

EXCLUSIVE: TEENS INVESTIGATE HOT CAREERS IN CORN!

the mystery of **CORN**

**Mystery #1
COULD IT
BE CORN?**

COULD IT BE CORN?

Your alarm goes off. After hitting the snooze button again and again, you stumble from your bed to the bathroom to brush your teeth and wash your face. Today's menu is an omelet, toast, and a glass of juice. On the way out, you grab your schoolbooks, binder, and the glue stick you need for a group project. You hop into the car and are driven to school completely unaware of the many items you used in your morning routine that contained some degree of corn. You may be shocked to read this, but the shock will only grow as you continue to learn what products are made from corn.

**Whoa! Corn
in Fireworks
and Diapers?!**
Page 2

**Corn-Powered
Cars Are
Cool!**
Page 3



ESSENTIAL CORN

in over 3,000 products!

**FOOD | ETHANOL FUEL | LIVESTOCK FEED
COSMETICS | BUILDING SUPPLIES | EXPLOSIVES
BIOPLASTICS | SOAP | TOOTHPASTE | SALAD OIL
CANDY | SWEETENERS | GLUE | DIAPERS
BATTERIES | FIREWORKS | AND MUCH MORE!**

Find out what else could be made with corn!



Corn Comprehensions

- Follow the QR code above to the Corn Uses poster. What uses of corn surprised you the most? Why?
- How many corn-based products can you find on the front page of this reader?

Read on to learn...

- What is a bioplastic?
- What is the corn product used as fuel for cars?

PRODUCTS FROM KERNEL PARTS

STARCH

Corn Syrup
Syrups, candies
Shoe polish
Corn Sugar
Infant formula
Caramel coloring

Edible starch
Corn starch
Jellies, candies

Dextrin
Food sauces
Glue, fireworks

Industrial starch
Laundry starch
Paper, cosmetics

ENDOSPERM

Gluten
Cattle feed
Corn meal cereals

HULL & FIBER

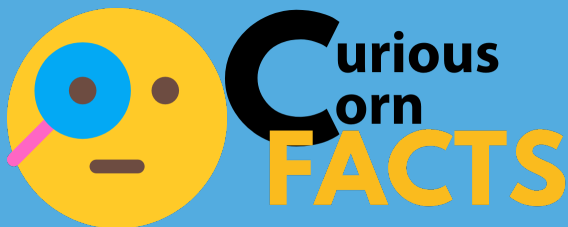
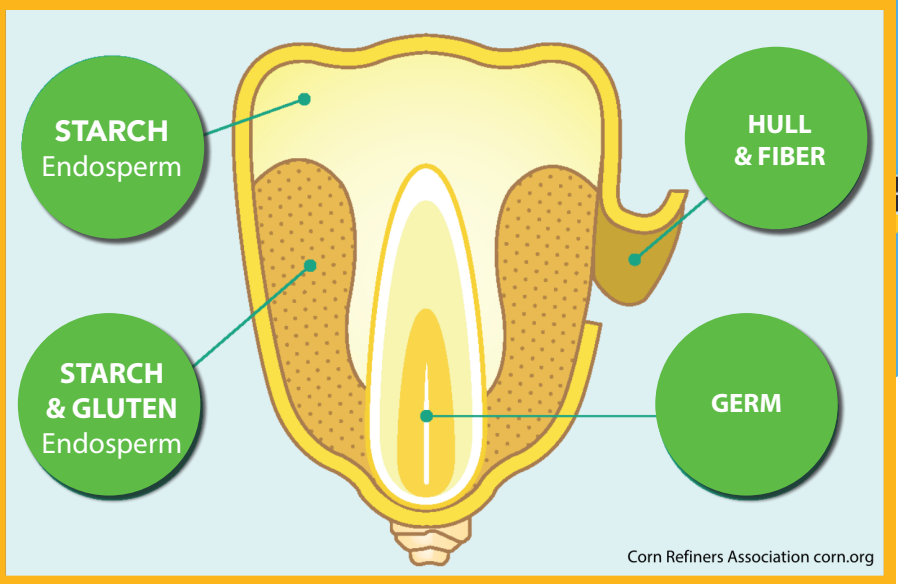
Bran
Cattle feed

GERM

Crude corn oil
Soap, glycerin

Plastic resin
Bio-plastics
Erasers

Refined corn oil
Salad oils
Cooking oils



There are many types of corn. The kind of corn you eat off the cob is sweet corn, which is 1 percent of the U.S. corn crop. Most corn-based products are made from **dent corn**. Take a look at the dinner plate!



WATCH FOR THESE VOCAB WORDS! **Dent Corn | Bioplastics | Crop**

BREAKING NEWS

Fuel is made from CORN

Ethanol is an alternative to fossil fuels that is typically made from corn. Many of our country's ethanol plants are in the Midwest because most corn production takes place here. Ethanol production uses only the starch portion of the corn, which is about 70% of the kernel. All the remaining nutrients: protein, fat, minerals, and vitamins, are concentrated into distillers dried grains, which is used as feed for livestock. Some ethanol plants also remove the oil from the corn to be used in other products or to create renewable diesel. About 35% of the United States' corn **crop** is used to produce ethanol.

Careers in Ethanol Are Discovered!

Working in the ethanol industry can provide many career options from management of a plant to working in the lab—there's a role for anyone!

Ethanol Careers

- | | |
|--------------------|----------------------------|
| Grain Operator | Plant Manager |
| Process Technician | Shipping & Receiving Clerk |
| Plant Technician | Grain Merchandiser |
| Production Manager | Lab Technician |

See if you can spot some careers in this ethanol plant tour video



Go on a journey to learn more about ethanol!





LAB TIME!

Corn Science Investigation

What do the cup, fork, and calculator in the picture have in common? You guessed it, corn! Corn is a **renewable resource** that is used to make many renewable products. **Corn plastic** is a **bioplastic**. Because bioplastic is made with a corn starch base, it is a renewable product. Renewable resources can be replenished very easily and quickly, unlike a nonrenewable resource. Once a **nonrenewable** resource has been depleted, you cannot make more. Bioplastics are also biodegradable, or able to break down over time. Petroleum-based plastics are not biodegradable and are sources of pollution.



MATERIALS

- Corn starch
- Corn oil
- Food coloring (optional)
- Microwave safe bowl
- Pipette
- Spoon
- Fun-shaped cookie cutters

Make Your Own Corn Plastic!

PROCEDURE

- Place two tablespoons of cornstarch into a microwave safe bowl.
- Add three tablespoons of water to the cornstarch.
- Use the pipette to add six drops of oil to the cornstarch and water.
- Stir the ingredients together until the mixture is smooth, no lumps.
- Place the bowl in microwave and heat the mixture on high for 45 seconds.
- Let the bowl sit and cool for a few minutes.
- Turn the bowl upside down and tap on its base to release the layer of newly formed corn plastic from the bottom.
- Give the plastic a few minutes to cool.
- Cut fun shapes out of the plastic with your cookie cutters!
- When you are done with the plastic, add it to a compost pile or your school garden. The plastic will biodegrade over time.

The Mystery of Corn reader series is provided by:

