

# Fruit vs. Vegetable

**Overview:** Why are some fruits called vegetables? In this lesson, students will explore the difference between the scientific definition of a fruit and the common definition of a fruit.

**Grade Level/Range:** K- 2

**Objectives:** Students will:

- Dissect commonly consumed fruits and vegetables
- Learn the scientific definition of fruit
- Explore how the different ways we cook with and eat fruits and vegetables influences the common definition of a fruit

**Time:** 1 hour

**Materials:**

- A variety of fruits, including some that are commonly classified as vegetables. These may include, although not limited to: apples, oranges, peaches, tomatoes, peppers, avocados, squash, cucumbers, green beans, peas, eggplant and zucchini.
- Plate or cutting board
- Knife

## Background Information

In 1883, the tomato made an appearance in the United States Supreme Court. The Tariff Act of 1883 had placed a tax on imported vegetables, including tomatoes, so a knowledgeable importer challenged that the tomato is botanically a fruit and not subject to these taxes. However, the Supreme Court ruled that even though the tomato is botanically a fruit, in practical terms it is consumed as part of meal like other vegetables and that fruits are usually consumed individually or as a dessert. Therefore by ruling of the Supreme Court the tomato is a vegetable. So when asked if a tomato is a fruit or a vegetable, the correct answer is, “Both!”

This common use definition continues to be applied to many ‘fruits’ in our diet. Both fruits and vegetables are packed full of vitamins and fiber, but, in general, fruit is the sweeter treat whereas vegetables are used for savory dishes. Examples of botanical fruits that are common referred to as vegetables include tomatoes, peppers, avocados, squash, cucumbers, green beans, peas, eggplant and zucchini.

## Laying the Groundwork

Read the book *A Fruit is a Suitcase for Seeds* by Jean Richards. Ask students,

- Why are seeds so important? *Because they grow into new plants.*

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- Why do seeds need to be able to travel to new places to grow? *If all the seeds from a plant just dropped below the parent plant, they be competing for space and resources and would not grow well.*
- Where can you find seeds? *Most seeds are found inside of a fruit. The fruit helps protect the seed.*

Cut open a common fruit like an apple (an example of a fruit with many seeds) or a peach (an example of a fruit with one big seed) and look at the seeds inside. Drawing from the book, explain some of the ways the fruit helps the seeds travel (by animals, air, and water).

## Exploration

Explain to students that scientists classify fruit as the part of the plant that produces the seeds; however, we frequently call some fruits vegetables based on how we consume them. Share the story about the Supreme Court case on tomatoes from the Background Information above that supported the common definition that a fruit is a plant-derived sweet ingredient used for desserts or snacks while a vegetable is a plant part eaten in a main meal.

Next, show students a variety of fruits, some that are commonly classified as fruits and others that are commonly classified as vegetables. Some possible examples may include: apples, oranges, peaches, tomatoes, peppers, avocados, squash, cucumbers, green beans, peas, eggplant and zucchini. Ask students to cast their vote on whether each item is a fruit or a vegetable and sort into two categories.

Once they have made their predictions, dissect each item and look for seeds. Were some of the items they thought were vegetables actually fruits? Ask students to brainstorm differences between the fruits that we call fruit and the fruits that we call vegetables.

## Making Connections

Create a Venn Diagram with one circle representing fruit and one circle representing vegetables and the overlapping section representing fruit that is commonly referred to as a vegetable. Go beyond the samples brought into class to talk about additional fruits and vegetables and their botanical and common classifications.

## Branching Out

**Host a Fruit vs. Vegetable Taste Test.** Compare the color, shape, smell, and taste of fruits that are commonly defined as fruits and fruits that are commonly defined as vegetables. The difference in sweetness will be fairly obvious; however, you can expand on this lesson by looking up the nutrition information for the items you sample to determine sugar content. (If you do not have samples available for tasting, you can also base our comparison on the sugar content listed.) To expand, you can also compare other nutritional facts such as fiber and calories.

**Play a plant parts sorting game.** Bring in fruits and vegetables representing different parts of the plant (or if fresh samples are not

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available, bring in photographs of different plant parts) and have students sort by part including roots, stems, leaves, flowers, fruit and seeds. Possible examples include:

Roots – carrots, sweet potatoes

Stems- asparagus, Irish potato (Fun Fact - the Irish potato is actually an underground storage stem)

Leaves – lettuce, kale

Flowers (flower buds) – broccoli, cauliflower

Fruit – cucumbers, peppers

Seeds- corn, dried beans

**Search for recipes that blur the boundaries between fruit and vegetable.** Here are a few examples:

- [Chocolate Avocado Pudding](#)
- [Hot Pepper Jelly](#)
- [Tomato Spice Cake](#)

As a class, brainstorm additional examples of fruit/vegetable switcheroos? (zucchini bread, orange-glazed chicken, apple salad, cranberry sauce)

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