

Grade Level: Grades 6-8

Note: Can be scaled up or down as needed.

Lesson Duration:

100 minutes (suggested to break lesson into two days if including hands-on activities)

Note: Adding additional activities will add to lesson duration.

Objectives:

- Students will understand the fundamentals of the milling process.
- Students will identify and describe different types of flour and wheat-based products.
- Students will understand how wheat is used in the livestock industry, including feed and forage.
- Students will understand alternative uses of wheat and how wheat connects to daily life.

Materials Needed:

- 'Uses of Wheat' slide presentation
- 'Word Search' activity and vocabulary
- 'Crossword' activity
- 'Alternative Uses of Wheat' handout and 'Scavenger Hunt' activity
- 'Wheat Around the World' handout and activity
- 'Alternative Uses of Wheat' handout (optional visual aid or handout)
- 'How Flour is Milled' handout (optional visual aid or handout)
- 'Flour 101' handout (optional visual aid or handout)
- 'Types of Flour' poster (optional visual aid)
- Printed activity sheets for each student (or uploaded to preferred LMS)

Lesson Outline:

Introduction (5 minutes)

- Briefly review topics covered in previous lessons.
- Ask students to name all the products they can think of that contain wheat. Encourage students to think of non-food products.
- Write answers on the board.

Direct Instruction (10 minutes)

- Present 'Uses of Wheat' slides 1-10.
- Discuss the milling process and different forms of flour. (See guided discussion questions on page 4.)

Guided Practice (20 minutes)

- Distribute the 'Word Search' activity from the handout.
- Allow students to use the associated vocabulary handout.
- Work through the first question together as a class.
- Review vocabulary terms together to reinforce key terms.

Direct Instruction (10 minutes)

- Present 'Uses of Wheat' slides 11-19.
- Discuss the different types of flour and their intended purposes. (See guided discussion questions on page 4.)
- Use slide visuals and optional 'How Flour is Milled,' 'Flour 101' handouts and 'Types of Flour' poster (can be printed for individual student use or shared on screen for students to see).

Group Activity (20 minutes)

- Divide students into groups of 2-4.
- Distribute the 'Wheat Around the World' activity (will need one copy per group).
- Allow students to use the associated handout.
- Direct students to play the memory matching game.
- Review each type of wheat-based product together to reinforce key terms.

Direct Instruction (10 minutes)

- Present 'Uses of Wheat' slides 20-27.
- Discuss grazing, forage and feed purposes of wheat. (See guided discussion questions on page 4.)
- Discuss non-food uses of wheat. (See guided discussion questions on page 4.)
- Use slide visuals and optional 'Alternative Uses of Wheat' handout (can be printed for individual student use or shared on screen for students to see).

Independent or Group Activity (20 minutes)

- Prior to class, assemble a variety of products that contain wheat (and include some items that do not contain wheat).
 - Use 'Alternative Uses of Wheat' handouts for examples.
- Distribute the 'Alternative Uses of Wheat' activity (students can work independently or as a group).
- Allow students to use the associated handout to determine if a non-food product contains wheat.
- Direct students to identify non-food and food products that contain wheat and fill in the 'Scavenger Hunt' activity.
- Review each type of wheat component together to reinforce key terms.

Review and Discuss (5 minutes)

- Review 'Scavenger Hunt' activity worksheets and discuss which products contain wheat and the purpose of wheat or wheat byproducts in the item.
- Highlight key facts:
 - Wheat has a variety of uses. While the most common is flour and wheat-based food products, wheat is a diverse crop that is used by humans and animals for nutrition and everyday use.
 - There are different types of flours, and consumers have the luxury of choosing which type they want to use.
 - Wheat provides quality nutrition to livestock and is a vital part of the Texas beef and dairy industries.

Assessment:

- Participation in class discussions.
- Completion and accuracy of activity worksheets (check with provided answer keys).

Differentiation:

- Provide vocabulary word banks and visual aids from the PowerPoint.
- Allow verbal explanations instead of written responses when needed.
- Pair less confident readers with peers during activities.
- Provide additional visual support.
- Challenge advanced students to complete the 'Crossword' activity.

Additional Activities (Optional):**Flour Power***Objective:*

- Identify different types of flours and their properties.

Materials:

- All-purpose flour, whole wheat/whole white flour, bread flour, type 00 flour (or any other types of flour), small cups or bowls for sampling, spoons, water and measuring spoons/droppers, cleaning supplies, paper for note taking

Activity:

- Give each student or group a small sample of each type of flour.
- Direct students to identify the color, texture and feel of the flour and note their observations.
- Add water to each type of flour, small amounts at a time, until a dough or paste forms.
- Direct students to identify how sticky, stretchy or crumbly each mixture is and observe how much water it took to reach a dough state and note their observations.
- As a class, discuss the different types of flour and their intended uses.

Other Activity Ideas:

- If you have a teaching kitchen available, allow students to bake one of the recipes in the Texas Wheat recipe library.
- If your school/district allows, provide different wheat-based products (including those made from various types of flour) and have students do a blind taste test while noting their observations.

Guided Discussion Questions:**Parts of Wheat**

- Question: *Why is wheat considered an important crop?*
- Potential Answer: *Wheat is important because it is used for food, animals and many everyday products, making it valuable to a variety of industries.*

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Flour

- Question: *Why might a baker choose bread flour instead of all-purpose flour?*
- Potential Answer: *Bread flour has higher protein and gluten, which helps bread rise and become chewy.*

Feed & Forage

- Question: *How does wheat benefit livestock producers?*
- Potential Answer: *Wheat provides affordable, nutritious feed and can be grazed, harvested for grain or used as silage or hay.*

Other Uses of Wheat

- Question: *What is a reason wheat and wheat-by products used in non-food products?*
- Potential Answer: *Wheat (and gluten) have binding properties that make products more dense and help particles stick together.*