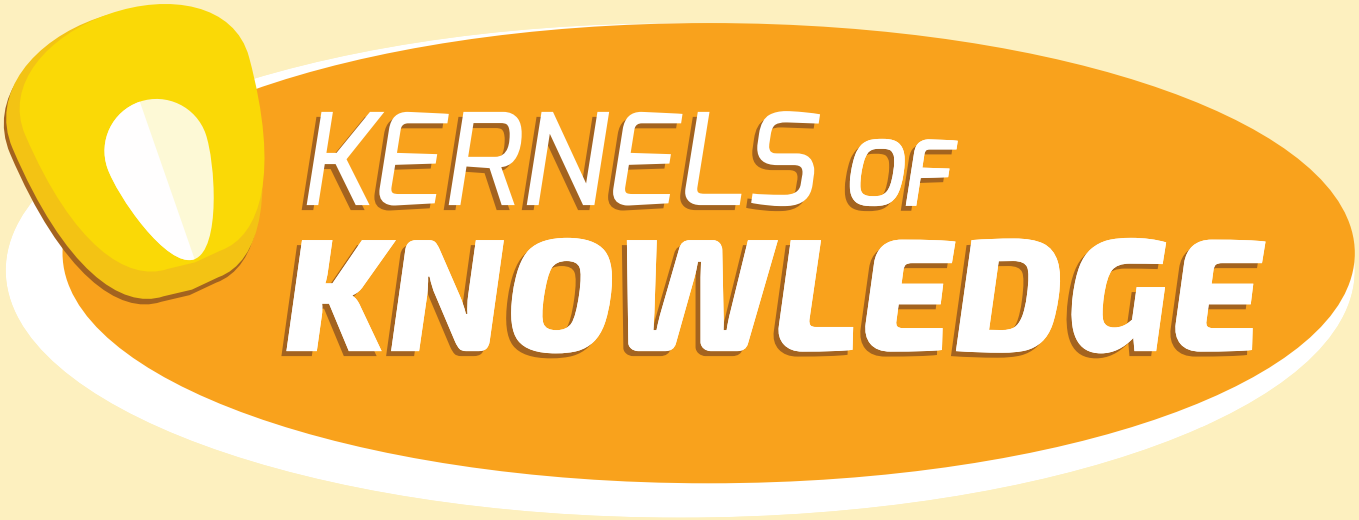


Youth Guide

4-H Pledge

I pledge my **head** to clearer thinking,
My **heart** to greater loyalty,
My **hands** to larger service,
and my **health** to better living,
for my club, my community, my country, and my world.

Nebraska CornBoard

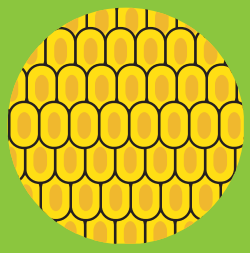
The mission of the Nebraska Corn Board is to develop, carry out and participate in programs of research, education, market development and promotion to enhance profitability (viability) and expand the demand and value of Nebraska corn and value-added corn products.

Learning Activity 1

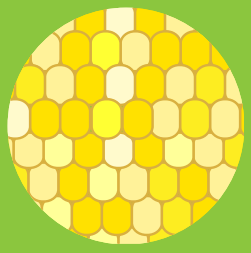
Uses of Corn

DID YOU KNOW?

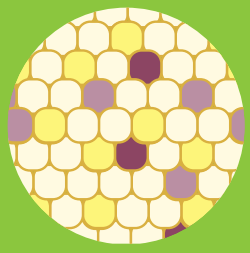
There are several commercial classifications of corn. Field corn (also called dent corn or cow corn) is fed to animals and also used to make ethanol fuel. Sweet corn is the kind we eat at the dinner table.



FIELD CORN



SWEET CORN



POPCORN

THINK & DISCUSS

Write down your answers to the questions below, and discuss them in groups.

REFLECT

1. Before this activity, did you know corn was used for more than just for food? What else did you know corn was used for besides food? Were you surprised to find out the many different uses for corn?

2. What are the two biggest uses for corn? Why do you think so much corn is dedicated to these uses?

3. Why is it important to learn about the many uses of corn?

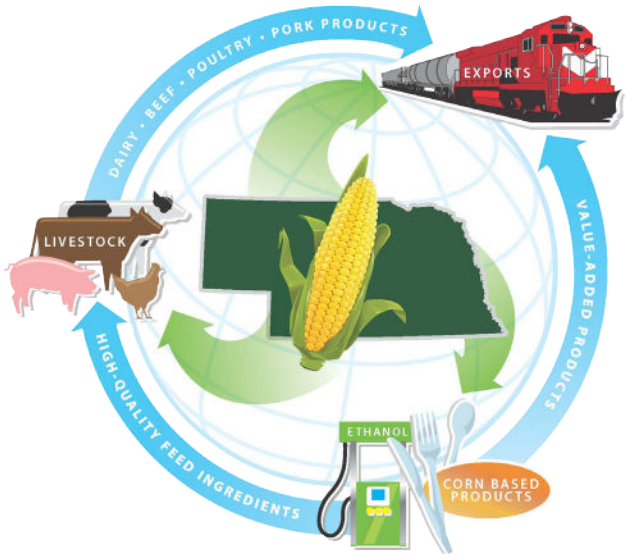
APPLY

1. Why do you think corn can be used in so many different ways?

2. Can you think of any other ways the world uses corn?

3. Can you think of any new ways to use corn that haven't been thought of before?

4. List at least five foods at the grocery store that contain corn.



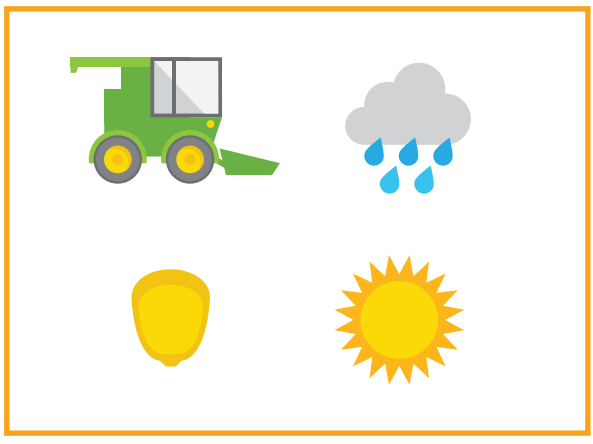
Learning Activity 2

Life Cycle of Corn

ACTIVITY 1

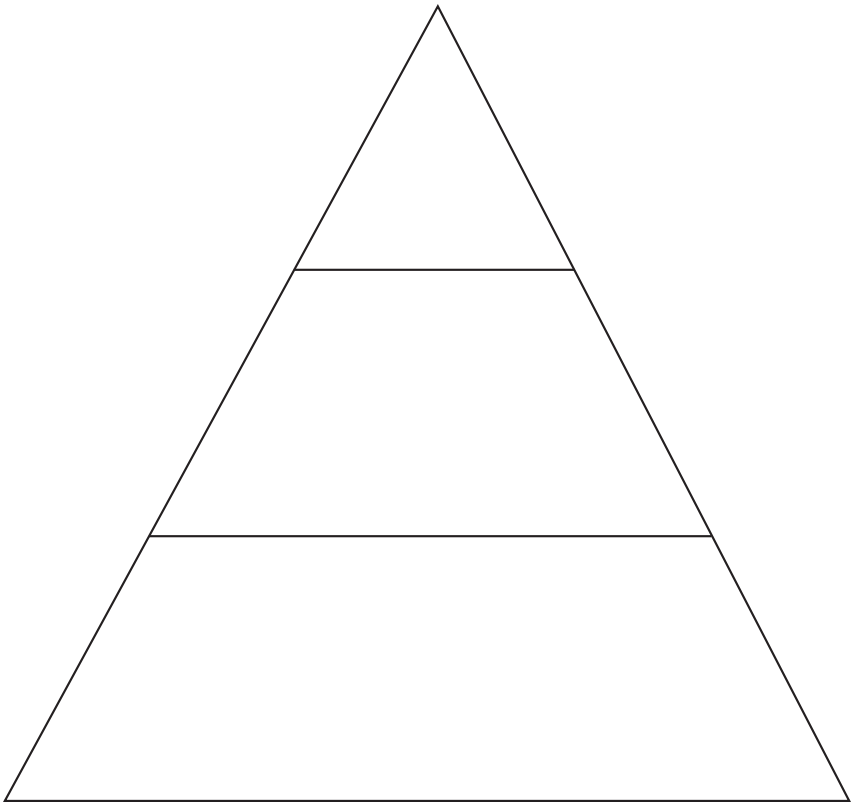
Choosing from the pictures in the box below, draw each one in the place on the timeline where you think they would be the best for growing corn.

JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC



ACTIVITY 2

Choosing from the pictures in the box below, draw each one in the place on the food pyramid in order of farmers and consumers.



THINK & DISCUSS

Write down your answers to the questions below, and discuss them in groups.

REFLECT

1. Before this activity, did you know that farmers had to plant and harvest corn at a certain time? What surprised you about the timeline?

2. What role does the sun play in the corn timeline? What role does the sun play in the food chain pyramid?

APPLY

1. What would happen if you took vital inputs away from the corn? Would the corn still grow if water/food/sunshine was taken away?

2. Do all crops follow the same timeline as corn? Do some crops have a different timeline? What would happen if you planted the corn earlier/later in the year?

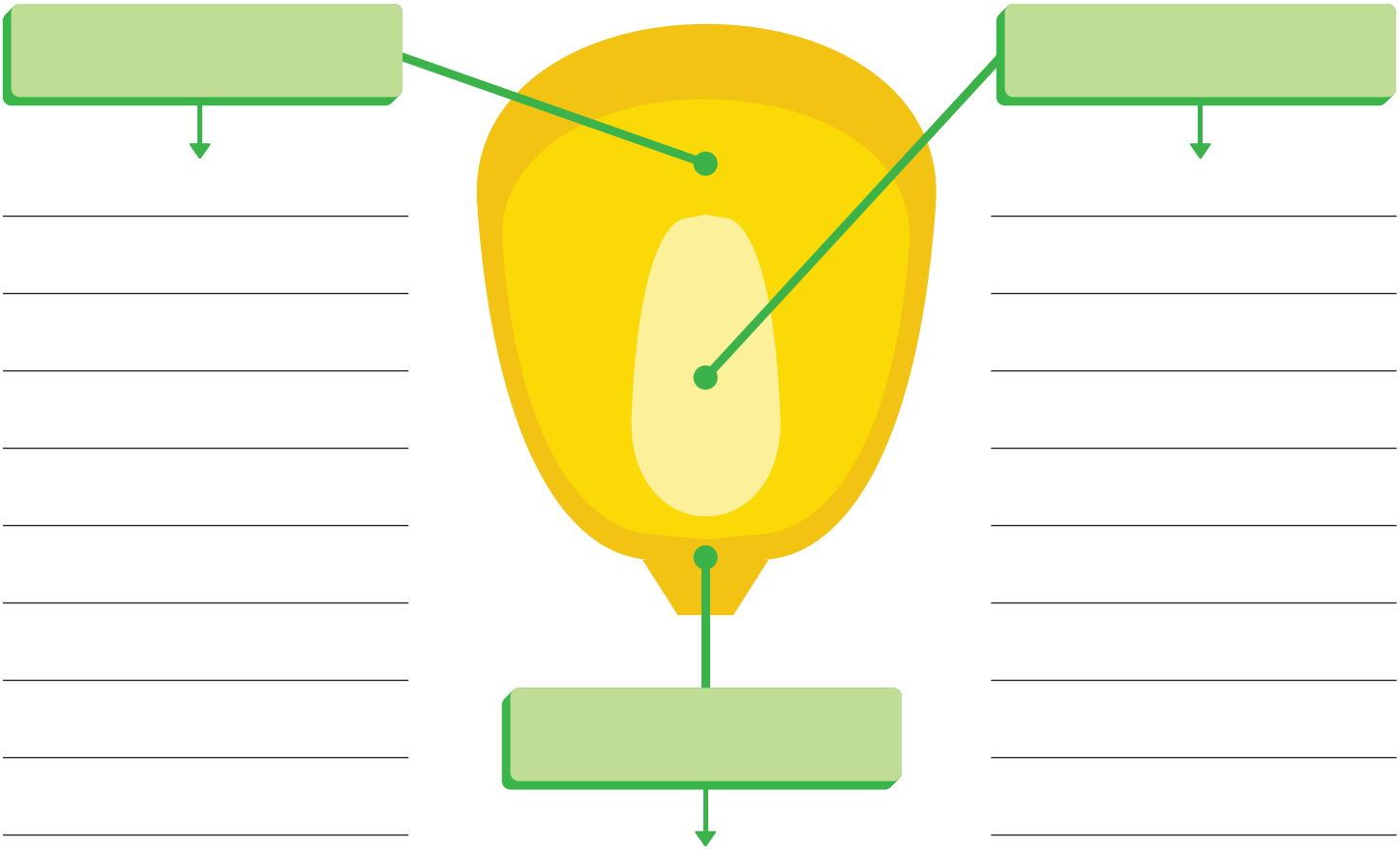
3. Can you think of other farmers and consumers in nature? Do all farmers and consumers fall in the same place on the food pyramid?

Learning Activity 3

Building a non-Newtonian Fluid

Group members: _____

For this activity, label each part of the corn kernel. Then list the products that are made using each part of the kernel in the spaces below.



THINK & DISCUSS

Write down your answers to the questions below, and discuss them in groups.

REFLECT

1. Discuss the uses of the various parts of the corn kernel (endosperm, germ and hull).

2. Why do you think cornstarch acts as a solid when you touch it quickly, but a liquid when you touch it slowly?

3. What is the difference between this liquid and other liquids such as water, pancake syrup, soup, etc.? Can you think of any other non-Newtonian fluids?

APPLY

1. What do you think cornstarch does when it is added to foods when cooking/baking?

2. How can you apply what you have learned to quicksand? If quicksand acts like cornstarch and water, what is the best way to get out of quicksand?

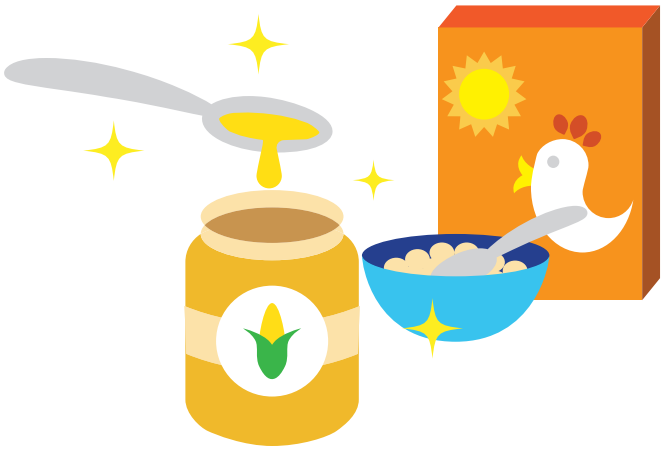
3. Can you think of any other ways that corn is used?

Learning Activity 4

Refining Process of Corn Starch

Name: _____

Taste each of the foods your instructor provides for you. Write down the name of each food, then rate its sweetness by circling a number on the scale from 1 to 10, 1 being not so sweet and 10 being very sweet.



		Not Sweet									Very Sweet
1.	_____	1	2	3	4	5	6	7	8	9	10
2.	_____	1	2	3	4	5	6	7	8	9	10
3.	_____	1	2	3	4	5	6	7	8	9	10
4.	_____	1	2	3	4	5	6	7	8	9	10
5.	_____	1	2	3	4	5	6	7	8	9	10

THINK & DISCUSS

Write down your answers to the questions below, and discuss them in groups.

REFLECT

1. Before this activity, did you know that cornstarch had to be refined to make it sweeter? What surprised you about this activity?

2. Why are some of your foods sweeter than others?

APPLY

1. What foods do you regularly eat that are sweet? That are not sweet? Do any of these foods have cornstarch in them? Is the cornstarch refined in these foods?

2. What other foods at the grocery store contain food starch?