

Step 1: Prep to Read • we will define the differences between physical + chemical changes.
 • Two main differences = change the substance or not = reverse changes of not.
 • Chemical change has two reactions: exothermic + endothermic

Step 2: Detailed Read

Physical and Chemical Changes (<http://www.mcwcdn.org/chemist/pcchange.html>)

There are ^{few - 4 to 7} several differences between a physical and chemical change in matter or substances. material, object

Explanation of difference

① A physical change in a substance doesn't change what the substance is. In a chemical change where there is a chemical reaction, a new substance is formed and energy is either given off or absorbed. ②

Example

For example, if a piece of paper is cut up into small pieces it still is paper. This would be a physical change in the shape and size of the paper. If the same piece of paper is burned, it is broken up into different substances that are not paper. think of another example?

Another difference exception

Physical changes can be reversed, chemical changes cannot be reversed with the substance changed back without extraordinary means, if at all. For example, a cup of water can be frozen when cooled and then can be returned to a liquid form when heated.

Example

If one decided to mix sugar into water to make sugar water, this would be a physical change as the water could be left out to evaporate and the sugar crystals would remain. However, if one made a recipe for a cake with flour, water, sugar and other ingredients and baked them together, it would take extraordinary means to separate the various ingredients out to their original form. think of another example.

Further detail about chemical change.

When heat is given off in a chemical change or reaction, it is called an exothermic reaction. definitions (ask students to say aloud).
When heat is absorbed in a chemical change or reaction, it is called an endothermic reaction.
 The speed at which chemical reactions take place depend on the temperature, pressure and how concentrated the substances involved in the chemical reaction are. undiluted, potent reactant.
 Sometimes substances called catalysts are used to speed up or help along a chemical reaction. Light is helpful in the processing of film. more examples?

Step 3: Notetaking.

Step 4: you could try a rewrite as a class, using a example to elaborate.