

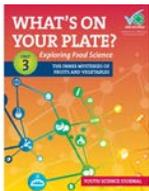


Exploring Food Science – What's On Your Plate?

Fruits and Vegetables -- Down with Brown

Activity 3.1 Glossary

Anti-browning agents	Ingredients used to prevent the browning of freshly cut fruits and vegetables. Examples include vitamin C (ascorbic acid), lemon juice and orange juice (citric acids), sugar solution, and antioxidants.
Antioxidant	A substance that interacts with oxygen so that oxygen does not oxidize and damage cell compounds. Commonly known antioxidants include vitamins C and E and citrus juices.
Browning	Another way to refer to enzymatic browning.
Enzymatic browning (en-zahy-mat-ik)	The process that occurs when some fresh fruits or vegetables are cut and exposed to air; a darkening of color is the result. Enzymes in the fruits and vegetables facilitate the physical and chemical reactions. The process results in unfavorable results such as browned fruit, or in favorable results such as the brown color of raisins, prunes, and tea.
Enzyme (en-zahym)	Substance produced by cells such as those in fruits and vegetables that produce a certain chemical reaction. In this Activity enzymes allow phenolic compounds to react to oxygen, leading to browning. This reaction is called oxidation or enzymatic browning.
Fruit	Product of plant growth. Usually the edible body of a plant with seeds.
Lemon Juice	The liquid from the lemon fruit; it is acidic (sour). The primary acid component in lemon juice is 4-6% citric acid.
Melanin	A brown pigment caused by phenolic compounds interacting with enzymes and oxygen. Unappealing, but safe to eat.
Oxidation	Part of the process of enzymatic browning. When fruit is exposed to oxygen, oxidation occurs.
Oxygen	An element necessary for life. It makes up 21% of our atmosphere. It is a tasteless, odorless gas found in water, plants, rocks and minerals, and most organic compounds (compounds containing carbon).
Phenolic compounds (fee-nawl-ic)	Substances in the cells of fruit that turn brown when exposed to oxygen and enzymes.



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Pigment	A substance whose presence in the tissues or cells of animals or plants colors them.
Produce	Another way to refer to fresh fruits and vegetables.
Vegetable	A plant grown for edible parts: carrots, potatoes, green beans, cabbage.
Vitamin C (Ascorbic Acid)	A water-soluble vitamin essential to human health. It is often used to prevent oxidation (browning of fruit).