

## Corn – First Grade

### Purpose

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

**Subject Areas:** English Language Arts, Math, Social Studies

### Essential Files/Links

- [Corn PowerPoint](#) includes:
  - *All About Me Cornstalk Math and Measurement Instructions*
  - *Vocabulary Flash Cards*
  - *Water bottle cards and recording sheet*

### 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:** the corn kernels and cob together.

**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.

### 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 person 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 Americans 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.

### **Student Motivator**

Start off by showing the students a handful of corn kernels. Begin a discussion with students about corn. Say, “What kind 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, and 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!

### **Procedures**

#### **Activity 1**

##### **Materials:**

- *Corn* by Gail Gibbons (book)

##### **Essential Questions:**

- Why is corn an important food source?
- What are some products/byproducts of corn?
- What are the different types of corn?

1. Begin by showing students different types of corn (Popcorn, raw corn, corn on the cob, corn still in the husk, etc.)
2. Show students the vocabulary and introduce each word.
3. Ask students, “What do you know about the different types of corn shown? Tell students to look for each type of corn when you read the book *Corn* by Gail Gibbons.
4. Read and discuss the book. On a chart, brainstorm or list important facts learned about different types of corn and the many uses of corn, including all of the different types of foods corn is found in. This can be used later for students to refer to when completing writing activities.

#### **Activity 2: Hopping Corn, A Popping Science Experiment**

##### **Materials:**

- *Corn* by Gail Gibbons (book)
- A clear glass container or jar
- Popping corn

- 2 ½ - 3 cups of water
- 2 Tablespoons of baking soda
- 6 Tablespoons of white vinegar
- Food coloring (optional)

**Essential Question:**

- What makes a kernel of corn pop?
1. Brainstorm with the students about why popcorn pops. Ask, “Will all corn pop?” Discuss answers. (*Popcorn is a specific variety of corn. You cannot take regular sweet corn from the grocery store and pop it. It won’t pop.*)
  2. Refer to pages 16-17 in *Corn* by Gail Gibbons. Show the students what makes popcorn pop, as explained in the book.
  3. Complete the following experiment with the students.
    - a. Fill the clear glass container with water and add a couple drops of food coloring.
    - b. Add baking soda and stir until it dissolves.
    - c. Add a small handful of popping corn.
    - d. Add vinegar and watch corn start to hop up and down. This should work for over an hour.
  4. Students should use their measuring and math skills while measuring out the ingredients.
  5. After the experiment, students can write about the experiment in their notebooks.
  6. Students may also use a variety of brands of corn to experiment with, and figure out which pops the longest, fastest, and least, or moves around the most.

**Activity 3: Corn Measurement**

**Standards: Math NC.1.MD.1, NC.1.MD.2**

**Materials:**

- *Corn* by Gail Gibbons (book)
- Green bulletin board paper
- Ears of corn (one per student)
- Corn kernels
- Yellow yarn
- Yellow paint (optional)

**Essential Files/Links:**

- *Corn PowerPoint*
  - *All About Me Cornstalk Math and Measurement instructions*

**Essential Questions:**

- What is a non-standard unit of measurement?
- What are the parts of a corn plant?

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 a non-standard unit for measuring.
2. Have students use *All About Me* instructions to create their individual cornstalk.
3. When students finish, have each student use their stalk of corn as a non-standard 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.
4. **Extension Activity:** 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. Ask, “How does it feel, taste and smell?” and allow them to write their answers in their notebooks.

#### **Activity 4: Corn Vocabulary in a Bottle**

**Standards:** ELA RL.1.1, RI.1.5, RI.1.1, RI.1.2, RI.1.3, RI.1.4, RI.1.7, RI.1.6, RL.1.2;

#### **Materials:**

- Plastic bottles (cleaned out)
- Dried corn kernels
- Story paper
- Markers/crayons
- Variety of parts of corn if available (cob, kernels, silk, husk, stalk)
- *Corn* by Gail Gibbons (book)

#### **Essential Files/Links:**

- *Corn PowerPoint*
  - *Vocabulary Flash Cards*
  - *Water bottle cards and recording sheet*

#### **Essential Questions:**

- What are the products and byproducts we get from corn?
  - What are some items you use each day that contain corn?
1. Introduce key vocabulary words and place on the word wall or writing center.
  2. Ask students what they know about corn. Make a list. You can also start a discussion of products and byproducts we get from corn, such as tortillas, sugar, fuel, etc. and add those to the 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 write important facts about what they learned about corn and how it grows from the book.

5. When students finish, ask them to use premade corn kernel bottles with the vocabulary words mixed inside the kernels. Have students find the words and write them on paper.
6. **Extension Activities:**
  - a. Have students create their own corn kernel bottles using words they learned from the book. Ask them to put the words into alphabetical order or write sentences using the words they found in the bottles.
  - b. Students can research videos about planting, harvesting, and the many uses of corn.

### **Activity 5: Who Grows Corn?**

**Standards:** ELA RL.1.1, RL 1.2, RI.1.1, RI.1.2, RI.1.3, RI.1.4; Social Studies 1.E.1

#### **Materials:**

- *Corn* by Gail Gibbons (book)
- Markers
- Chart paper
- Writing paper

#### **Essential Questions:**

- What would happen if we did not have farmers to produce food for us?
- What are the different types of corn?
- What are the products and byproducts we get from corn?
- What are some items you use each day that contain corn?

1. Review *Corn* by Gail Gibbons.
2. Ask students what kinds of products come from corn. Record their answers on chart paper.
3. Ask, “Who grows the corn?” (Farmers) Then ask, “What do farmers do with the corn after it is harvested?”
4. After discussing these questions, have students choose their favorite corn product and write an opinion piece stating why they believe it is the best corn product to buy.
5. **Extension Activities:**
  - a. Have students pretend they are trying to sell their favorite corn product. Ask them to create an ad or a flyer that highlights their favorite product. Their advertisements should be appealing to consumers so they will want to buy the product.
  - b. Allow students to sample different types of foods from corn. (Examples: corn flakes, corn pudding, popcorn, corn on the cob, canned corn, creamed corn, etc.) Create a graph and have students record their favorite corn food.

#### **Companion Resources**

- Corn an A-mazing Plant: Food, Fuel, and Plastic (lesson plan)

[https://www.agclassroom.org/teacher/matrix/lessonplan.cfm?lpid=141&search\\_term\\_lp=corn](https://www.agclassroom.org/teacher/matrix/lessonplan.cfm?lpid=141&search_term_lp=corn)

- Farming in a Glove (Corn Seeds) (lesson plan)  
<https://www.agclassroom.org/teacher/matrix/resources.cfm?rid=793>
- Corn and Soybean Processing and Utilization Poster  
<https://www.agclassroom.org/teacher/matrix/resources.cfm?rid=841>

## **National Agricultural Literacy Outcomes**

### **Agriculture and the Environment**

(a) Describe how farmers/ranchers use the land to grow crops and support livestock.

### **Plants and Animals for Food, Fiber & Energy**

- (a) Explain how farmers/ranchers work with the lifecycle of plants and animals (planting/breeding) to harvest a crop
- (c) Identify examples of feed/food products eaten by animals/people

### **Food, Health, and Lifestyle**

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

### **Culture, Society, Economy & Geography**

- (d) Identify plants and animals grown or raised locally that are used for food, clothing, shelter, and landscapes
- (f) Trace the sources of agricultural products (plant or animal) used daily

## **NC Standard Course of Study**

### **English Language Arts**

**RL.1.1** Ask and answer questions about key details in a text.

**RL.1.2** Retell stories, including key details, and demonstrate understanding of their central message or lesson.

**RI.1.1** Ask and answer questions about key details in a text.

**RI.1.2** Identify the main topic and retell key details of a text.

**RI.1.3** Describe the connection between two individuals, events, ideas, or pieces of information in a text.

**RI.1.4** Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.

**RI.1.5** Know and use various text features to locate key facts or information in a text.

**RI.1.6** Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.

**RI.1.7** Use the illustrations and details in a text to describe its key ideas.

### **Math**

**NC.1.MD.1** Order three objects by length; compare the lengths of two objects indirectly by using a third object.

**NC.1.MD.2** Measure lengths with non-standard units.

**Social Studies**

**1.E.1** Understand basic economic concepts.

**Sources & Credits**

- <http://onetimethrough.com/hopping-corn-science-activity/>
- [http://www.iowacorn.org/en/corn\\_use\\_education/fun\\_for\\_kids/](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](http://www.iowacorn.org/documents/filelibrary/education/fun_for_kids/Growing_Corn_Experiment_90CAA2E20E8EC.pdf)