

# The Life of Corn

Photo Credit: Johan Neven

## Grade Levels

6-8

## Overview

The following activity can be used as an introduction to the concept of phenology. It demonstrates the life cycle of a corn plant, a plant familiar to many, putting this plant into a new perspective. *The Life of Corn* highlights the importance of the developmental life-cycle, something which all organisms experience in a predictable manner.

The activity increases science literacy by teaching about life-cycle events, encourages students not only to recall experiences outdoors but also to spend more time outdoors and observe things they may not yet have experienced.

## Real-world Connection

This activity is tied to observed plant and animal life cycles. It is also related to seasonal change because many of these events are associated with a particular season. The concept of climate change may also be introduced, in the event that the timing has shifted since participants have been observing these life-cycles.

## Citizen Science Connection

*Nature's Notebook's* not critical to completing the activity, rather can be used as an addendum to the activity.

## Time Required/Location

15 mins

A space large enough for students to mingle and arrange themselves into a circle.

## Background

Phenology, or the study of the timing of life-cycle events and their relationship to the environment, can be used to teach a number of scientific concepts in many grades from kindergarden through adult. This particular game can be used as an ice-breaker, conversation starter, observation cue, or team building game and can be implemented in formal or non-formal settings.

Humans have a predictable cycle of development from birth to death, with only minor variations between individual people. Even plants have a developmental cycle. Most plants outside the tropics have a predictable developmental cycle that follows the seasons. (As an aside, many plants tell the time of year by photoperiod, which is how long the daylight is. In a lab, you can make plants bloom in the dead of winter or lose their leaves in spring by using a timer on their sunlamp).

## Learning Objectives

Participants will be able to:

- Define phenology
- Understand seasonal impacts on life-cycle events
- Make observations

## Next Generation Science Standards

LS: Life Science			
Grades 6-8		Grades 9-12	
MS-LS1-4	Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively. <sup>1</sup>	HS-LS1-2	Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. <sup>2</sup>
MS-LS1-4	Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. <sup>1</sup>		
MS-LS1-4	Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy. <sup>1</sup>		

<sup>1</sup> Can be elicited through the Explaining and Elaborating portion of the activity.

<sup>2</sup> This standard could be addressed by a discussion of how nutrient and water cycles affect the reproductive process of the corn.

## Conducting the Activity

### Materials

Resources needed - depending upon the way you choose to present the activity

- Laminated cards with pictures of corn developmental stage
- Depending on the size of the group, you may choose to have two copies of cards available. Each participant should have a different card.

### Experience

#### ENGAGE

1. Discuss the seasons. What memories do you have of seasons; personal, human or natural? Why do things occur when they do? How do seasons affect habitats and their inhabitants?
2. Introduce the concept of phenology
  - All of the seasonal changes you talked about above are phenological events
  - Pheno-to show or appear
  - ology-to study
  - Phenology- the science of recurring plant and animal life cycle stages



Seed



Germination



Sprout



Flowering



Fruits  
with seeds



Fruit