



## ST. LAWRENCE HIGH SCHOOL



A JESUIT CHRISTIAN MINORITY INSTITUTION

- Subject- Physical science Study Material -3 Class 7
- Date : 7.05.2020
- Chapter: Physical and Chemical change

### Examples where both Physical and chemical changes occurs together

- A physical change does not accompany any change in composition of the material. For example, the melting of wax is not a change in composition, as it still stays wax and hence is a physical change. A chemical change causes a change in chemical composition. The burning of a wick, accompanied by the production of carbon dioxide, is a chemical change.

Another example of a change that is both chemical and physical is the burning of wood. The moisture present in the wood turns to vapor, when heated, which is a physical change. The actual burning of wood will generate carbon dioxide (among other products) and is a chemical change.

Another example is eating chocolate, which is both a physical change (breaking of chocolate into smaller pieces or melting of chocolate) and a chemical change (breaking of chocolate molecules into simpler molecules, etc.).

A change can't be both physical and chemical, but physical and chemical changes can occur simultaneously. This is what's happening with the burning candle: the wax is melting, which is a physical change, and it's combusting, which is a chemical change. A physical change is a change in state, such as melting, freezing, evaporation or condensation, or a change in form, such as grinding a substance into a powder. There's no change in the chemical formula of the

substance. A chemical change is one in which a new substance is formed.

The cycle of an internal combustion engine involves both a physical and chemical change. Gasoline is vaporized and the air in the cylinders is compressed, a physical change, before being ignited and combusting, a chemical change.

Digestion is another example of both. Food is physically broken down by chewing and chemically broken down by digestive enzymes in the saliva and acid in the stomach.

A third example is weathering in nature. Rocks are physically changed by wind, running water, expansion of ice as it freezes, abrasive wind and water-borne sediments. They are chemically changed by oxygen, acid rain and acidic compounds produced by decomposers.

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