

Food Additives

Any substance other than the main ingredient in a food is called an additive. Some additives prevent food from spoiling or separating. Others are used to add colour or flavour, or to give foods a creamy texture. Nutrients such as vitamins and minerals also can be additives. Food manufacturers use hundreds of additives, including preservatives, nutritional supplements, flavoring agents, coloring agents, emulsifiers, stabilizers, and thickeners. Federal law requires that food labels list these and other ingredients on the packaging.

Common preservatives include salt, BHA (butylated hydroxyanisole), BHT (butylated hydroxytoluene), and EDTA (ethylene diamine tetraacetic acid). Nutritional supplements include elements, minerals, and vitamins (calcium, magnesium, vitamin C, *etc.*). Flavoring agents include spices and natural fruit flavors, as well as artificial flavors such as vanillin. Among the various dyes is beta carotene. Carrageenan, a stabilizer, is extracted from seaweed. Monoglycerides, diglycerides, and polysorbates are examples of emulsifiers. Pectin and gelatin are thickeners.

In this activity, you will identify additives in various foods and determine the purpose of each additive.

Procedure:

1. Choose a variety of products from home and look at the nutritional information labels. If you want, you can bring the label to class to work on it.
2. Using the information in Table 2, complete Table 1 by recording the specific product and the additives it contains. It might help to complete this table in Word so the boxes will expand automatically as needed.

Table 1 – Additives contained in various food products

	Food Product			
Preservative				
Supplement				
Flavoring				
Coloring				
Emulsifier				
Stabilizer				
Thickener				
Nutrient				
Sweetener				

Questions

1. State some reasons food manufacturers use preservatives, emulsifiers and stabilizers.
2. Was there an additive that appeared more often than others in the foods you checked?
3. What general type of additive (preservative, emulsifier, sweetener, *etc.*) was used most often in the foods you checked?
4. Identify which of the foods you checked contained the most additives and which contained the fewest. Suggest a reason.
5. Identify any foods you checked that contained no additives. Why do you think these foods contained no additives?
6. Why do you think manufacturers are required to list these additives?
7. Why do you think many foods contain nutritional supplements?
8. Suggest a reason sugar, salt, and fat are added to so many different kinds of foods?
9. Sucralose and aspartame are two widely used artificial sweeteners. State some advantages and disadvantages of using natural and artificial sweeteners.
10. Why might some consumers be against the use of additives in food products?
11. Describe and give reasons for any changes you will make to your eating habits because of this activity.

Table 2 – Some common additives and their purpose

Additives	Foods	Purpose
Agar	ice cream, frozen custard, sherbert	thickener
Ascorbic acid (vitamin C)	beverages, beverage mixes, fruit products	nutrient, preservative
BHA and BHT	bakery products, cereals, snack foods, fats and oils	preservatives
Calcium propionate	bread and other baked goods many types and varieties	preservative
Caramel	ice cream, sweets	coloring
Cellulose	diet foods	thickener, improved texture
Corn syrup	cereals, baked goods, candies, processed foods, processed meats	sweetener
Dextrose	cereals, baked goods, candies, processed foods, processed meats	sweetener
Gelatin	puddings, cheese spreads, cream cheese	thickener
Gum acacia (gum Arabic)	soft drinks, imitation fruit juice drinks, ice cream	thickener, stabilizer
Hydrolyzed vegetable protein	processed meats, gravy and sauce mixes	flavoring
Iodine	salt	nutrient
Iron	grain products	nutrient
Pectin	jams, jellies, fruit products, frozen desserts	thickener, improved texture
Potassium sorbet	cheeses, syrups, cakes, beverages, mayonnaise, fruit products, margarine, processed meats	preservative
Riboflavin	flour, breads, cereals, rice, macaroni products	nutrient, coloring
Saccharin	special diet foods and beverages	sweetener
Saffron		coloring
Sodium nitrate and sodium nitrite	many types and varieties cured meats, fish, poultry	preservatives
Sucrose	cereals, baked goods, candies, processed foods, processed meats	sweetener