

FRUIT BASKET! (1 Hour)

In this activity students will examine fruits and vegetables in order to figure out which ones are really fruits, and what types of fruits they really are.

OVERVIEW

Topic: Fruits and vegetables

Real-World Science Topics:

- An exploration of the difference between fruits and vegetables
- An exploration of different kinds of fruits

Objective

Students will gain an understanding of how scientists classify fruits and vegetables.

Materials Needed for Each Group

- whole apple
- whole orange (with seeds)
- whole potato
- whole tomato
- whole grapes (with seeds)
- whole celery stalks
- plastic wrap or other material to cover and preserve the cut fruit

Teacher Notes

Use your discretion on the best way to conduct this activity based on the individual level of your class. For some of the younger K-1 classes, you may wish to perform some or all of the steps of the activity, encouraging children to make predictions and observations. If the group is older or more advanced in their abilities, students can take a more hands-on role in performing the related tasks. Leveled methodologies for K-1 and 2-3 grade levels are provided, where appropriate, throughout the activity. Use your knowledge of each class to determine what the best option is for your particular group.

Teacher Preparation

This could be a messy activity so make sure that the work area is covered in newspaper or that the fruits and vegetables are cut open on paper plates.

FRUIT BASKET!

NGSS Three-Dimensions

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p data-bbox="191 449 461 548">Constructing Explanations and Designing Solutions</p> <ul data-bbox="126 579 487 726" style="list-style-type: none">• Use materials to design a device that solves a specific problem or a solution to a specific problem.	<p data-bbox="711 457 927 516">LS1.A: Structure and Function</p> <ul data-bbox="613 554 1019 852" style="list-style-type: none">• All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.	<p data-bbox="1219 457 1403 516">Structure and Function</p> <ul data-bbox="1133 583 1495 726" style="list-style-type: none">• The shape and stability of structures of natural and designed objects are related to their function(s).

STEPS FOR *FRUIT BASKET!*

Grades K-1 Discuss the questions in the Student Handout

Grades 2-3 Have students answer the questions in the Student Handout

Fruit Basket! Extension Activities

Students that are interested in fruits can use a hand lens or magnifying glass to look more closely at some of the fruits that were presented in this activity. Have them describe what they see.

FRUIT BASKET!

BACKGROUND INFORMATION

What is a fruit?

A fruit is a ripened part of a plant (ovary) with seeds in it. Most of the foods that we consider vegetables are actually fruits. These include tomatoes, pumpkins, peppers and squashes. The many seeds are how a plant increases its chances that more of its kind will grow. The only true vegetables are roots, stems, and leaves. Lettuce, potatoes and celery are all examples of vegetables. Nuts are also fruits, although they will not be used in this activity.

What are the different kinds of fruits?

Different fruits are classified by the way that they have developed around the seed. Some fruits (called drupes) contain a single hard seed, surrounded by an outer fleshy part. Drupes include peaches, cherries and olives. Another kind of fruit is the berry. Like the word fruit itself, there is a lot of confusion surrounding the use of the term berry. Most foods that we think of as berries are not considered to be berries by botanists. To a botanist a berry is a fruit that developed from a single ovary in which the seeds are scattered within the flesh. A tomato is a prominent example of a berry. Grapes are also berries. Gooseberries are one of the few botanical berries that are actually referred to as berries.

What about apples and pears?

Apples and pears belong to a group called pomes. In these the actual ovary is surrounded by a fleshy part that is not actually part of the ovary. Most people do not eat the actual ovaries of pomes – the core of the apple, for example. In these, fruits the seeds are concentrated right around the center of the fruit, not scattered throughout the fruit as in berries. Unlike drupes, pomes have multiple seeds.

Key Vocabulary

fruit: The ripened part and seeds of a plant

vegetable: Part of a plant that is eaten by people, usually roots, stems, and leaves

Are the following fruits or vegetables? Explain your answer.

Pear

[fruit, it has seeds]

Cherry

[fruit, it has seeds]

Cucumber

[fruit, it has seeds]

Spinach

[vegetable, it is a leaf that people eat]

Strawberry

[fruit, it has seeds that are on the surface]

FRUIT BASKET! STUDENT HANDOUT

Name:

Date:

Are the following fruits or vegetables? Explain your answer.

Pear

Cherry

Cucumber

Spinach

Strawberry