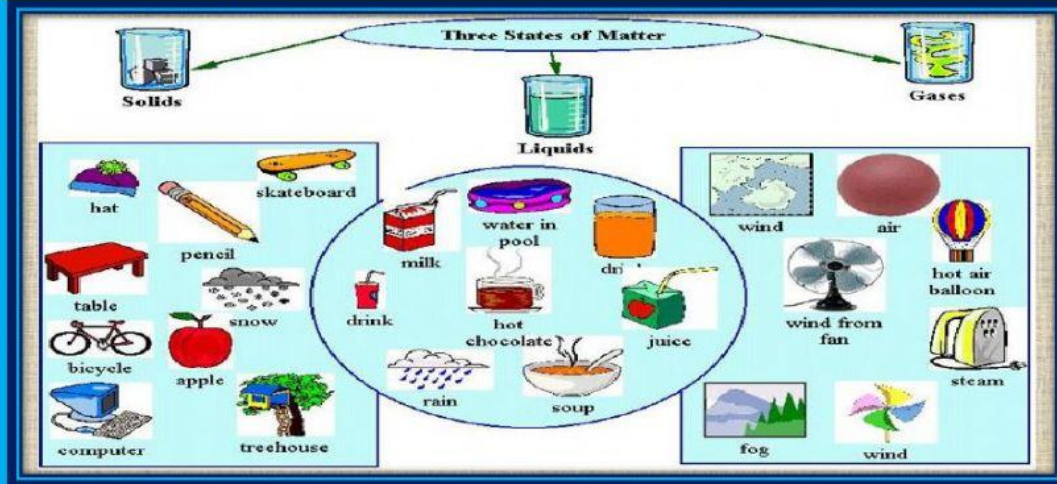


Science Notes

TOPIC: PHYSICAL PROPERTIES AND CHANGES



All substances have certain characteristics called **properties**. **Properties** can be **physical** or **chemical**. A **physical property** is a chemical feature that can be *observed* or *measured* without changing the substance or any of the materials it is made of.

Physical properties that can be observed are:

*colour *shape *size *luster *texture

Physical properties that can be measured are:

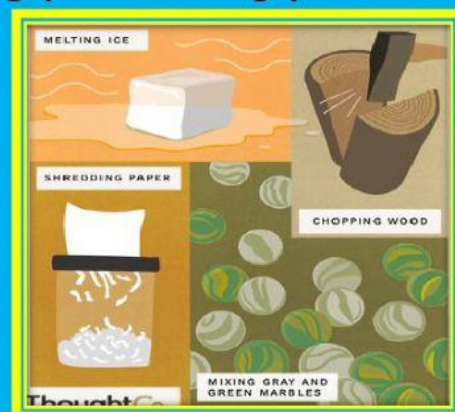
*density *heat *length *density
*height *width *thickness

Some **physical properties** such as **melting point**, **boiling point** and **colour** do not change. When we change the physical properties of a substance, this is called a **physical change**.

Examples of physical changes include:

*sharpening a pencil *melting wax
*grating coconut *cutting paper

Although change took place, the properties of each substance remained the same.



CHEMICAL PROPERTIES AND CHANGES



Chemical properties describe how particles are re-arranged when one substance reacts with another substance.



When two substances **react** and a new substance is **produced**, which is unlike either of the original substances used, a chemical change has taken place.



A new substance is formed during a chemical change. Some substances chemical change react quickly while others react slowly.

Combustion (burning) and **decomposition** (rotting) are types of **chemical reactions**. Some chemical changes give off energy.



E.g. burning coal releases heat and light energy.

Some changes require the addition of heat energy. Examples of these are the chemical changes that cause **food to spoil** or **iron to rust**.

Naturally occurring chemical changes can be **harmful**. To avoid the effect of naturally occurring chemical changes, we can resort to **freezing** or **drying** to **preserve food**.

Tools can be kept well **oiled** to prevent **rusting**. **Rusting** takes place when **chemicals react with oxygen**. Substances that prevent **corrosion** (rusting) are called **antioxidants**.