

Baking Soda: Baking soda is a leavening agent. When added to baked goods before cooking, it produces carbon dioxide gas which causes the baked goods to rise.

Carbon Dioxide: A colorless, odorless gas produced during the fermentation process.

Chemical Change (Chemical Reaction): A chemical change is a change that produces a new kind of matter with different chemical properties than the starting material(s).

Chemical Leavener: A leavening agent (such as baking powder or baking soda) that chemical reacts with other ingredients to produce another compound (typically carbon dioxide gas).

Curds: Curds are the creamy, sometimes thick pieces of cheese that are formed from milk products (or cream) when making cheese. Curds are formed with whey during the curdling process of cheese making.

Fat: There are different types of fats that can be used for baking. There are also two categories used for baking and cooking. These are fats and oils, which can break down. Animal fat is butter and lard, while plant fat is margarine or shortening.

Fermentation: Fermentation is the conversion of carbohydrates (or sugars) to alcohols and carbon dioxide. For the leavening of bread, fermentation can be achieved by yeast and the release of carbon dioxide results in the rising of the bread dough.

Glucose: Glucose is one of the simplest types of sugar and the main source of energy your body uses. Nearly all carbohydrate-containing foods, from fruits to breads, have some level of glucose.

Gluten: A substance that is a mixture of two proteins found in wheat flour that gives the ‘elasticity’ to bread and that helps it rise before cooking. When dough is leavened with yeast, fermentation produces carbon dioxide bubbles that get trapped in the gluten which cause the dough to rise.

Ingredients: Ingredients are the various elements that go into a mixture. For example, the main ingredient of bread is flour.

Leavening Agent: A substance (chemical or biological organism) that causes a mixture to rise – or increase in volume. The increase in volume is due to the release of gases (for example, carbon dioxide). In the case of a biological organism (like yeast), they undergo respiration and produce carbon dioxide (just like humans do). Sometimes leavening agents are called “leaven” or “leaveners”.

Mechanical Leavener: Kneading, mixing, beating and stirring can be used as mechanical leaveners because these actions will add air bubbles into the recipe. These air molecules expand during the baking process and cause a substance (bread dough) to rise.

Phases of Matter (solid, liquid, and gas): For cooking/baking, we are mostly interested in the solid, liquid and gas phases. A solid is when the molecules are very close together and cannot move too much. A liquid is when the molecules are close, but they can move around somewhat. A gas is when the molecules are so far apart that they can move freely and at very high speeds.

Physical Change: A physical change is a change in state, form, or appearance of matter that does not chemically change the substance or produce a new kind of matter.

Proofing (in baking): To “proof” something is to test it. In the case of yeast or baking powder that you’ve had around for more than a couple months, it’s a good idea to ensure its ability to make dough rise by testing a small amount of it in advance. Thus, you’re proving that the yeast or baking powder is still alive or active.

Starch: A white substance (a polysaccharide) that is oftentimes used as a leavener.

Vinegar: Vinegar is a liquid of a type of acetic acid that can be used as a preservative.

Whey: Whey is a thin and watery liquid substance that separates from the cheese curds and is strained away. It is considered a byproduct in cheese making but still has nutritional value.