# EXCLUSIVE: TEENS INVESTIGATE HOT CAREERS IN CORN! the mystery of

# Mystery #1 COULD IT BE CORN?

CORN

SECRETS EVEALED

# **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

KANSAS CORN STEMY Mystery of Corn Middle School Reader | Mystery #1

# ESSENTIAL 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!

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### 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?

#### STARCH ENDOSPERM Corn Syrup HULL **STARCH** & FIBER Corn Sugar **HULL & FIBER** Edible starch C **STARCH Plastic resin** Dextrin GERM **& GLUTEN** Endosperm Δ ndustrial starch Refined corn oil 0 Corn Refiners Association corn.org urious

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!



# **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!**

**Ethanol Careers** 

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!



WATCH FOR THESE VOCAB WORDS! Dent Corn | Bioplastics | Crop | Ethanol | Nonrenewable | Renewable Resources | Corn Plastic

Grain Operator Process Technician Plant Technician Production Manager

**Plant Manager** Shipping & Receiving Clerk Grain Merchandiser Lab Technician



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# **AB TIME!**



## MATERIALS

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

# **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.

# 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:

