

# Fact or Fiction?

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Vvi - Vegetable varieties investigation

**Standards (NYS):** Science: 1, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, ELA: 1, 3, Social Studies: 5.3, 5.4



## Purpose

To explore through discussion whether biodiversity is critical to human existence.

## Overview

Work in groups to explore the validity of the following statement:

"Without biodiversity, none of our food could be produced."

## Materials

- Paper
- Pencil/pen
- *Why biodiversity?* Cards

## Prep

To make *Why Biodiversity?* Cards, cut out Why Biodiversity statements (on next page) and paste onto index cards.

## Time

15-30 minutes

## Instructions

1. Read the following statement: "Without biodiversity, none of our food could be produced," and write this statement where everyone can see it.
2. Divide students into two groups according to whether they believe this statement to be fact or fiction. (Alternatively you can hand divide the group.)
3. Ask each group to make a defense of their position and jot down notes. Bullet points are fine.
4. When both groups have exhausted their ideas, ask for a volunteer from each group to share.
5. When both groups have shared, facilitate a continuing discussion. Were they surprised about what they discovered? Does the whole group agree about the truth in this statement? Why or why not?
6. Pass out the *Why Biodiversity?* Cards. Ask each person to read the statement on their card and then put it into their own words. Are any of these facts surprising?

## Why Biodiversity? cards



*Cut out statements and paste on 10 index cards for activity: Fact or Fiction*

1. Diversity is one of the main characteristics of nature and also the very basis of ecological stability.
2. The more numerous and diverse the varieties of any plant, the more successful will be its cultivation over a wide area, because the greatest number of different conditions -- as soils, climates and uses -- will be satisfactorily met. --*Liberty Hyde Bailey*
3. When vegetable varieties become extinct, we lose the distinctive flavors and appearances of these fruits and vegetables, and the genetic diversity that they otherwise contribute to the plant stock.
4. 30,000 vegetable varieties have become extinct in the last century, and one more is lost every six hours
5. Nearly 96% of the commercial vegetable varieties available in 1903 are now extinct.
6. As the number of crop varieties decreases (reducing the genetic diversity of these plant species), existing crops become increasingly susceptible to devastation by disease and pests – if crops are all the same, it's much easier for a new disease or pest to wipe-out the entire harvest. Indeed, the lack of genetic diversity has contributed to widespread crop-loss in the past – for example:
7. Lack of genetic diversity led to massive outbreaks of citrus canker in Florida in 1984 and in Brazil in 1991.
8. In 1970, U.S. farmers lost \$1 billion worth of crops after a disease killed uniform corn varieties.
9. During the 1840's, the majority of the population of Ireland relied upon a single variety of the potato. As a result of the lack of genetic diversity, a fungus was able to destroy the entire potato crop, causing the infamous Irish Potato Famine.
10. Without biodiversity, none of our food could be produced. TRUE or FALSE? And why?