

Grades 6–8

Buzzwords

It All Adds Up!

Critical thinking

Is sodium bicarbonate in your bread? What about thiamine mononitrate? Yep, they both are there—and they're supposed to be! Sodium bicarbonate is baking soda, and thiamine mononitrate is vitamin B1. In fact, every food we eat, whether it's picked from the garden or pre-made and packaged, is made up of chemical compounds. However, when students read a food label, that list of long names may feel unfamiliar. Some food ingredients add taste, while others help foods stay fresh longer, add nutrition, or make foods look appealing.

Give each student one food ingredient card. Challenge students to form groups based on the type of ingredient that they have. Have them use chart paper to list the category of ingredient, the purpose, and each ingredient in the category. Then invite students to come up with a motto for their category. For example, the "preservatives" group might have the motto "Less spoiling, less waste!" or the emulsifiers group might have the motto "We're so smooth!" Have students take turns sharing their information with the class.

Fun fact:

The Food and Drug Administration has a list of more than 3,000 ingredients that can be added to foods, all of which are regulated for safety.



ALLIANCE TO
FEED THE FUTURE



Food Ingredient Cards

<p>Preservatives—keep foods fresh, slow spoiling, and decrease food waste</p> <ul style="list-style-type: none">Ascorbic acid, also called Vitamin C	<p>Preservatives—keep foods fresh, slow spoiling, and decrease food waste</p> <ul style="list-style-type: none">Citric acid, naturally found in lemons, adds a sour taste	<p>Sweeteners—add sweetness</p> <ul style="list-style-type: none">Sucrose, often called table sugar
<p>Sweeteners—add sweetness</p> <ul style="list-style-type: none">Fructose, the sugar found in fruits, vegetables, and honey	<p>Color additives—enhance a food's natural color or add color to colorless foods</p> <ul style="list-style-type: none">Beta-carotene, adds a yellow to orange color to foods, found naturally in carrots. The Food & Drug Administration regulates all color additives to ensure that they are safe.	<p>Color additives—enhance a food's natural color or add color to colorless foods</p> <ul style="list-style-type: none">FD&C Blue No. 1, one of nine certified color additives approved for use in the United States, adds color to food. The Food & Drug Administration regulates all color additives to ensure that they are safe.
<p>Color additives—enhance a food's natural color or add color to colorless foods</p> <ul style="list-style-type: none">FD&C Yellow No. 6, one of nine certified color additives approved for use in the United States. The Food & Drug Administration regulates all color additives to ensure that they are safe.	<p>Color additives—enhance a food's natural color or add color to colorless foods</p> <ul style="list-style-type: none">Grape skin extract, adds a red or green color to foods. The Food & Drug Administration regulates all color additives to ensure that they are safe.	<p>Flavor enhancers—increase flavors already present in foods. Flavor enhancers do not introduce their own separate flavors.</p> <ul style="list-style-type: none">Monosodium glutamate, often called MSG. MSG is made of water, sodium, and glutamate, which is an amino acid. MSG has been extensively studied and found to be safe. However, some people can be sensitive to any food ingredient, whether natural or synthetic.

Food Ingredient Cards

<p>Flavor enhancers—increase flavors already present in foods. Flavor enhancers do not introduce their own separate flavors.</p> <ul style="list-style-type: none">Autolyzed yeast extract, created when yeast cells are broken down. Like MSG, autolyzed yeast extract contains the amino acid glutamate.	<p>Fat replacers—provide texture in reduced-fat foods</p> <ul style="list-style-type: none">Guar gum, often found in reduced-fat baked goods, cheeses, and frozen desserts. It comes from a shrub in the bean family. Guar gum can also be used as a stabilizer or thickener in foods.	<p>Fat replacers—provide texture in reduced-fat foods</p> <ul style="list-style-type: none">Xanthan gum, which is made by fermenting corn sugar. It is often found in reduced-fat baked goods, cheeses, and frozen desserts. Xanthan gum can also be used as a stabilizer or thickener in foods.
<p>Fortification/Enrichment—replaces nutrients lost in food processing or adds nutrients beyond those naturally occurring in the food</p> <ul style="list-style-type: none">Riboflavin, also called vitamin B₂	<p>Fortification/Enrichment—replaces nutrients lost in food processing or adds nutrients beyond those naturally occurring in the food</p> <ul style="list-style-type: none">Niacin, which lowers bad cholesterol and raises good cholesterol	<p>Fortification/Enrichment—replaces nutrients lost in food processing or adds nutrients beyond those naturally occurring in the food</p> <ul style="list-style-type: none">Folic acid, which has been found to reduce the occurrence of birth defects and helps the body synthesize DNA and make red blood cells
<p>Fortification/Enrichment—replaces nutrients lost in food processing or adds nutrients beyond those naturally occurring in the food</p> <ul style="list-style-type: none">Vitamin D, which is added to foods, but the body can also get vitamin D from sunlight	<p>Emulsifiers—create smoothness in foods and keep ingredients from separating or crystallizing</p> <ul style="list-style-type: none">Soy lecithin. After the oil is squeezed from the soy bean, soy lecithin remains.	<p>Emulsifiers—create smoothness in foods and keep ingredients from separating or crystallizing</p> <ul style="list-style-type: none">Egg yolks, which help keep oil and water from separating in products like sauces and dressings

Food Ingredient Cards

<p>Emulsifiers—create smoothness in foods and keep ingredients from separating or crystallizing</p> <ul style="list-style-type: none">• Sorbitan monostearate, which is found in whipped topping	<p>Stabilizers and thickeners, binders, texturizers—provide a uniform texture in food</p> <ul style="list-style-type: none">• Gelatin, which is used to thicken foods like yogurt and ice cream	<p>Stabilizers and thickeners, binders, texturizers, binders, texturizers—provide a uniform texture in food</p> <ul style="list-style-type: none">• Pectin, which is naturally found in apples and citrus fruits. Pectin is added to some jams and jellies.
<p>Stabilizers and thickeners, binders, texturizers—provide a uniform texture in food</p> <ul style="list-style-type: none">• Guar gum, which comes from a shrub in the bean family. Guar gum can also be used as a fat replacer in reduced-fat foods.	<p>Stabilizers and thickeners, binders, texturizers—provide a uniform texture in food</p> <ul style="list-style-type: none">• Xanthan gum, which is made by fermenting corn sugar. Xanthan gum can also be used as a fat replacer in reduced-fat foods.	<p>Leavening agents—help baked goods rise</p> <ul style="list-style-type: none">• Sodium bicarbonate, also called baking soda
<p>Leavening agents—help baked goods rise</p> <ul style="list-style-type: none">• Calcium carbonate, which occurs naturally in rocks. Calcium carbonate also is used as an antacid.	<p>Firming agents—keep processed fruits and vegetables crisp</p> <ul style="list-style-type: none">• Calcium chloride, which is chemically similar to table salt except it contains calcium instead of sodium	<p>Firming agents—keep processed fruits and vegetables crisp</p> <ul style="list-style-type: none">• Calcium lactate. Calcium lactate is also used as a supplement in pill form to prevent calcium deficiency.