

Grains of the World Journal



Materials Needed:

- ◆ 14 — 4"x6" index cards per student
- ◆ clear tape (not transparent)
- ◆ string or yarn for binding
- ◆ hole punch, scissors, glue, and markers

Materials Provided:

- ◆ 7 seed varieties: barley, feed corn, popcorn, oats, rice, soybeans, and wheat
- ◆ master copy of grain cards

Intended Learning Outcomes:

1. Explain the importance of grains
2. Identify grains that helped to develop civilizations
3. Compare grains and the role of grains in a healthy diet
4. Identify plant parts and plant origins
5. Explore new environmental and industrial uses for grains

Core Content Addressed:

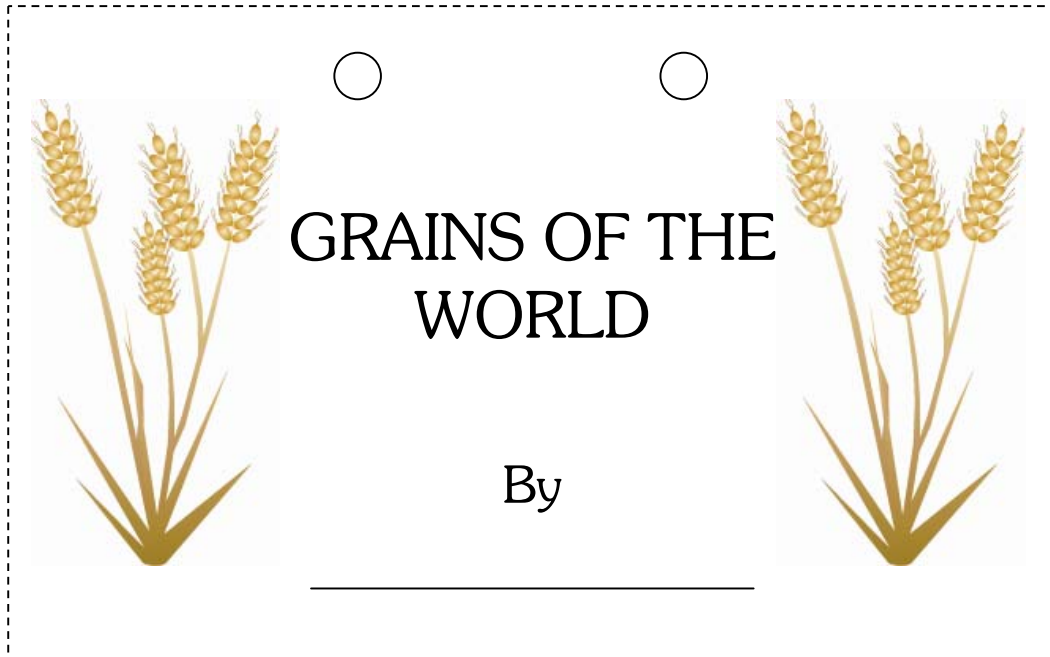
- ◆ Social Studies (U.S. and Ancient Civilizations)
- ◆ Nutrition
- ◆ Plants and Seeds
- ◆ Language Arts

Procedures:

1. Provide each student with a copy of all the seed cards. Have them cut each card out on the dotted lines. They should paste their cards onto index cards or cardstock and punch holes in the top where the circles are shown.
2. Provide each student with:
 - ◆ 5 grains of barley
 - ◆ 3 kernels of feed corn
 - ◆ 5 kernels of popcorn
 - ◆ 5 oats
 - ◆ 6 grains of rice
 - ◆ 2 soybeans
 - ◆ 10 grains of wheat

Each student should tape each kind of seed to its corresponding description card. Students may want to remove the hulls on the rice, barley, and oats before mounting their seed and writing their descriptions.

3. Ask students to describe the seed. Here are some examples:
 - ◆ Soybeans are round in shape, lightly colored, and have a brown-black eye.
 - ◆ Oats are beige in color and have a hairy-looking hull.
 - ◆ Wheat is a rusty brown color and smooth.



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- The image shows a section header and a list of facts about barley. At the top, there are two small circles. Below them, the word "Barley" is written in a large, black, serif font. Underneath the header, there is a numbered list of five items. The entire page is enclosed in a dashed rectangular border.
- Barley
- 1) Barley originated in ancient Mesopotamia and the Middle East.
 - 2) Barley was one of the first grains cultivated for food.
 - 3) Ancient Egyptians were credited with developing the barley grain into what it is today.
 - 4) Barley is one of the main crops of Canada.
 - 5) Barley is known for providing Vitamins B and E and for its beta-glucans that help lower cholesterol.



Barley

Barley is:

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Corn

- 1) Corn originated on the American Continent and was first cultivated by the ancient Indians of the Mayan, Aztec, and Incan empires over 5,000 years ago.
- 2) Native cultures developed corn into many different varieties but, after thousands of years, they changed the plant so much that corn is one of the only cereal grains that can't plant its seed into the soil without humans.
- 3) By the time Columbus had reached America, corn was being grown from Chile to Canada.

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Corn

- 4) The United States is the largest producer of corn in the world. There are over 500 different varieties of corn.
- 5) Feed corn is large and has a dent on top. It is used to feed cattle, chickens, and other animals, including fish. It can also be used for fuel, starch, oil, glue and a type of plastic.
- 6) Popcorn is small and round and has enough moisture inside to pop when heated. The Native Americans brought popcorn with them to the first Thanksgiving.

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Corn

Feed corn is:

Popcorn is:

feed corn

popcorn

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Oats

- 1) Oats originated in the Balkan region. Areas of cooler climate like those in Russia, Poland, and Romania are where the grain was developed.
- 2) Oats were popular throughout Europe because of their ability to grow in cold and poor conditions.
- 3) Oats have a unique structure that is high in beta-glucans which helps to lower cholesterol in the blood.
- 4) Oats are commonly eaten at breakfast as oatmeal, in cereals, and are used in cookies and breads.

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Oats

Oats are:

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Rice

- 1) California is the top producer of medium grain rice in the United States.
- 2) Rice originated in Asia and continues to be the main food staple there.
- 3) China continues to be the largest producer of rice in the world.
- 4) Rice is the only major cereal grain grown in water.



Rice

Rice is:



Soybeans

- 1) Soybeans originated in China and were cultivated into a food crop as early as 1600 BC.
- 2) The soybean plant—a legume—has the ability to use soil bacteria to pull nitrogen from the air and use it for growth.
- 3) More soybeans are grown in the United States than anywhere else in the world.
- 4) Soybeans were used primarily to feed livestock until the early 1900s, when scientist George Washington Carver discovered that soybeans provided valuable protein and oil.

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Soybeans

Soybeans are:

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Wheat

- 1) Wheat originated in the Middle East over 10,000 years ago.
- 2) The Egyptians discovered how to use yeast to raise the dough to make leavened bread.
- 3) The Roman Empire developed the bakery industry and created the most nutritious breads for its army.
- 4) More foods are made with wheat than any other grain.
- 5) In 1831, Cyrus McCormick invented the mechanical reaper. Now 60 million acres are harvested in the U.S.

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Wheat

Wheat is:

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