



# Fruits and Vegetables

## An Interactive, Hands-On Science Education Activity for K-5 Elementary School Children



### Abstract:

This simple hands-on exercise introduces very young children to the role of science in everyday life. As the primary “lesson,” children learn to distinguish the scientific definition of fruits (those parts of plants containing seeds) from the ordinary lay meaning of the term (most often being those foods eaten as “dessert” rather than as a main course or sidedish). The activity provides opportunities for the demonstrator to lead tangential discussions about topics like plant anatomy/physiology, genetics and inheritance, reproduction, taxonomy and sorting strategies, diet and nutrition, and even food-handling hygiene.

### Materials:

1. Fresh whole fruits: select 10-12 authentic fruits (2-4 of each), including some that children will know for sure (apples, berries, grapes, bananas) and some they very likely will assume are vegetables (tomatoes, squashes, corn, peppers). Nuts can also be used, if you know more about plants than some scientists. Choose items for their colors and diversities of flavor, and don't avoid unusual ones!
2. Fresh vegetables: you should select at least 6-8 authentic plant parts that are NOT fruits. Include easy ones (lettuce, spinach, asparagus) and tougher ones such as flowers (broccoli, cauliflower) and roots/tubers (carrots, potatoes, radishes) that allow you later digression into plant functions.
3. Paper towels, plastic bags/small bowls, cutting board, plastic wrap, disposable gloves (for you and your small volunteers), clean blanket or beach towel, and a knife (school policies vary greatly on this issue - you may need to precut items or use a discrete pocket knife). Wash all foods ahead of time.

### Procedure:

1. Arrange with the teacher for an uninterrupted block of 30-40 minutes to complete this activity. It is desirable to pick a time just before lunch or restroom break so that children can wash up afterwards and also take some goodies with them.
2. Clear a large space in the center of the classroom, either on the floor (upon a clean blanket) or on several low tables pulled together and covered with towels. Arrange your items randomly so that children can see these easily. Ask students not to touch items yet, since the class will eat most of them. You should wear gloves. If you precut some items, display only your whole or uncut versions

now.

3. Without tipping your hand, begin by asking for volunteers or a class consensus to identify each item as a “fruit” or “vegetable.” As per their decisions, sort your items into two piles. Remember to avoid prejudicing the group, and if there is disagreement, then put such items into a third pile. The students should all feel pretty confident, enthusiastic, and hungry by this time.
4. After this initial sorting, ask a student or their teacher to look up the word fruit in the dictionary. Alternatively, you can now remind the class that you’re a scientist by training, and that many years ago, scientists decided that a fruit would be *defined* as that part of a plant that contains the SEEDS.
5. As soon as you say this, several children will usually begin to question the group’s decision to put some items in the piles chosen. To be sure they all get the point, begin dissecting the items with a knife (or bring out the previously sectioned items) and ask the group to re-vote on them. As each fruit or vegetable is presented, cut off sections of it and distribute these with a paper towel to any students wishing to taste them.
6. If possible, cut each item to display its seed distribution pattern, which some students may want to group later by design (e.g., apples with pears, peaches with plums). You can also have a lot of fun with the group as each student decides whether he/she is brave enough to try a radish, a slice of raw zucchini or potato, or a cashew, as well as those great-looking blueberries, bananas, and oranges.
7. As time permits, allow the discussion to meander over topics where you are more knowledgeable or prepared. These can include any aspect of plant anatomy, pollination, agriculture, etc. A simple botany text, encyclopedia, or even a seed catalog can be a great launching point for discussion. In my experience, at least one parent will comment on their family’s next sit-down dinner or trip to the grocery store, wherein their student is now the resident expert on what is what!

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