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STUDY MATERIAL SCIENCE
CLASS-VII

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- ## Acids, Bases and salts

Neutralisations in Everyday Life

The neutralisation reactions involving acids and bases play a very important role in our everyday life. The treatment of an ant's sting, remedy for indigestion, soil treatment and the treatment of factory wastes, all involve neutralisation reaction.

Indigestion

Our stomach produces hydrochloric acid. This hydrochloric acid helps in digesting our food. Sometimes, excess of hydrochloric acid is produced in the stomach which causes indigestion. Due to indigestion, sometimes a person feels pain in the stomach and irritation. To relieve indigestion, we take an antacid such as milk of magnesia. Milk of magnesia contains a base called magnesium hydroxide. Magnesium hydroxide neutralises the excess acid present in the stomach and cures indigestion. Another antacid is baking soda which contains a base sodium hydrogen carbonate.

Ant Bite

When an ant bites, it injects an acidic liquid into the skin of the person which causes burning pain.

The sting of an ant contains an acid called formic acid. The effect of the acid can be neutralised by rubbing a mild base like baking soda solution (sodium hydrogen carbonate) or calamine solution. Calamine solution contains a base called zinc carbonate. Thus, being a base, baking soda solution or calamine solution neutralises the acidic liquid injected by the ant and cancels its effect.

Soil Treatment

The soil may be acidic or basic naturally. The plants do not grow well, if the soil at a place is too acidic or too basic. Excessive use of chemical fertilisers makes the soil acidic. When the soil is too acidic, it is treated with bases like quicklime (calcium oxide) or slaked lime (calcium hydroxide). These bases neutralise the excess acid present in the soil and reduce its acidic nature. If the soil is basic, organic matter called manure or compost is added to it. The organic matter releases acids which neutralise the excess bases present in the soil and reduce its basic nature.

Factory Wastes

The waste substances discharged by many factories contain acids. If these factory wastes are allowed to flow into the water bodies (like rivers, ponds, lakes, etc), then the acid present in them will kill fish and other organisms which live in the water bodies. The factory wastes are therefore

neutralised by adding basic substances before discharging them into water bodies.