

A Kernel's Adventure (At Home)

1st Grade

Introduction

Students will explore how important corn is in our daily lives by discovering that corn is grown in Kansas, the many products made from corn, and what corn plants look like. They will also find out where the seed of a corn plant is found and test their knowledge on how corn is grown.

Learning Objectives

- Students will find the answer to the question of why do we need farmers to grow corn.
- Students will provide evidence that many everyday products are made from corn.
- Students will figure out where a seed is found on a corn plant.

Materials

- We Grow Corn! Book (available at wegrowcorn.com)
- Common Items Containing Corn Sheet
- Parts of a Corn Plant Worksheet
- Parts of an Ear of Corn Worksheet
- How Does it Grow Worksheet

Directions

1. Read or listen to the We Grow Corn! book found online at wegrowcorn.com.
2. Watch the Kernel of Knowledge videos that tie directly to the We Grow Corn! book. They will provide great opportunities for discussing what happens on farms. The videos can be found at wegrowcorn.com by scrolling to the bottom of the page.

*Teacher Note: The Kernel of Knowledge videos can be found on EdPuzzle with questions already developed.

3. Why is corn important to me?
 - Introduce the topic to find out students' prior knowledge with such questions:
 - Who knows what corn is?
 - How would you describe corn?
 - Where do we find corn?
 - How do you know its corn?
 - Why do farmers grow corn?
 - Discuss that corn grows in Kansas and it is all around them.
 - Do you know what products corn is used to make?
 - Ask them how they could find the evidence that corn is in a product.

- Go on a corn scavenger hunt in your home. Refer to page Common Items Containing Corn for ideas. How many items do you have in your home?
- Use the following prompts to help guide your students:
 - Can you find the word 'corn' on the list of ingredients?
 - Are you surprised that so many of our everyday products use corn?
 - What do you think about so many products containing corn?
 - Why is it important that our farmers grow corn?
 - What do you think would happen if farmers could not grow corn?

4. Where is the corn seed?

- Ask: How does a new corn plant grow?
 - Using the Parts of a Corn Plant and Parts of an Ear of Corn worksheets learn the anatomy of a corn plant.
 - For a video showing the parts of a corn plant visit kansascornstem.com
 - Guide them to think about seeds and the role that seeds play in growing corn plants.
 - Ask them where to find the seeds on the corn plant.
 - Students will guess various parts of the corn plant they believe may be seeds (the leaves, the roots, the tassels, the kernels, etc.).
- Watch a Kansas Corn Stem video and take a quiz over the parts of a corn plant. The video can be found at <https://www.youtube.com/watch?v=00PxnxfYpTo>
- Now that you have identified where the seed is on a corn plant, think about what we learned from the We Grow Corn! book and how corn grows. Test your knowledge by completing the How Does Corn Grow? Worksheet.

Common Items Containing Corn

Toothpaste: Sorbitol is an ingredient in toothpaste derived from corn. It helps create toothpaste's flavoring and texture.

Yogurt: Uses high-fructose corn syrup as a sweetener; the cows that make the milk also eat corn in their daily meals.

Gum: Uses high fructose corn syrup and maltitol as sweeteners and sorbitol for flavoring.

Cosmetics: Blush and eye shadow often contain zeaxanthin, which is another name for corn.

Shampoo: Citric acid is a common ingredient in shampoos and conditioners and is derived from corn.

Diapers: Corn starch is used to soak up moisture in diapers.

Envelopes: Corn is used to make nitrocellulose glue, which holds envelopes closed so they can be mailed.

Corn Bread: The main ingredient is corn meal, which gives corn bread its gritty texture compared to other types of bread.

Handsoap: For many different purposes, at least 25% of the ingredients in some hand soaps contain or were derived from corn.

Windex: This glass cleaner contains at least 5 different ingredients derived from corn.

Jellybeans and Licorice: These candies not only include corn syrup of some form to give them their texture but also, powdered corn starch is used to coat their molds and allows manufacturers to more easily pop them out after they're finished being molded.

Corn Flakes: If you are someone who enjoys a hearty bowl of flakes for breakfast, you're eating the corn grit that has been steamed and flaked.

Paper, Recycled Paper and Cardboard: Industrial corn starch is used during the paper-making process.

Crayons and Chalk: Utilize industrial corn starch to get them out of their molds and corn products also help the paper labels adhere to the crayons.

Running Shoes- Currently, most shoes are made with oil-based plastics, but Reebok has announced that it will begin to make the sole of their new sustainable shoe with petroleum-free, non-toxic, industrial-grown corn.

Spark Plugs: Spark plugs in your car are made from metal and ceramics. When the crystalline structures of cornstarch are heated to very high temperatures, they harden and it becomes a type of ceramic. The ceramic is able to withstand high temperatures and also withstands the corrosive properties of some specific acids.

Rubber Tires: Instead of using oil-based rubber, Goodyear and their research partner Genencor are using cornstarch to chemically bind the ingredients of its new kind of tire.

Fireworks: Some of the compounds in fireworks require a “binder” in order to burn properly. A common binder is dextrin, a light carbohydrate most commonly made from corn.

Popcorn: Popcorn is its own type of corn. There are three common types of corn; sweet corn, popcorn and field corn. The two we eat in their natural form are sweet corn and popcorn.

Pet Food: Pet food is regulated to the same level of safety as human food. Corn is used in pet food to create a balanced diet for all kinds of pets including dogs, cats and even fish.

Batteries: Corn starch is often used as an electrical conductor in batteries.

Deodorant: Uses corn starch because of its absorbent nature.

Hand Sanitizer: Contains ethanol which typically is made by fermenting corn.

Carpet and Other Textile Products: Corn-based textile products are often preferred to the petroleum based products because they are more environmentally friendly.

Plastic Products: While it’s not a widespread use like the other products, bioplastic is being used in many different products such as bags, containers and cups. Corn-based plastics are biodegradable and use up to 68% less fossil fuels during production than traditional plastics and are estimated to emit 55% less greenhouse gases.

Parts of a Corn Plant

Label the parts of the corn plant. ✂️ 🧴

Stalk

Silk

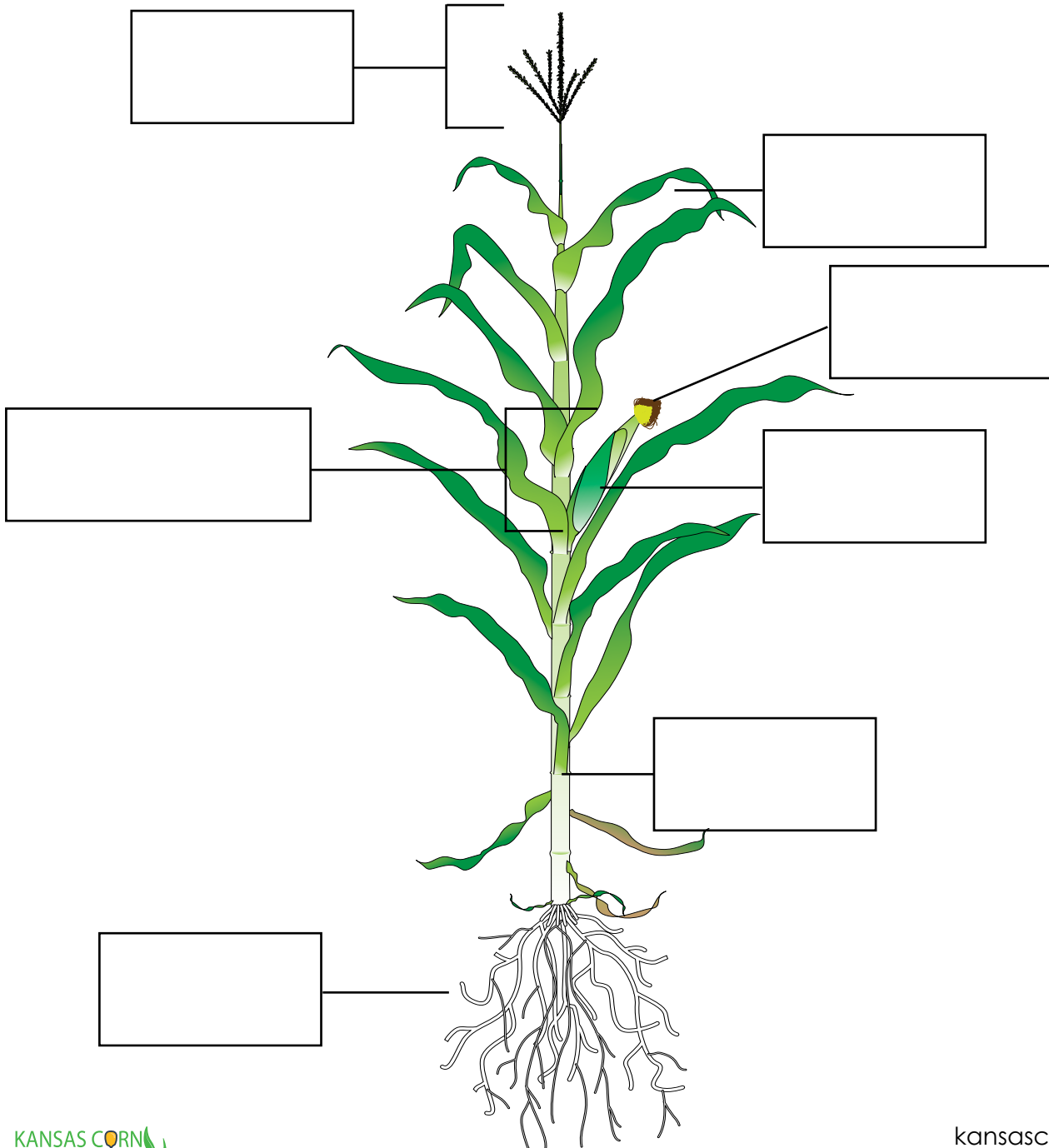
Ear of Corn

Roots

Tassel

Husk

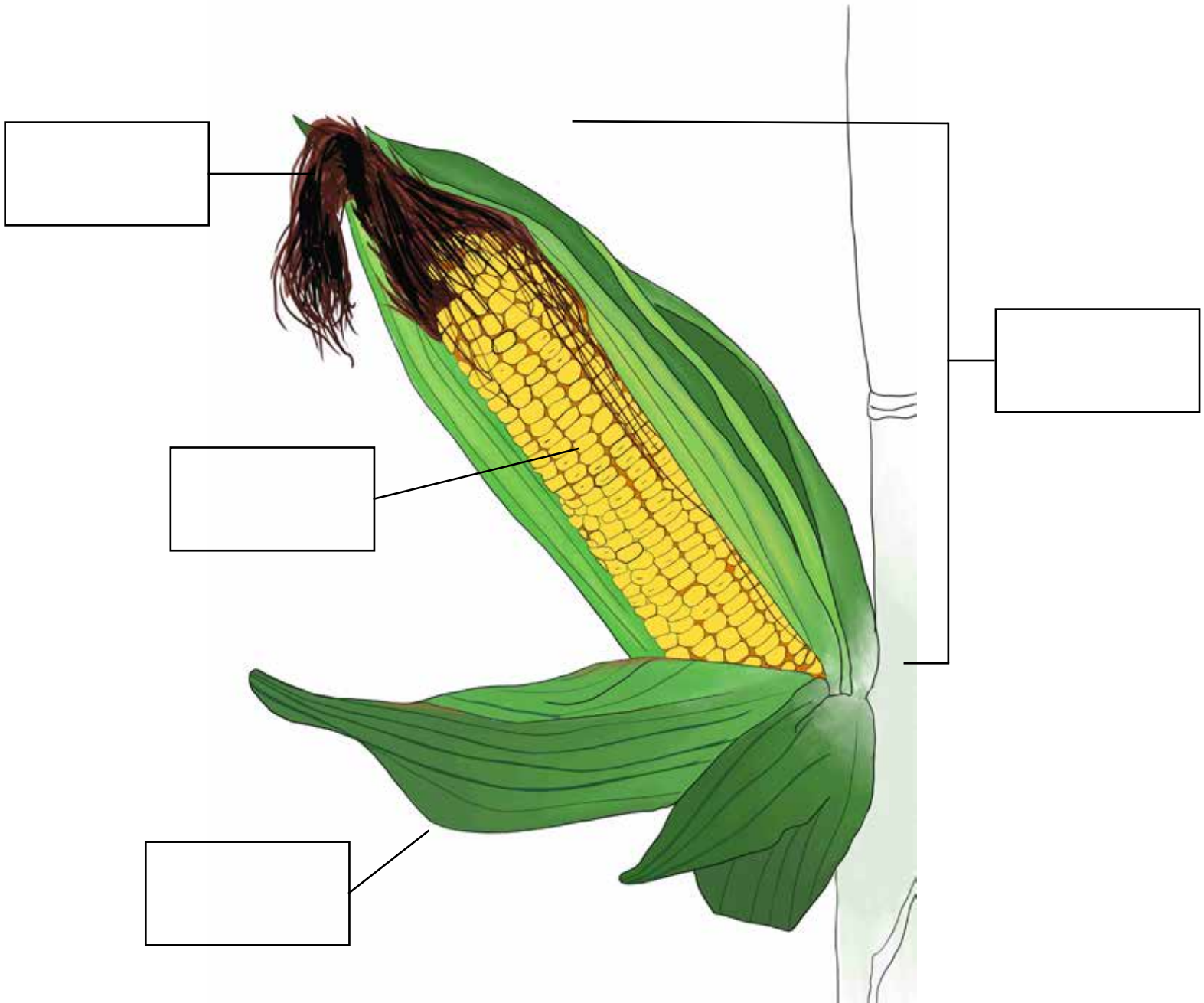
Leaf



Parts of an Ear of Corn

Label the parts of the corn cob. ✂️ 🧴

Husk Ear of Corn Kernel Silk



Parts of a Corn Plant

ANSWER KEY

Label the parts of the corn plant. ✂️ 🧴

Stalk

Silk

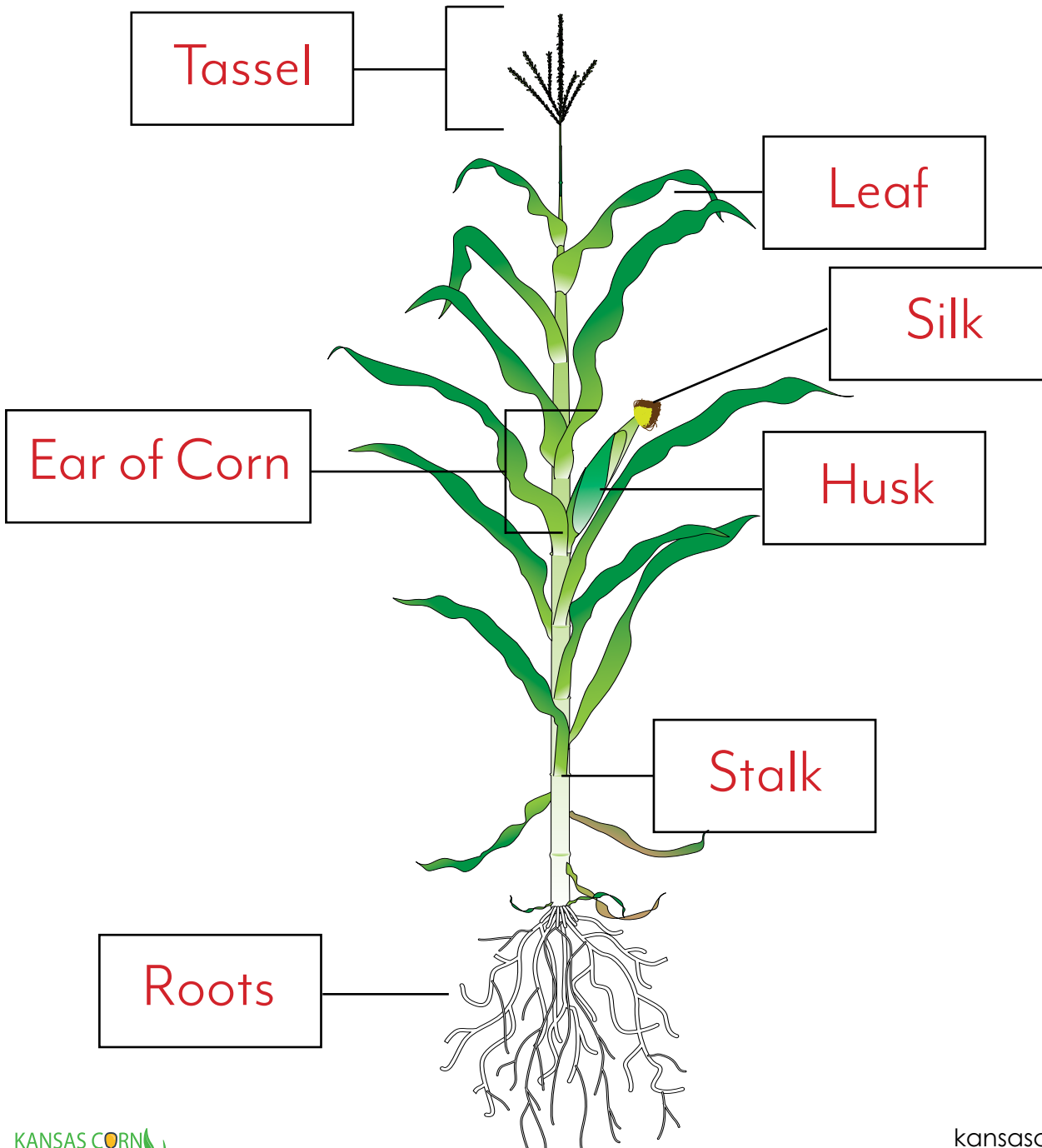
Ear of Corn

Roots

Tassel

Husk

Leaf

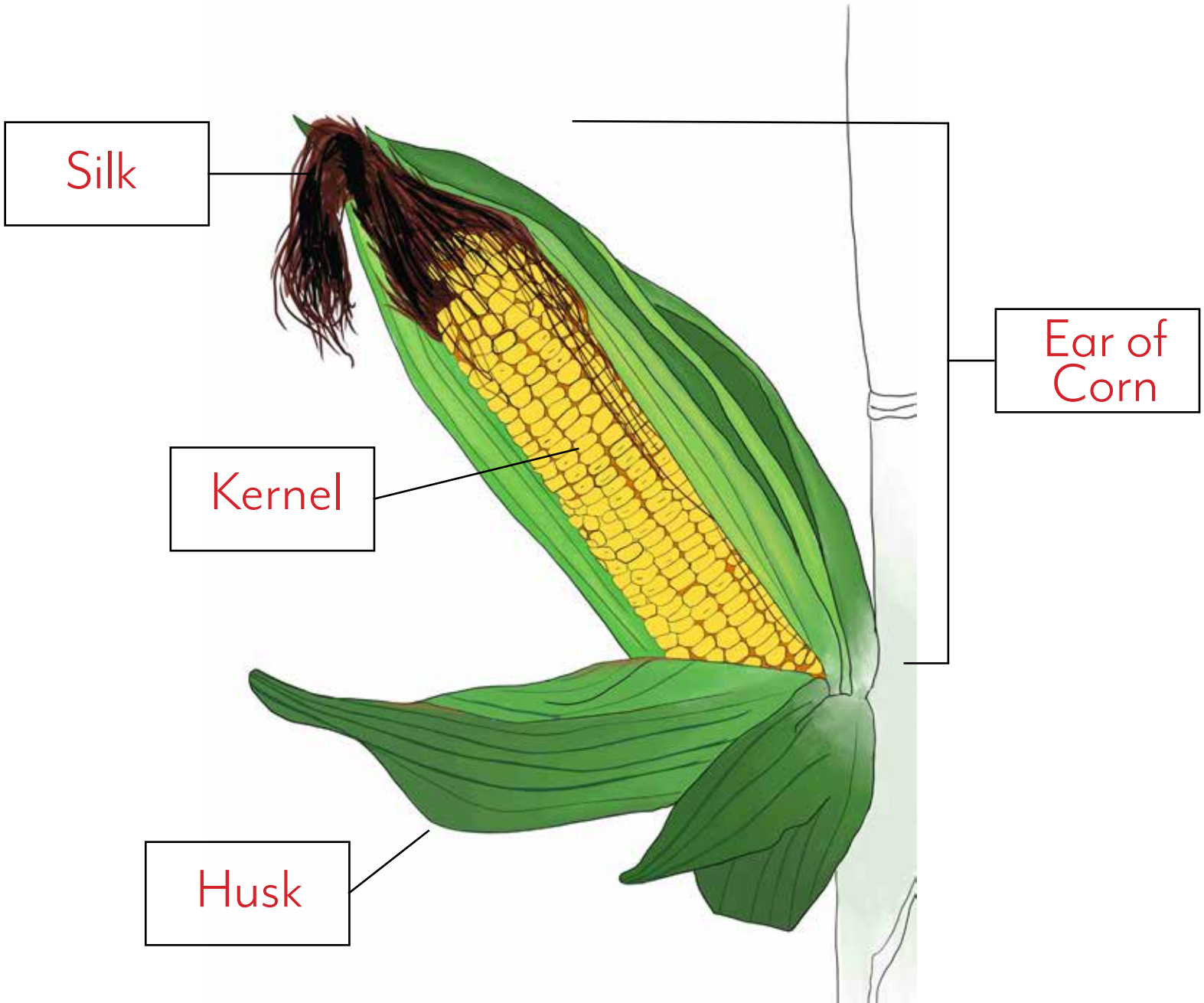


Parts of an Ear of Corn

ANSWER KEY

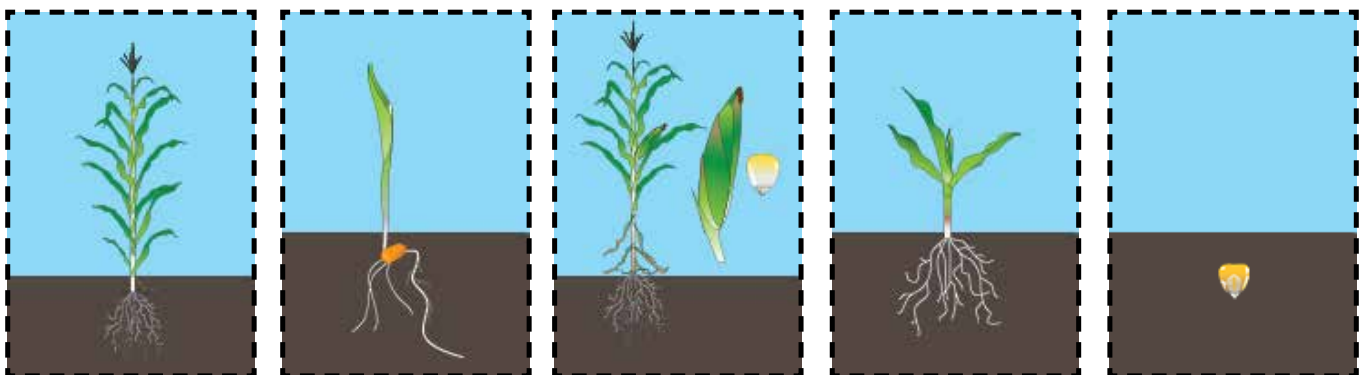
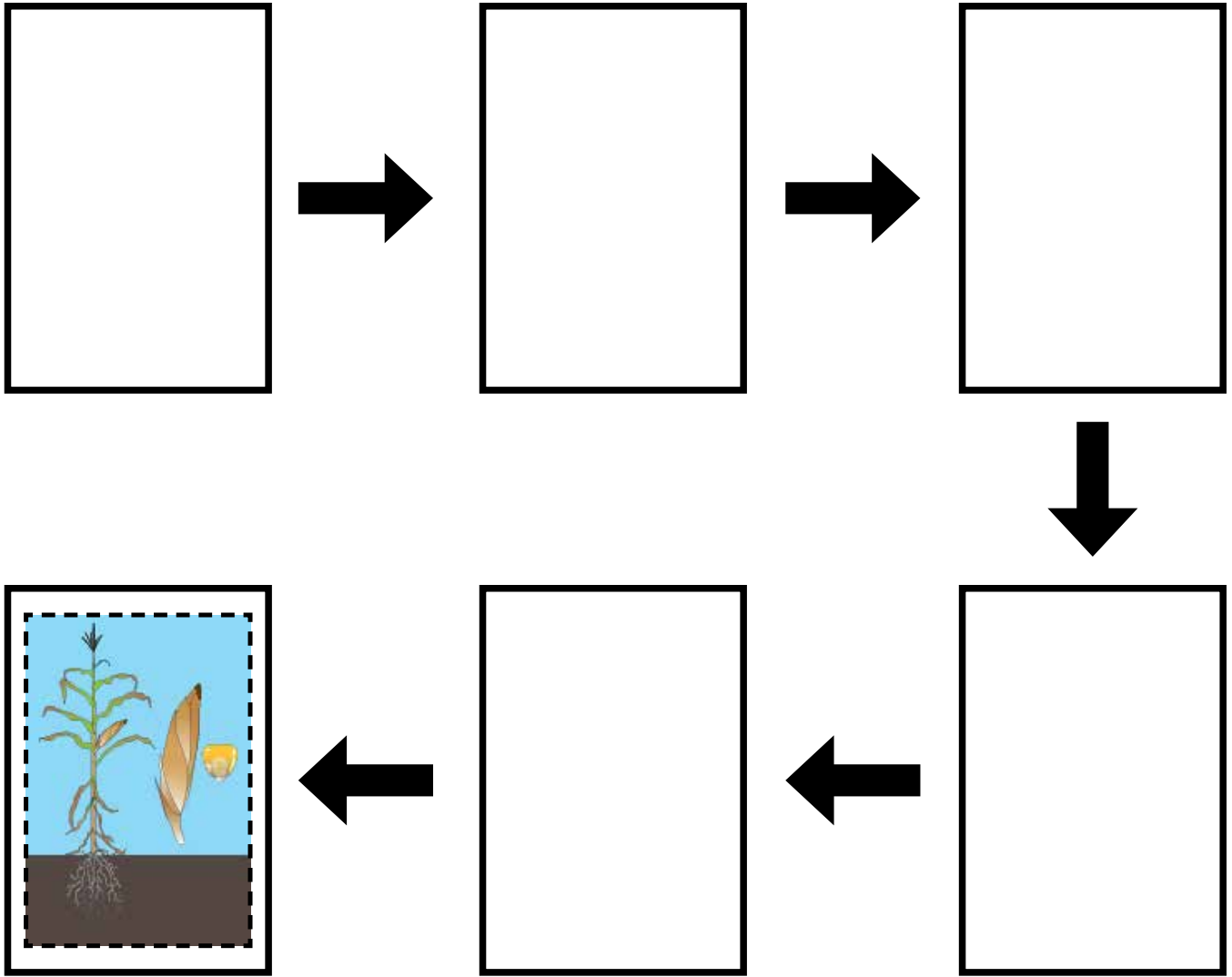
Label the parts of the corn cob. ✂️ 🧴

Husk Ear of Corn Kernel Silk



How Does Corn Grow?

Cut out the pieces at the bottom and paste them in order of how the corn plant grows.



Answer Key

How Does Corn Grow?

Cut out the pieces at the bottom and paste them in order of how the corn plant grows.

