



TALE OF TWO CORNS: USES

Instructions: Circle the products you think have corn in them. Then, count how many you got right!



IL CORN
WWW.ILCORN.ORG

Name: _____

Class: _____

- toothpaste
- rubber tires
- medicines
- vitamins
- plastic toys
- paint
- wallpaper
- cookies
- cakes
- pies
- peanut butter
- diapers
- makeup
- soap
- pudding
- soup
- baby food
- powdered sugar
- batteries
- glue
- crayons
- pop
- cereal
- salad dressings
- ice cream
- crackers
- yogurt
- mustard
- ketchup
- pickle relish
- chewing gum
- gasoline
- bandage
- jelly
- chips
- pretzels
- corn on the cob
- canned vegetables

Guess: _____

Total: _____

Total-guess: _____

Correct: _____





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Instructions & Lesson

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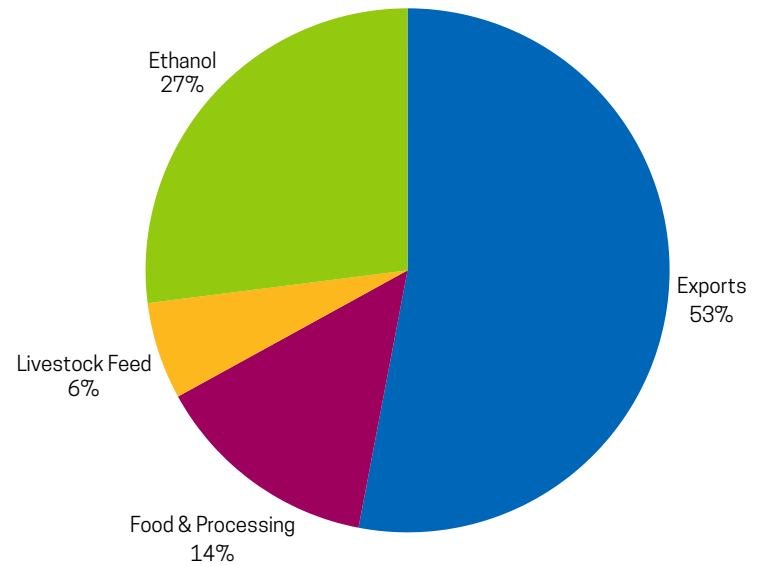
Lesson:

- The makeup of each kind of corn is different. Since sweet corn is harvested when it is immature and still in the milk stage, when the kernel is squishy, it is used primarily for human consumption.
- When sweet corn is harvested, it is picked from the field and then sold by the grower at local markets or sent to packers where it is processed.
- Field corn, on the other hand, has many different uses. After it is harvested, it is usually stored at a local grain elevator or on a farm's bin site, which holds the corn and dries it.
- From storage at either the elevator or a bin site, corn is taken to many different places depending on what it is going to be used for.
- Some corn is taken to feed mills and other locations where livestock feed can be made.
- Also, a lot of the corn goes to ethanol plants so that it can be made into fuel for people to use.
- Some corn is also sent to barges on local rivers where it travels down rivers and may eventually end up on its way to other countries.
- The rest of the corn is sent to various processing plants where it can be made into all kinds of products and many of which you would never think of. For example, corn can make crayons, chips, vitamins, paint, plastic, and it also can be made into high fructose corn syrup, which is in MANY foods.
- **Answer key: Every product can – and usually does – contain corn!**

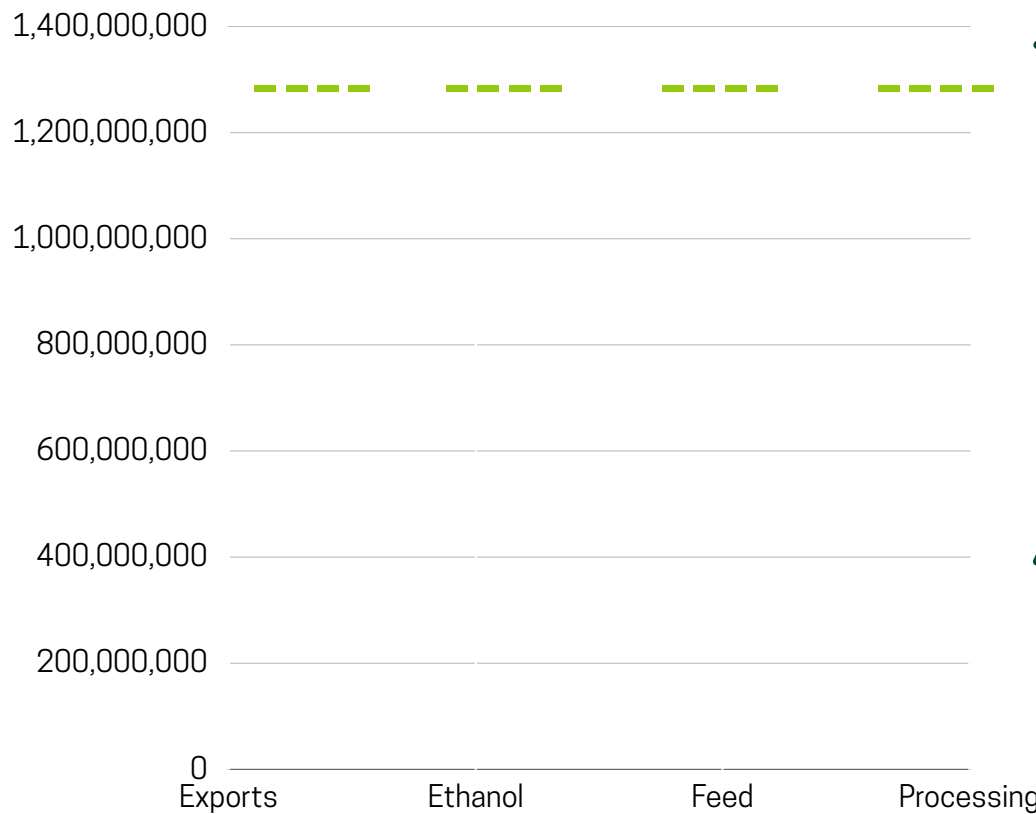


WHERE IL CORN GOES (MATH)

Instructions: Use the percentages from the pie chart to calculate how many bushels of corn are in each category. Then, draw the column on the bar chart below.



TOTAL: 235 BILLION BUSHELLS



Write in the number of bushels you calculated for each category here.

Then, draw the corresponding bar on the graph.

Workspace:

WHERE IL CORN GOES (MATH)

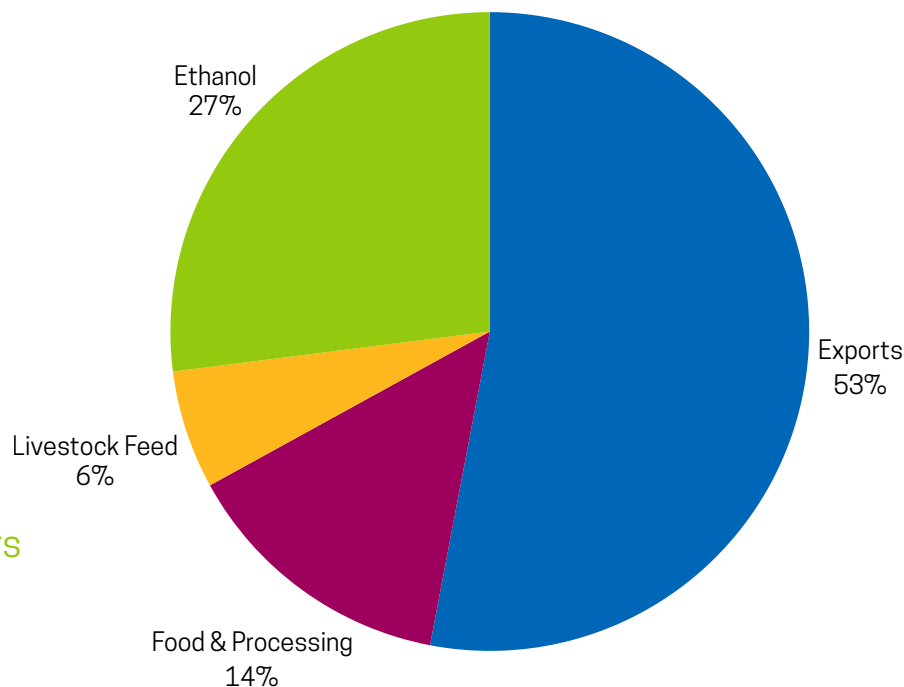
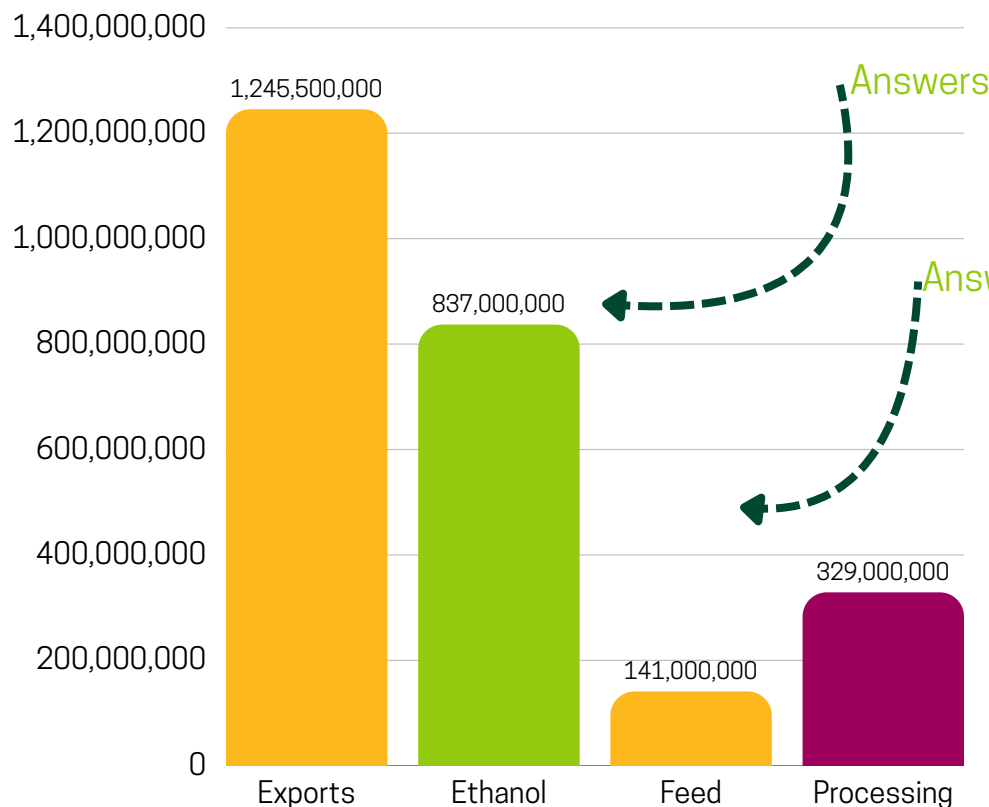
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Total: 235 Billion Bushels





TALE OF TWO CORNS: USES



Instructions & Lesson

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Lesson:

- Now that students have background knowledge on all of the different uses of corn, have small groups pick a use (it could be one of the big 4 categories, or a specific product they're interested in) and do independent research.
 - See below for an example of one-pagers on a corn product, or have students sketch out a model by hand.
 - Students can do a short presentation on their product to the class.
 - The next page guides students through the research process.

CORN TO PLASTIC

Polylactic Acid (PLA)

Grow & Harvest:
Field corn is grown and harvested across Illinois

1

Extract the Starch:
Corn is milled to separate starch from fiber.

2

Turn into Sugar:
Enzymes break down starch into a simple sugar called dextrose.

3

Fermentation:
Microbes ferment sugar into lactic acid, forming solid PLA pellets.

4

5

ALL SET!
pellets are molded into...

- 3D printing
- cups
- fillament
- grocery bags
- cutlery
- & More!



CORN TO BANDAGE

how corn creates surgical bandages

1. Harvest & Mill
Corn is milled to extract pure starch.

2. Polymer Blending
Extracted starch is mixed with water-soluble polymers to form a flexible film.

3. Chemical Cross-Linking
Binding agents cross-link the molecules into a strong, absorbent web.

4. Hydrogel Casting
The mixture is poured onto sheets and dried into hydrogel membranes.

5. Sterilization & Packaging
Membranes are cut to size, packaged, and sterilized for hospital use.





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Name: _____

Group Members: _____

Use of corn: _____

Give a brief description of why corn is used in this product: _____

Now, research your product and break it's production down into 4-5 easy steps.
Try to focus on the steps of the process where corn is incorporated.

- 1.
- 2.
- 3.
- 4.
- 5.

On the next page, sketch a rough draft of this process.

1.

2.

3.

4.

5.

Once your teacher approves of your steps & sketch, move on to your final draft.