Agriculture Cycle

Most agriculture cycles have 6 steps:

1. Producing   **2.** Processing   **3.** Distributing

4. Marketing   **5.** Consuming   **6.** Disposing

Matching and Naming

For each photo below, write the number and name of its step in the agriculture system.
Hint: the images are not in order.

Photos Courtesy University of Minnesota Agricultural Experiment Station

Word Find

For each word below, write the number of its step in the agriculture system, then find it in the puzzle.

( ) Commercial

( ) Recycle

( ) Plant

( ) Ship

( ) Package

( ) Drink

( ) Wash

( ) Transport

( ) Compost

( ) Cook

( ) Advertisement

( ) Harvest

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F I U C E J J Q D D E B H
T N E M E S I T R E V D A
R L L P T N A L P Q T D R
O A A T A D C E I L Z E V
P K E I H C G E H E L B E
S D O I C J K O S C M H S
N Y T O B R I A Y L S F T
A U X T C L E C G A Y J Y
R O B W D C E M W E K Q T
T S Z R Y R C O M P O S T
D Z I X Z R Q N Z O N R U
Y N Q X Y I F B X I C Q S
K J B J C U F D N U U P M
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Milk Math

A dairy nutritionist is an animal health professional who specializes in the nutritional needs of dairy cows. Nutritionists recommend the best diets for cows and monitor how cows respond to their feeding program.

1. A dairy nutritionist recommends feeding 60 pounds of feed to dairy cows every morning. The feed is a mix of hay, silage, and soybean meal. The mix is 70 percent hay, 20 percent silage, and 10 percent soybean meal. Show each of these numbers in a percent, decimal, and fraction form in the chart below.

	Percent	Decimal	Fraction
Hay			
Silage			
Soybean Meal			

2. Determine how many pounds of each ingredient to include in the feed. If 70 percent of the feed is hay and the feed weighs a total of 60 pounds, how many pounds of hay should you add? How many pounds of silage? How many pounds of soybean meal?

Example:
(percentage of ingredient in decimal form) x 60 = Total Pounds
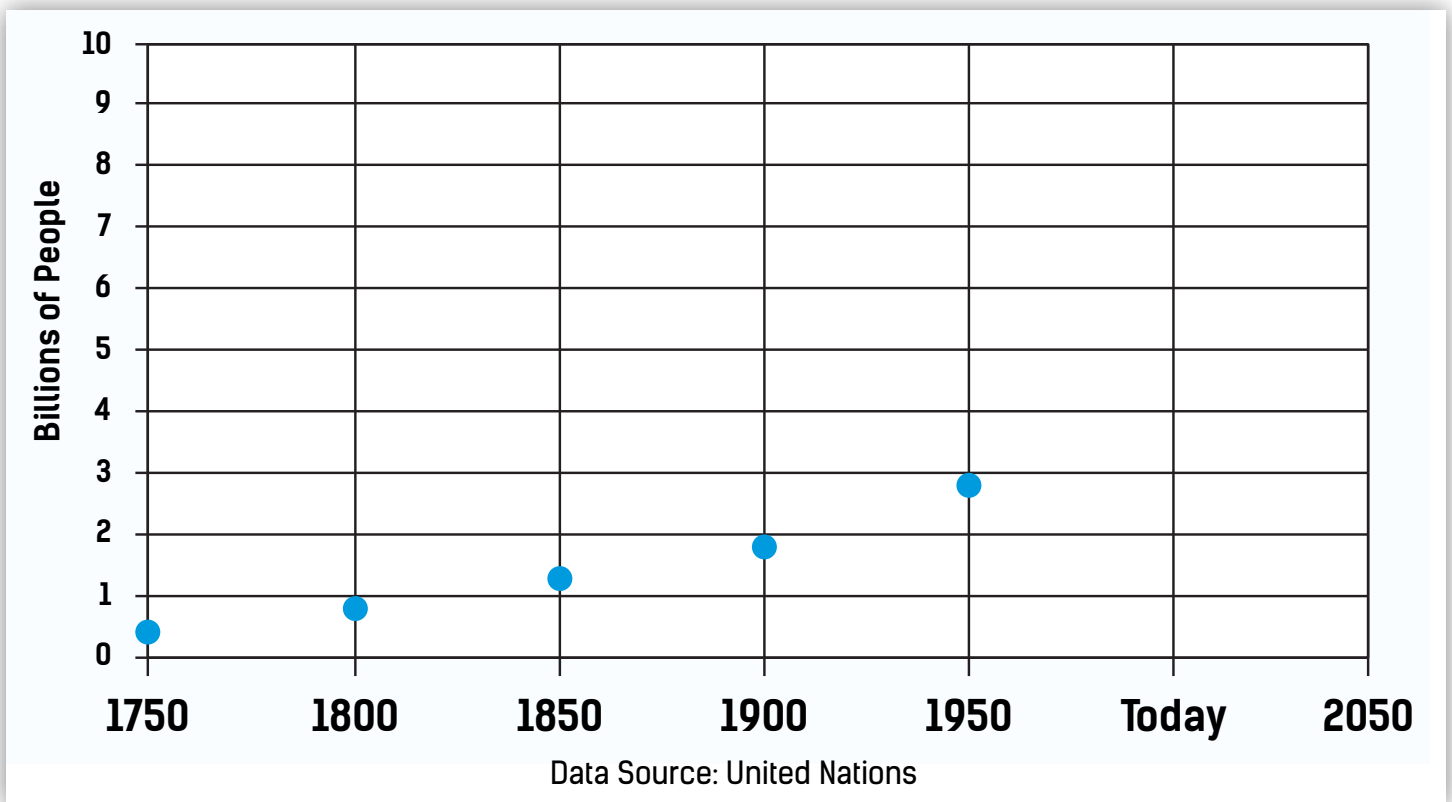
Hay _____ **x 60 =** _____

Silage _____ **x 60 =** _____

Soybean Meal _____ **x 60 =** _____

World Population Growth: Connect the Dots

World population today is about 7.3 billion and growing fast.
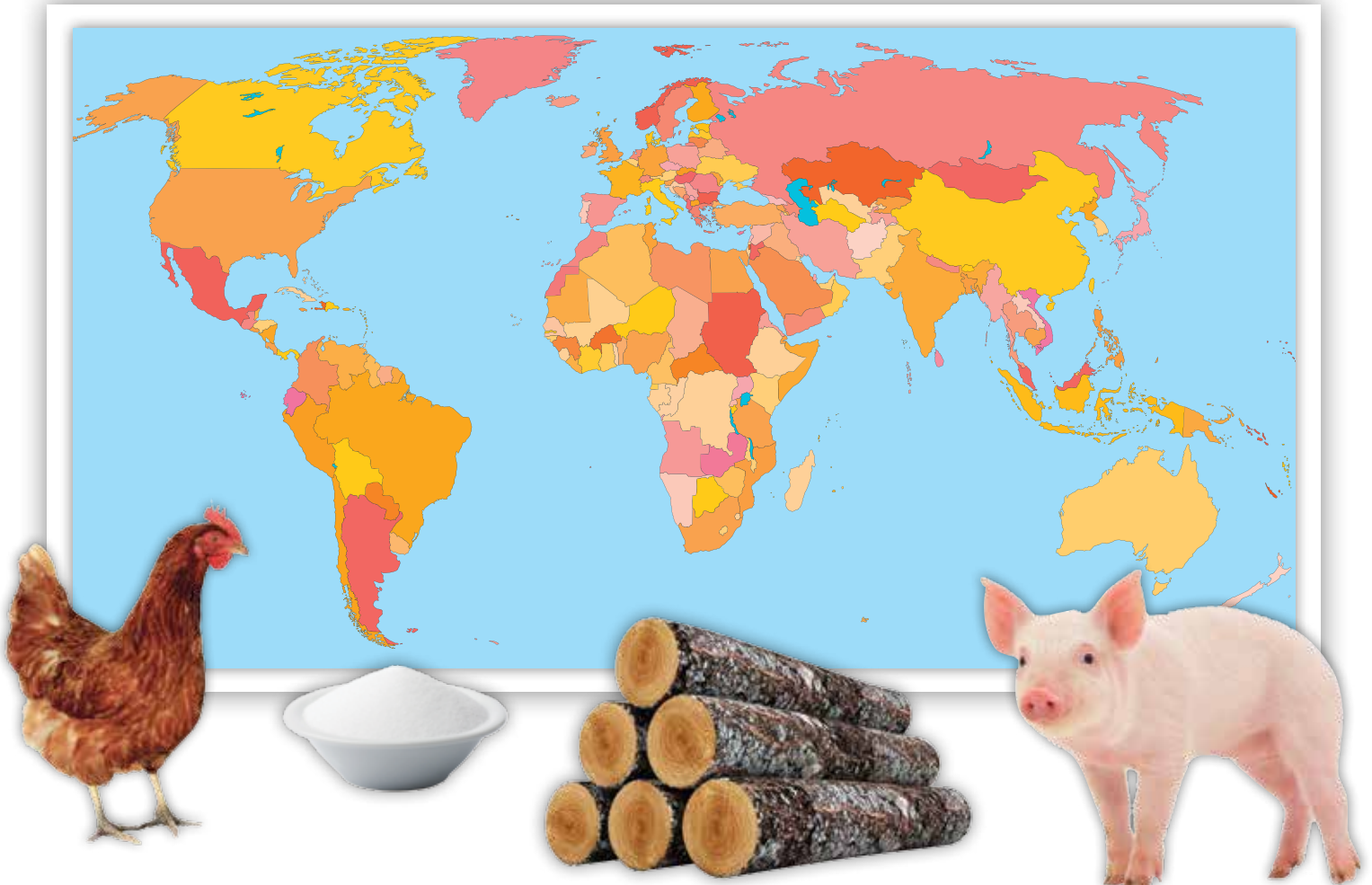It is expected to reach 9.7 billion by 2050.

1. Add those dots to the graph below, and connect all the dots.

2. What trend do you see?

3. What does this mean for agriculture?

Data Source: United Nations

Follow the Exports

You may need a Minnesota map and a world map to locate these places. The dots on the Minnesota map mark each of the communities mentioned.
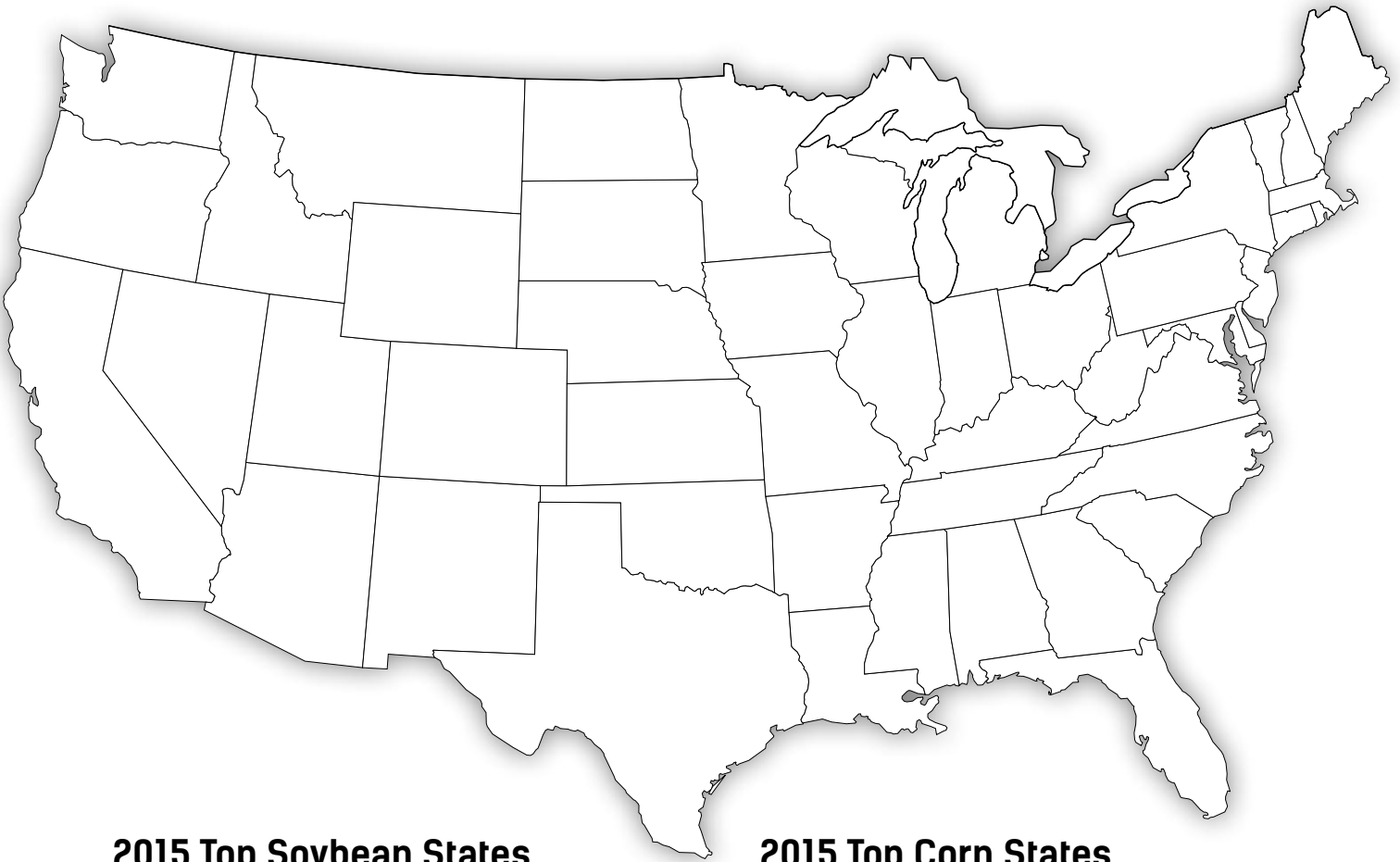
1. **Chickens** from Worthington are served in a restaurant in Canada. Draw an arrow from Worthington to Canada.

2. **Sugar** from Moorhead sugarbeets is sold at a German grocery. Draw an arrow from Moorhead to Germany.

3. Rochester **pork** is served at a wedding in Japan. Draw an arrow from Rochester to Japan.

4. Duluth **timber** is sold to a Mexican paper mill. Draw an arrow from Duluth to Mexico.

Talking Corn
... and Soybeans

Corn and soybeans are important ingredients in feed for dairy cattle as well as pigs, sheep, chickens, turkeys, and many other animals raised on farms. In 2015, Minnesota was third in the nation for soybean production and fourth for corn production. The top ten corn- and soybean-producing states are listed to the right. Label each state using the postal abbreviation. Color the corn states red and the soybean states blue. If a state grows both, use purple. What can you tell us about the region where corn and soybeans grow?

2015 Top Soybean States

1. Iowa	6. Ohio
2. Illinois	7. South Dakota
3. Minnesota	8. North Dakota
4. Nebraska	9. Missouri
5. Indiana	10. Arkansas

2015 Top Corn States

1. Iowa	6. South Dakota
2. Illinois	7. Kansas
3. Nebraska	8. Ohio
4. Minnesota	9. Wisconsin
5. Indiana	10. Missouri

Agriculture in a Hungry World

Why Are They Hungry?

There is enough food to feed everyone in the world. So why are some people starving? They simply can't get the food they need. Solve the crossword puzzle and you'll see some of the reasons food does not reach people who need it in many parts of the world.

List some places you've been hearing about in the news where people suffer from hunger. What are some reasons their needs are not met?
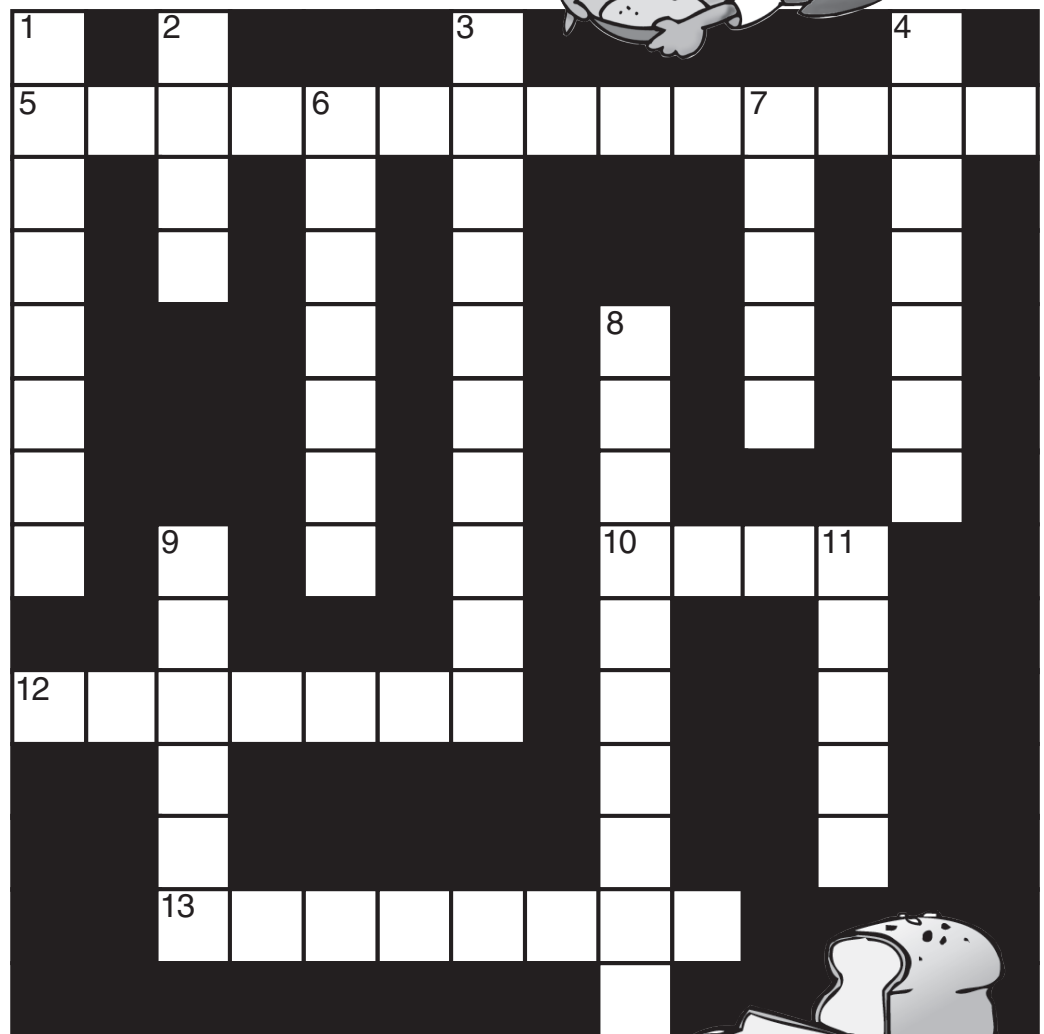
All countries produce some food...

Pass the bread, please!

ACROSS

5 Reliable ways of moving things from place to place

10 Poor growing season; _____ failure

12 Too little rain to grow crops

13 Rotting and molding

DOWN

1 Robbing

2 Fighting in or among nations

3 Leaders of a country

4 Too little money

6 Clean, dry places to keep food

7 Buying and selling between countries

8 Changing raw products into forms we can use

9 Overflowing of rivers and streams

11 Insects and rodents

The two main causes of hunger in the United States are:

v p o r e y t

_____

t u y n m e n m p l o e

_____

Food supplies are hurt when certain things happen. Sometimes land and water quality goes down. Pollution, natural disasters like floods, droughts, insects and over-planting one kind of crop can cause this damage. Sometimes people don't have the technology to produce and protect crops.

It takes all the world working together to solve hunger problems.

Go Figure!

Each soybean plant produces 15 to 25 pods. Each pod contains two or three beans.

- What is the highest number of soybeans one plant could produce?

- About 1,500 soybeans weigh one pound. If a bushel of beans weighs 60 pounds, how many beans are in a bushel?
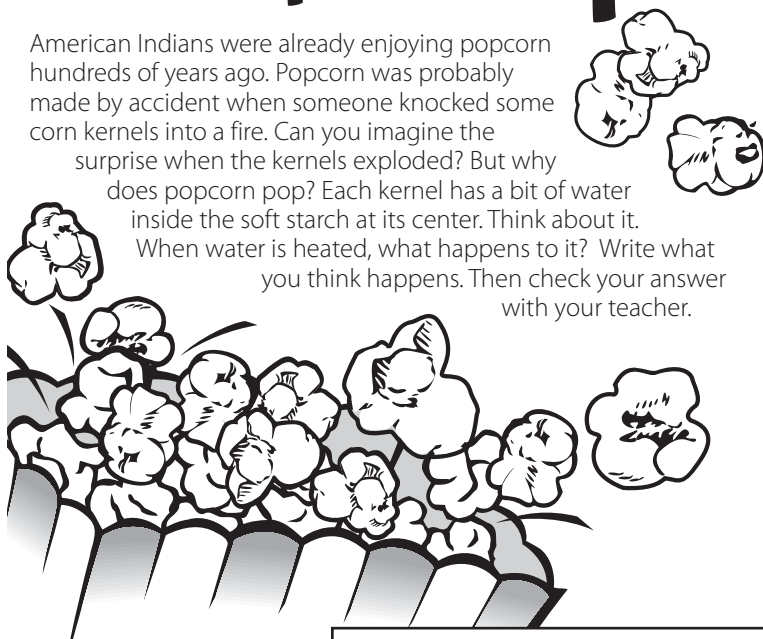
Corny Scramble

Unscramble the following list of food items that contain corn.

nroc seaklf c__ __ __ f__ a __ __ __

cei earcm __ c __ __ __ __ __ m

oads s __ __ __

nuteap ttreub __ e __ __ u __ __ u __ __ e __

upchket k __ __ __ h __ __

alads ingsserd s __ l __ __ d __ e __ __ __ __ g

ylelj __ e __ __ __

alamrowsslhm __ a __ s __ __ __ __ l __ __ s

meanrirga m __ __ g __ __ __ __ __

tcoa hicsp __ a __ o __ __ i __ __

Pop! Pop! Pop!

American Indians were already enjoying popcorn hundreds of years ago. Popcorn was probably made by accident when someone knocked some corn kernels into a fire. Can you imagine the surprise when the kernels exploded? But why does popcorn pop? Each kernel has a bit of water inside the soft starch at its center. Think about it. When water is heated, what happens to it? Write what you think happens. Then check your answer with your teacher.

Strawberry Banana Tofu
Smoothie
Makes 4 servings (1/2 cup each)

In this recipe, which ingredient is the soy product packed with nutrients that builds strong muscles and good bones and teeth?

_____

Ingredients:

- 1 package of silken/soft tofu (10.5 oz.)
- 1 small ripe banana
- 1 cup frozen sweetened strawberries, slightly thawed and including juice

Directions:

Combine all ingredients in a blender or food processor and blend until smooth. Serve chilled.

Why don't you tell secrets in corn fields?

Too many ears!

Corny Counting!

Does a cob of corn have an even number of kernel rows, or an odd number? Make a prediction and then test it out. Get several ears of field corn and start counting! Compare results.

My Prediction: _____ Actual: _____

Use a ruler to help you estimate the total number of kernels on a cob. (How many kernels are in an inch?) After everyone makes a prediction, count the kernels for an official answer. How did the ruler help in estimating?