



Comparing Apples and Oranges

All plants that flower produce seeds, and the seeds are surrounded by fruit. The seeds are the plant's way of reproducing itself. Different kinds of plants form different amounts of seeds. Some make only one, while others make many seeds; some make large seeds, others make very tiny seeds.

The three kinds of fruits are berries, drupes, and pomes. Oranges, grapes and tomatoes are berries. Their seeds are embedded in the flesh of the fruit. Peaches and plums are drupes. Drupes have one seed enclosed in a hard case surrounded by flesh. Apples and pears are pomes. Pomes have several seeds enclosed in a core surrounded by flesh.

Materials:

apples, oranges, tomatoes, peaches, plums, pears sturdy plastic knives pieces of plastic

Method:

Demonstration: Cut each of the fruits in half. Show the students the half pieces of each of the fruits. Help them observe and identify the placement of the seeds in each piece of fruit. Then have the students group the fruits according to how the seeds are enclosed. You may want to introduce the words berry, drupe and pome to your students. If you do, explain that many fruits aren't commonly classified using their correct grouping. For example: most people wouldn't consider an orange or a tomato to be a "berry." You can also explain that many "vegetables" that we eat are actually fruits - tomatoes, squash, beans, peppers, cucumbers - anything that develops from a flower (things like lettuce and carrots are not fruits). You could also point out that apples are in the pome group and that the French word for apple is "pomme."

Exploration: Give each group three pieces of fruit representing the three groups (tomato, peach/plum and apple), a plastic knife, and a piece of plastic. Have students cut apart their pieces of fruit on the plastic. (It may be helpful to pre-cut the fruit for your students.) Then have the students count the number of seeds in each piece, make note of the size of the seeds, and record their observations on a worksheet. After they have finished, compare the results of the different groups. See if there is any relationship between seed size and number of seeds (i.e., there are fewer large seeds, many small seeds). You may want to discuss why this might be (large seeds have a better chance of success at germinating; small seeds are not as successful, so the plants makes lots of them to compensate).







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