Early Beginnings of Wheat

Students will learn about the origins and importance of wheat and be introduced to the beginning of the Saskatchewan wheat industry.

About
45 minutes

Outcomes:
RW4.1 Analyze the strategies Saskatchewan people have developed to meet the challenges presented by the natural environment.

Indicators:
RW4.1 a. List the challenges and opportunities climate presents for residents of Saskatchewan.

Note from AITC: Other expected outcomes include:
Students will appreciate the hard work and dedication of the early wheat farmer.
Students should understand the difference between a subsistence lifestyle to a trade and barter lifestyle.

Questions to Guide Inquiry:
1. What is the importance of wheat?
2. What challenges did early wheat farmers face?

Teacher Background

Domestic wheat originated in the Fertile Crescent, a crescent-shaped strip of land on the eastern shores of the Mediterranean. The oldest archaeological evidence for wheat cultivation comes from Syria, Jordan, Turkey, Armenia, and Iraq. Around 9,000 years ago, wild Einkorn wheat was harvested and domesticated in the first archaeological signs of sedentary farming. Wild Einkorn wheat still grows in the Fertile Crescent.

Around 8,000 years ago, a mutation or hybridization occurred within Emmer wheat, resulting in a plant with seeds that were larger but could not sow themselves. While this plant could not have succeeded in the wild, it produced more food for humans. In cultivated fields this plant not outcompeted, but outlasted plants with smaller, self-sowing seeds and became the primary ancestor of modern wheat varieties.

Before Activity

Show students a variety of packaged foodstuffs that all have wheat as an ingredient. Challenge them to continue to identify other products at home.

Bread can be unleavened or leavened with yeast. When flour comes in contact with water and remains idle for a period of time, it begins to rise. In modern processes, yeast is added to aid in the rising, but even without yeast, dough will begin to ferment, and the resulting gases will cause the dough to rise. The Egyptians were the first to discover that this process would produce a light, expanded loaf. The Egyptians also invented a closed oven in which to bake the bread.

During Activity

Place students in pairs or small groups. Distribute a KWL chart (Student Handout 9.1) to each group. See http://olc.spsd.sk.ca/de/pd/instr/strats/kwl/index.html for more information about this instructional strategy. Have students fill in the left column with what they already believe they know about wheat and the growing of wheat. (The particular student demographic may dictate some variation here). Some sharing and discussion of what the small groups wrote down. Students compose at least three questions for the 'want to know' column.

Suggest that some answers for the middle column may be found in the reading, "Early Beginnings of Wheat" (Student Handout 9.2). Distribute and read aloud, pausing for clarification. (e.g. Remember we saw the word 'ancestors' before. What does it mean here?); responding to student questions; and demonstrating (e.g. Watch as I remove this husk).

Groups write down what they have learned in the right hand column. Each group takes turns sharing a significant learning with the rest of the class.

Products that may contain wheat include: crackers, soy sauce, bread, corn flakes, canned tomato soup, powdered gravy, and salad dressing.

After Activity

Have students look at the middle column of Handout 9.1. What questions still have not been answered? Attempt to answer these as a class or make suggestions as to where the answers could be found.

Have students discuss how their eating habits would be different if wheat had not been discovered.

Assessment

Teacher Checklist

- √ Could students suggest relevant questions for which they wanted answers?
- √ Were students able to determine significant information found in the reading?
- √ Could students ascertain where else they might look for answers?

Lesson Resources

This site provides narrations of settlement in the province plus images of the early days. www.saskstories.ca/english/work/settlers/index.html

This site discusses the importance of weather to farming. www.aitc.sk.ca/educational-resources/saskschools

This site provides information on instructional strategies. http://olc.spsd.sk.ca/de/pd/instr/strats/kwl/index.html

Cross Curricular Connections and Further Investigation

Visit the website, Saskatchewan Stories with your students at www.saskstories.ca/english/work/settlers/index.html and/or www.aitc.sk.ca/educational-resources/saskschools. The first provides narratives of settlement. The second discusses the challenges of Saskatchewan weather.

Invite students to keep looking for products that contain wheat.

Possible field trips include the Western Development Museum, a grain elevator, the University Crop Sciences Building (tours are available), or a wheat farm.

Excavations at more than 50 sites over the last half-century have established the Fertile Crescent of the Middle East as the homeland of the first farmers.

Science

Have students examine some wheat you bring into the classroom. Plant the wheat, then students will journal about their own experiences, varying the essential elements (soil, sun light, moisture, wind) to show students the effect Mother Nature can have on a crop. Have the students design their own experiments with the plants.

Draw and label the parts of a wheat plant and a wheat kernel.

Chew a handful of wheat kernels until you have gum.

ELA

Write a play about an early farming family.

Create a poem that captures the early story of wheat.

Name: _____

Handout 9.1

Wheat and Wheat Production

K What I think I **KNOW**	W What I **WANT** to learn	L What I have **LEARNED**

Early Beginnings of Wheat

Long ago people lived a lifestyle that focused on just staying alive. They had to work to make sure they had enough food and shelter from one day to the next. They were nomadic, which meant they moved with their food source from place to place. They harvested what Mother Nature gave them.

Wild animals provided meat to feed their families; however, the wild animals were often dangerous to hunt and kill. When a kill was made the meat would go bad quickly, so it needed to be used up right away or preserved. Other sources of nutrition were needed to keep the family fed. Berries and wild vegetables were a great addition to the meat diet, but they also had problems. They had short seasons and also spoiled if they were not used up right away. This is the time that wheat probably came into the picture.

First Nations people ground up wheat and mixed it with berries or dried meat to make pemmican.

The first ancestor of wheat was wild grass. Wild grass seeds were gathered, the outer cover removed, and eaten. Scientists have discovered evidence of two early forms of wheat that date back as far as 10,000 years ago. These grains were named Einkorn and Emmer. They were both members of the grass family, Triticeae. These early wheat varieties were harvested by rubbing the seed heads between a person's hands, which would release the berries or seeds from their husks, and make them ready to eat.

Kernels of wheat

The kernels of wheat were eaten raw or dried and ground into flour to make very simple flat breads. This early wheat made a lasting food source when other wild vegetables and berries were out of season or wild game was hard to kill. Dried wheat could be stored and moved easily.

Farming of wheat came much later, about 9,000 years ago. When people started to break up the prairie grasslands to plant, harvest, store, and trade grain, the world changed forever. This was the beginnings of civilization as we know it. Land became more important. Land ownership started disagreements which often lead to wars. A farmer could produce more wheat than his family would need to survive and the farmer would trade the extra wheat for other needs of his family. Many fights took place over who owned the land and who could farm it. The way in which land was divided was a topic of much argument.

Early farmers (just like today's modern farmers) were at the mercy of Mother Nature. The wheat they grew had to mature within the growing season as well as survive insects and disease. Sometimes there was not enough rain, but sometimes there was too much. An early frost could seriously hurt the wheat. Growing wheat was extremely hard work. All the work was done by hand so it was slow and difficult. Hand tools were invented to make the job easier but it still took long hours of back breaking work to produce small amounts of product.

Arial view of a farming community

Pioneers used basic tools to turn the native grassland and bushes into farmland.

A photo of a plow is below - the long poles were usually harnessed to a working animal like a cow, horse, or ox. The farmer walked behind the plow holding the plow onto the ground.