

Popping corn - learning materials

Corn is a grass, native to the Americas. Evidence in central Mexico suggests corn was used there about 7000 years ago. Various Native American tribes shared their knowledge of corn, also known as maize, with early European settlers saving many from starvation. Early American colonists ground dried corn as meal for flour to use in porridge, cake and bread. Sweet corn, served as “corn on the cob,” was not developed until the 1700s.

Along with wheat and rice, corn is one of the world’s major grain crops and the largest grain crop grown. About 9% of all the corn is used to produce food for humans: corn meal, cooking oils, margarine, corn syrups and sweeteners (fructose). About 64% of all corn is used as feed for livestock. Corncobs have also been used in the manufacturing of nylon fibers and as a source for producing degradable plastics. Ethanol, made from corn, is a renewable fuel used in today’s cars.

Types of corn

Popcorn: type of corn that has a very hard outer shell. This shell helps the popcorn kernel retain moisture. When the kernel is heated, the moisture not only cooks the starchy inside, but turns to steam and causes the kernel to “pop” open.

Field Corn: type of corn most commonly grown for animal feed and ethanol production. It can also be used in human food once it is processed. The starch and oil from a field corn kernel can be used in many different non-food products. 99% of the corn grown in the U.S. is field corn.

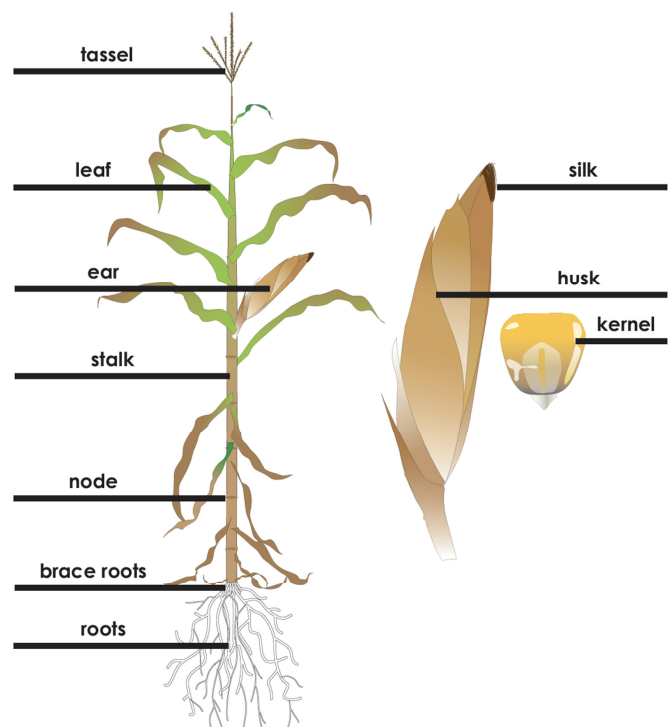
Sweet Corn: type of corn that is harvested when the kernels are still moist and the stalks and leaves are green. Sweet corn is eaten on or off the cob.

Parts of a corn plant

Kernel: seed of the corn plant. Corn seeds have a hard outer shell and a starchy inside.

Cob: the part of the corn plant that holds the kernels together. One cob may have 800 kernels attached to it.

Ear: is considered the “fruit” of the corn plant. The ear forms within many layers of leaves known as husks. Pollen from the tops, or tassels, of the corn plants fall onto the corn silks. Once the pollen travels down the silk, a kernel is formed. One corn plant usually only grows one or two ears of corn kernels.



Questions:

1. What does popcorn look like compared to sweet corn?

Kernels are generally darker in color and have a rounder shape than other types of corn.

2. What does it look like before it pops?

The composition of the kernel distinguishes popcorn from the other varieties. Corn in general is made of starch, protein, fat and water. Water is stored in a small circle of soft starch in each kernel.

3. What makes it pop?

As the popcorn kernel is heated, the water heats, builds up pressure and takes up any available room until the outer surface gives way and the water explodes into the fluffy white snack we all love.

Making popcorn!

1. In a bowl, mix together the unpopped popcorn (approximately 25g per person) and a teaspoon of vegetable oil. Pour the coated corn into a microwaveable dish and sprinkle in the salt
2. Put the popcorn in the microwave dish and cover with a lid or plate
3. Cook in the microwave at full power for 90 - 120 seconds or until you hear pauses of about 2 seconds between pops. Carefully lift the lid to avoid steam, and pour into a serving bowl

Do not leave the popcorn unattended

4. A few kernels will remain unpopped. Longer cooking may pop the rest, but will burn some of the already-popped kernels, so it is not recommended.

Finding corn in your home

When you go home, become a corn detective. Just how many items can you identify that contain corn or a corn co-product? Corn is used in many food and non-food products that are a part of our daily lives.

Pointers

- Did you know the main ingredient in most dry pet food is corn?
- That little kernel of corn can be used in so many ways. Over 4,000 everyday products are made using the fiber, protein, oil and starch from the corn kernel.
- Fructose, from cornstarch, is a sweetener similar to refined table sugar. Since high fructose corn syrup and sugar are so similar, the human body uses them the same way.
- Corn-produced dextrin is used to make the adhesives found in book bindings!
- Corn kernels are used to make fiber, protein, oil and starch, which means corn can be found in many foods including desserts. See if you can find 15 items in your home that contain corn and list them!