

The Grain Game

Skills: Math, Social Studies

Objective: Students will use pieces of cereal made from grains grown in Oklahoma to play a counting game.

Background

Ready-to-eat cereal is eaten by millions of people worldwide. People in Ireland eat the most— an average 17 pounds of dry cereal per person per year. Americans eat an average 10 pounds per person. Brazilians eat only one ounce per person.

Cold cereal as we know it was invented in the early 1900s by the Kellogg brothers of Battle Creek, Michigan. John Kellogg believed heavy breakfasts were bad for people and that they should eat only vegetables and grains. In those days a kind of cold cereal was made by making thin biscuits, baking them, crushing them, and then baking the crumbs again. The crumbs were so tough they had to be soaked overnight in order to be chewable the next day.

In most homes at that time, a porridge of oats or wheat was cooked all night and served warm for breakfast. Kellogg wanted a cereal that was ready to eat and could be kept in a box. His younger brother, Keith, worked with him to invent this new food. In 1894, the brothers made a mistake and left a batch of soaked wheat kernels out overnight. The next day, they discovered that when the damp wheat berries were pushed through rollers, each made a flake. They called it “Granose” and sold it as a health food.

Grains supply your body with carbohydrates, protein, iron, thiamine and niacin. The U.S. Department of Agriculture recommends six to 11 servings of grain a day per person, depending on the age of the person. Cereals are a great way to get some of the servings you need from the grain group. Bread, pasta, muffins, tortillas and hamburger buns are also made from grains. Rice, oats and barley are whole grains that can be eaten as hot breakfast cereals or added to soups and other dishes. The grain most widely grown in Oklahoma is hard winter wheat. Hard wheats are best for making breads that keep for a long time. Soft wheats are used more often in pastries. Oklahoma is the number two producer of winter wheat out of all the 42 other states that grow it. Other grains grown in Oklahoma are oats, barley, corn, sorghum and rye.

Social Studies

1. Read and discuss background.
— Show students each kind of cereal, and ask them to name the Oklahoma grains from which each cereal was made.

P.A.S.S.

GRADE 1

Math—2.4; 5.1,2
Social Studies—4.2
Health—2.4; 3.6

GRADE 2

Math—2.3; 3.1ab,2
Social Studies—3.4,5; 4.2;
5.2
Health—2.4; 3.6

Materials

bowl

breakfast cereal made from oats (Cheerios), corn (Kix or Corn Chex) or wheat (Wheat Chex, Spoon Size Shredded Wheat)*

number cube

Oklahoma Ag in the Classroom is a program of the Oklahoma Cooperative Extension Service, 4-H Youth Development, in cooperation with the Oklahoma Department of Agriculture, Food and Forestry and the Oklahoma State Department of Education.

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Food and Fun

Make whole grain muffins in class, and eat them as a morning snack. Make butter to spread on the muffins. (See “Food and Fun” on the website.)

Vocabulary

barley—a cereal grass with flowers in dense spikes; also : its seed used especially in malt beverages, in foods (as soups and cereals), or as feed for live-stock

corn—the seeds of maize, a cereal plant

grain—the edible seed or seedlike fruit of grasses that are cereals (as wheat, Indian corn, or oats)

iron—a heavy magnetic silver-white metallic element that quickly rusts in moist air, occurs in meteorites and rocks, and is widely used

niacin—an acid of the vitamin B complex that is found widely in plants and animals and is used especially against pellagra -- called also nicotinic acid

oats—a grain that is widely grown for its long loose clusters of seeds which are used for human food and for live-stock feed

rye—a hardy annual cereal grass widely grown for grain and as a cover crop; also : its seeds

sorghum—any of a genus of Old World tropical grasses that look like Indian corn

thiamine—a vitamin of the B complex that is necessary for normal metabolism and nerve function and is found in many plants and animals -- called also vitamin B1

wheat—a cereal grain that can be made into a fine white flour used mostly in breads, baked goods (as cakes and crackers), and pasta as (as macaroni or spaghetti) and that is used in animal feeds

Math

1. Four to six students can play this game at one time.
 - Fill the bowl with the breakfast cereal.
 - The object of the game is for each student to accumulate 25 cereal pieces.
 - The players take turns rolling a number cube and taking the number of cereal pieces indicated on the number cube from the bowl.
 - When a player gets close to accumulating 25 cereal pieces, he or she must decide whether or not to take the number of pieces indicated on the number cube.
 - If the player decides not to take the number indicated on the number cube, he or she must wait a turn to roll again.
 - The player will then try to roll the number needed or a number as close as possible to the winning number, 25.
 - The person who is closest to 25 is the winner and may eat the cereal pieces.

Health

1. Students name their favorite breakfast cereals.
 - Students guess which grains are in their favorite cereals.
 - Bring in cereal boxes.
 - Students find the grains in the ingredient lists.

** Use of brand names does not imply endorsement by Oklahoma Cooperative Extension Service, the Oklahoma State Department of Education or the Oklahoma Department of Agriculture, Food and Forestry.*

Extra Reading

Johnson, Sylvia, *Wheat*, Learner, 1990.