

# BUS: The Business of Agriculture (Ag)

## Summary

Students develop an appreciation for the extensive materials and career fields provided by agriculture.

## Time Frame

2 class periods of 45 minutes each

## Group Size

Large Groups

## Life Skills

Communication

## Materials

- [Seed samples of corn, rice, wheat, and soybeans](#)  
(available from Utah AITC)  
Agronomy Specialist card sets and game boards for each group of four students  
Copies of map handout  
Marketing Integrated Lessons in Business for TLC, distributed by the Utah State Office of Education (*optional*)  
"Pit" game (*optional*)

## Background for Teachers

Without the grains grown on American farms, the cereal shelves would be empty (as would other shelves). Consumers and business owners alike need farmers to produce the raw ingredients to fill the factories, trucks and stores, and to provide jobs along the way (graphic designers for packaging, engineers in processing, food scientists, etc.). In fact the person who designs the box for Tony the Tiger's Frosted Flakes® owes his or her livelihood to the fact that someone grows corn.

About one out of five or 20% of Americans rely on agriculture for employment. It's hard to imagine an empty cereal aisle at your favorite grocery store, and easy to forget that all of the cereals came from a farmer's field. Grains are simply the seeds or fruits of grasses. They belong to a group of grasses called cereals or cereal grains and include wheat, corn, rice, oats, rye, buckwheat, millet, sorghum (milo), barley, quinoa, amaranth, and triticale (a high-yield grain developed by crossing wheat for its gluten and rye for its hardness).

All grains have basically the same makeup. Each kernel, or grain, has a tiny "germ," or seed, at its core. It represents from 2 to 3 percent of the seed's weight and is the embryo from which new plants develop. The germ is surrounded by the endosperm -- a storage packet of starch (a complex carbohydrate) -- encased in protein to nourish the young plant in its early growth if the seed sprouts. Gluten is an elastic protein within the endosperm that stretches like bubble gum when wet and expands to hold the gas that yeast generates. Protecting the germ and endosperm is the bran, or hull -- a tough, fibrous, hard covering.

Grains are the primary raw material in bread. The kind of grain used largely determines the flavor, texture, and nutrition of the bread. Wheat, rye, oats, and barley were the primary grains in Europe

during the Middle Ages. The principal grains grown in the world today are wheat, corn, and rice; these three provide more than half of the world's food from plants.

This activity exposes your students to the common grains used in cereal and shows where they are grown. If students are designing cereal boxes they might want to include pictures of the complete grain plant, e.g. if the cereal contains corn, a picture of the cob or plant could be part of the box design. Additionally, making the connection between actual cereal ingredients and what that cereal may taste like will help them to find words that better describe the cereal and assist them in product marketing i.e., words on the box that will sell.

**NOTE:** The activities in this lesson are designed to be integrated into the "Marketing Integrated Lessons in Business," Option #1 "Developing a New Cold Breakfast Cereal." The first two activities in this lesson plan could be inserted into or between the Product & Price section. This lesson can be downloaded at [www.uen.org/Lessonplan/preview?LPid=228](http://www.uen.org/Lessonplan/preview?LPid=228).

### Intended Learning Outcomes

Examine and describe how agriculture and natural resources impact our quality of life.

Recognize and explain how the agricultural system works (production to consumption) and identify related corresponding careers in agricultural and forestry production, education, communication and government services, management and business, and scientific and engineering opportunities including career educational requirements and salary ranges.

### Instructional Procedures

#### **Activity Procedures: Seeds of Successful Marketing**

Divide your students into groups of four.

Distribute to each group a plastic Ziploc® bag with the cut apart Specialist Fact Cards, Agronomy Specialist Matching Cards, and Grain Facts Information Board.

Each student should take one of the Specialist Fact Cards. This will designate him or her as an "Agronomy Specialist" in the areas of corn, rice, wheat, and soybeans. (Option 1 - Each student reads the Specialist Fact Card before he or she begins matching or Option 2 - the matching begins and if the student player needs a clue to complete a match, one Specialist may read his or her card until a match can be made.)

Students should mix up or shuffle the Specialist Matching Cards and then place them upside down in a pile.

Each student takes a turn picking a Specialist Matching Card and trying to match the card to the appropriate place on the Grain Facts Information Board. If they do not know where to match the card, the "Specialist" reads the Specialist Fact Card down to the place where the student says stop, because he or she has determined a match on the Grain Facts Information Board.

The activity is finished when the Grain Facts Information Board is complete. Answers can be posted on the overhead at the end of the activity.

Using the U.S. map provided and the Specialist Fact Cards, students should place a colored dot in each of the major grain producing states. (Instructions are on the map.)

#### **Additional Activities**

The game "Pit" (commercial card game) could be used to demonstrate how agricultural commodities such as grains are traded. This game works best when played with 4-6 players and can be obtained in discount stores or online at websites including [www.amazon.com](http://www.amazon.com).

After the matching activity has been completed once, take away the Specialist Fact Cards and see which group can correctly match the items in the fastest time.

Students may want to include the Food Guide Pyramid as part of their cereal box design.

Students should include an ingredients list on the cereal box they design.

This cereal activity could be adapted to virtually any product, e.g., pickles, garden seeds, yogurt, etc.

Design a menu (using classroom software) that conveys the theme "Farm Fresh to Your Table."

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