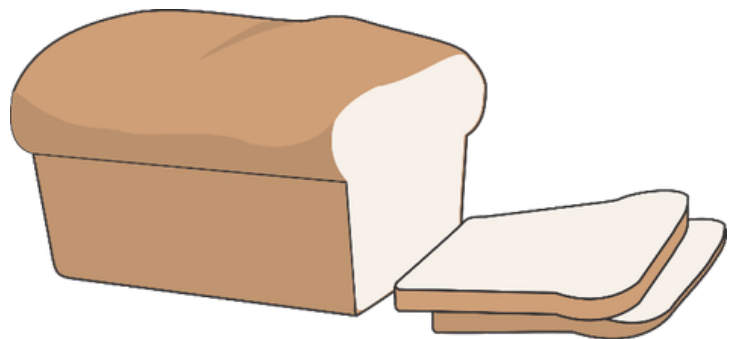
Yeast



Knead



Loaf



Oven



Bake



Eat



Kernels

