



Corn – First Grade

Purpose

Students will gain information from the text, *Corn* written by Gail Gibbons to understand how corn is grown, and composed into a variety of products for people to eat.

Subject Area(s)

English Language Arts, Math, Science, and Social Studies

Common Core/Essential Standards

ELA

- **CCSS.ELA - Writing: W 1.5**

Write informative/explanatory texts in which they name a topic, supply facts, and provide a sense of closure.

- **CCSS.ELA Speaking and Listening: 1.5**

Presentation of Knowledge and Ideas – Add drawings or visual displays.

- **CCSS.ELA-Reading: Literature RL 1.1**

Ask and answer questions about key details in a text.

- **CCSS.ELA-Reading: Foundational Skills RF 1.3**

Phonics and Word Recognition: Know and apply grade level phonics in decoding skills.

Math

- **CCSS.MATH.CONTENT.1.MD.1**

Order three objects by length; compare the lengths of two digits indirectly by using a third object.

- **CCSS.MATH.CONTENT.1MD.2**

Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (length unit) end to end.

Agricultural Literacy Outcomes

Culture, Society, Economy & Geography

- Trace the sources of agricultural products (plant or animal) used daily.
- Identify plants and animals grown or raised locally that are used for food, clothing, shelter and landscapes.
- Explain why farming is important to communities.
- Identify the people and careers involved from production to consumption of agricultural products.

Food, Health, and Lifestyle

- Recognize that agriculture provides our most basic necessities: food, fiber (fabric or clothing), energy, and shelter.

Plants and Animals for Food, Fiber & Energy

- Identify animals involved in agricultural production and their uses (i.e., work, meat, dairy, eggs).
- Identify the types of plants and animals found on farms and compare with plants and animals found in wild landscapes.

Essential Questions

1. Why is corn such an important food source?
2. Make a list of things that are products or by-products of corn.
3. What makes a kernel of corn pop?
4. What would happen if we did not have farmers to produce food for us?
5. What are the different types of corn?
6. List several items you eat each day that contain corn.

Vocabulary

Corn: a grain that was cultivated thousands of years ago used as food for humans and animals.

Tassel: the male flower on a corn plant, they contain millions of grains of pollen.

Ear: corn kernels develop along a cob and is referred to as the ‘ear.’

Stalk: the stem of the corn plant.

Husk: the outer shell or coating of the corn seed that covers the cobs.

Kernel: corn seeds.

Hull: the skin that covers a kernel.

Student Motivator

Start off by showing the students a handful of corn kernels. Begin a discussion with students about corn. *What kinds of seeds are these? Have you ever eaten them? How do they grow? What makes popcorn pop?* (Each kernel of corn contains moisture. When a kernel is heated, the moisture expands. Pop! The hull bursts open. Now the popcorn is ready to eat).

Pop some popcorn for the students to eat while they learn all about corn!

Background Knowledge

There are two kinds of corn in the US. Field corn is by far the most common, which is grown on more than 99% of all corn acres. While only a small amount is processed for use as corn cereal, cornstarch, corn oil, and corn syrup for human consumption, it is primarily used for livestock feed, ethanol

production and other manufactured goods. It is considered a grain. Sweet corn is what people purchase fresh, frozen or canned for eating. It's consumed as a vegetable and sweet corn is picked when immature. Field corn is harvested when the kernels are dry and fully mature.

Corn is a grain that was cultivated thousands of years ago in what is now called Mexico and Central America. It was the major crop for the great Mayan civilization. The Aztecs also had a great civilization and used corn in many ways to feed themselves and their animals. The native people in what is now Canada and the United States also grew corn. When the pilgrims sailed from England to the Americas they had very little to eat. The Native American Indians taught the Pilgrims how to grow corn.

Sweet corn is the most common corn people eat. Flint corn is used in many foods we eat and is also used to feed animals. Dent corn is also used for many different kinds of foods.

Each ear of corn has many corn silks. At the end of each corn silk is an egg that is attached to the cob. Pollen moves down the corn silk. When a grain of pollen and an egg join together, the egg is fertilized, and the kernel begins to grow. There is one corn silk and one egg for each kernel.

Three to four months after the corn has been planted, the corn silks begin to turn brown. This means the kernels are ripe and the corn is ready to be harvested. The average corn plant is about 8 feet tall and about 8 inches long.

Procedures

Activity 1

1. Begin by showing students different kinds of corn. (Popcorn, raw corn, corn on the cob, corn still in the husk, and Indian corn)
2. Show students the vocabulary (included with lesson) and introduce each word.
3. Ask students *what do you know about the different types of corn shown?* Tell students to for those items as you read the book *Corn* by Gail Gibbons.
4. Read and discuss the book *Corn* by Gail Gibbons. On a chart, brainstorm or list important facts learned from reading the story about different types of corn and the many uses of corn. This may be used later for students to refer to when completing writing activities.

Activity 2

Hopping Corn, A Popping Science Experiment:

1. Brainstorm with students why popcorn pops. *Will all corn pop?* Discuss answers.
2. Refer to pages 16-17 in the book. Explain to the students what makes corn pop.
3. Complete the following experiment with the students: Following this experiment will make corn hop and pop around.

Materials needed:

- a clear glass container, popping corn,
- 2 ½ - 3 cups of water
- 2 Tbsp. of baking soda
- 6 Tbsp. of white vinegar
- food coloring (optional)

Instructions:

1. Fill your jar with water and add a couple drops of food coloring.
 2. Add baking soda and stir until it dissolves.
 3. Add a small handful of popping corn.
 4. Add vinegar and watch corn start to hop up and down. This should work for over an hour.
4. Incorporate math by having students measure out ingredients.
 5. After the experiment, students can write about the experiment in a science notebook. .
 6. Students may also use a variety of types of corn to experiment with: which one pops the longest, fastest, moves around the most, or least.

Activity 3

Corn Measurement

Materials needed:

- green bulletin board paper
 - copies of ears of corn
 - corn kernels
 - yellow yarn
 - yellow paint (optional)
1. Review the book *Corn* by Gail Gibbons. Tell students they will create a stalk of corn that represents *All About Me* to use for measuring objects in the classroom. It will be nonstandard unit for measuring.
 2. Have students use *All About Me* Cornstalk instructions to create their individual cornstalk
 3. When students finish, have each student use their stalk of corn as a nonstandard unit of measurement to find an object longer than the stalk of corn, an object shorter than the stalk of corn, and an object the same length as the stalk of corn.

Activity 4

Corn Vocabulary in a Bottle:

Materials Needed:

- plastic water/drink bottles (cleaned out)

- dried corn kernels
 - story paper
 - markers/crayons
 - variety of parts of corn if available (cob, kernels, silk, husk, stalk)
1. Introduce key *vocabulary terms* and place on the word wall or writing center.
 2. Ask students what they know about corn. Make a list/brainstorm their ideas and make a list.
 3. Read and discuss *Corn* by Gail Gibbons. Point out on each page the key *vocabulary words* that were introduced earlier. If possible, have real parts of the corn to show the students.
 4. Have students use story paper to story paper to write important facts about what they learned about corn and how it grows from the book.
 5. When students finish, have students use premade corn kernel bottles with the *vocabulary words* mixed inside the kernels. Have students find the words and write them on paper.

Extension Activity:

1. Have students create their own corn kernel bottles using words they learned from the story.
2. Have students put the words in ABC order or write sentences using the words they found in the bottles.
3. Have students watch this video about planting, harvesting and the many uses of corn.

Activity 5

Who Grows Corn?

Materials Needed:

- *Corn* by Gail Gibbons
 - markers
 - chart paper
 - writing paper
1. Review the book *Corn* by Gail Gibbons.
 2. Ask students what kinds of products come from corn. Record answers on chart paper.
 3. *Who grows the corn?*
 4. *What do farmers do with the corn after it is harvested?*
 5. After discussing these questions, have students choose his/her favorite corn product and write an opinion piece stating why he/she believes it's the best corn product to buy.

Extension Activity:

1. Growing with corn on the cob. Place an ear of Indian corn in a pan filled with ½ inch of water. Have students observe what happens! You can also try this with regular corn on the cob. Have students compare and make predictions on what will happen with each type of corn.
2. Have students pretend they are trying to sell their favorite corn product. Have the students create an ad or flyer highlighting his/her favorite product. The picture should be appealing to the

consumer so they will buy the product.

Materials

- Materials needed are listed with each activity.

Suggested Companion Resources

- A Tale of Two Corns
http://www.youtube.com/watch?v=iFVIIZ_VYEU
- Fresh for Kids
http://www.freshforkids.com.au/veg_pages/corn/corn.html
- Kids Corn(er)
http://www.freshforkids.com.au/veg_pages/corn/corn.html

Essential Files

- [*Corn PowerPoint*](#)
 - *All About Me Instructions*
 - *Vocabulary flash cards*
 - *Water bottle cards and recording sheet*
 - *Corn Measurement Instructions*

Essential Links

- Planting, harvesting and the many uses of corn
http://www.youtube.com/watch?v=iFVIIZ_VYEU

Ag Facts

- Corn is called maize by most countries, this comes from the Spanish word 'maiz'.
- Corn is a cereal crop that is part of the grass family.
- An ear or cob of corn is actually part of the flower and an individual kernel is a seed.
- On average an ear of corn has 800 kernels in 16 rows.
- Corn will always have an even number of rows on each cob.
- A bushel is a unit of measure for volumes of dry commodities such as shelled corn kernels. One bushel of corn is equal to 8 gallons.
- With the exception of Antarctica, corn is produced on every continent in the world.
- There are over 3,500 different uses for corn products.
- As well as being eaten by the cob, corn is also processed and used as a major component in many food items like cereals, peanut butter, potato chips, soups, marshmallows, ice cream, baby food, cooking oil, margarine, mayonnaise, salad dressing, and chewing gum.

- Juices and soft drinks like Coca-Cola and Pepsi contain corn sweeteners. A bushel of corn can sweeten 400 cans of soft drink.

Extension Activities

Allow students to sample different types of foods from corn. Ex. Corn flakes, corn pudding, popcorn, corn on the cob, canned corn, cream corn, etc. Create a graph and have students record their favorite 'corn' food.

Have students share what they think is inside an ear of corn. Then allow students to work in small groups to 'dissect' an ear of corn. Have them identify the kernels, husks, corn silk, and the cob. Give students a plastic knife and let them cut inside the kernels. *How does it feel? Taste? Smell?*

Have students create a corn stalk (or draw) and label the parts of the plant.

Sources & Credits

- <http://onetimethrough.com/hopping-corn-science-activity/>
- http://www.iowacorn.org/en/corn_use_education/fun_for_kids/
- http://www.iowacorn.org/documents/filelibrary/education/fun_for_kids/Growing_Corn_Experiment_90CAA2E20E8EC.pdf