

CHANGES IN MATTER

A **physical change** is when something changes its appearance without changing its makeup. An example of a **physical change** is chopping wood. An example of a **chemical change** is burning the wood.



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Matter can change from one state to another. For example, ice and water are different states of matter.

change from one state to another. For example, ice and water are different states of matter.

There are several ways matter can change states. One way this happens is when high temperatures causes water to **evaporate**, water changes from a liquid to a gas. When water is heated and changes from a **liquid** to a **gas**, it changes state but has not become a different kind of matter. When **matter** changes from a **liquid** to a **gas**, the water particles have just spread out so that you can no longer see the water. You can't see the water because it became an invisible gas in the air. When **matter** is cooled, it can also cause a change in states. An ice cube is a solid that when cooled becomes water which is a **liquid**. When water is in a **liquid** state and is heated, the water will soon evaporate and become a gas.



Lesson Checkpoint:

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mixture, even though they are being mixed with something else, the kinds of matter do not change. Different kinds of matter can sometimes be separated from a mixture.



Lesson Checkpoint: What is a mixture?

A **solution** is a type of mixture. A **solution** is when one or more substances are dissolved into another. An example of a **solution** is dissolving sugar into a glass of water. **Dissolve** means to break into particles so small that we can no longer see the particles. The dissolved particles seem to become part of the liquid.



Sometimes you can separate parts of a **solution** just like we can do with a **mixture**. For example, if you boil salt water, water will evaporate and salt will remain in the pan. Sometimes, however, you cannot separate parts that make up a solution.

Lesson Checkpoint: What is an example of a solution?

Physical change
matter involved
wet.

Chemical change
new kind of matter

you mix the ingredients to a cake together and then bake the cake, a chemical change takes place. When **matter** has gone through a **chemical change**, it usually CAN'T be changed back into the matter it started as. Can you imagine trying to get the egg back out of the cake after you've baked it?!



When you bite a piece of food, chew the food, and then swallow the food, it is an example of a chemical change because your saliva breaks down the pieces of food so you can swallow and digest them. The saliva creates a chemical change. **Chemical changes** supply our bodies with energy which we need to grow and survive.

**PREVIEW**
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