6) Respiration and combustion are the processes which maintain the balance between oxygen and CO_2 in the air.

* Respiration → Respiration is a chemical process that takes place in all living beings. In this process, oxygen present in the inhaled air reacts with the digested food material in the body. This results in the release of energy, carbon dioxide and water.

* Combustion → Burning or Combustion is a process in which a substance reacts chemically with oxygen and gets oxidised, with the release of energy in the form of heat and light. It is a fast process. During the process of

burning, along with energy, carbon dioxide and water vapour are also produced.

7) Similarities:

Burning

* Oxygen is needed to combine with carbon and hydrogen in compound.
* CO_2 and H_2O are formed with release of energy.

Respiration

1) Oxygen is needed to combine with C and H_2 of food.
2) CO_2 and H_2O are formed with release of energy.

Differences:

Burning

* It occurs at higher temperature.

* It is a fast process.
* A natural and continuos process.

Respiration

* It occurs at body temperature.
* It is a slow process.
* An artificial and discoant inuous process.

8) Rustling → Slow conversion of iron into its hydrated oxide in the presence of moisture and air is called rustling.

Conditions for rustling:

* Presence of moisture (water)
* Presence of oxygen (air)

Chemical name of rust is hydrated iron oxide ($Fe_2O_3 \cdot xH_2O$)

9) a) Air helps movement of water boats.

b) Air speeds up drying up of agricultural products like grains, pulses, fruits, etc. Air helps in pollination of flowers and dispersal of seeds.

c) Windmills work where there is sufficient movement of air.

d) Air filled tyres of cars move smoothly on road as there is less friction.

10) *LPG (Liquefied Petroleum Gas) → It is obtain from crude petroleum oil. It mainly contains gaseous compounds known as isobutane and butane. Popularly it is

known as cooking gas. It is the best fuel for domestic purposes and in laboratories. It is available in cylinders. It is also supplied through pipes and in big cities.

* CNG (Compressed Natural Gas) → It is produced along with crude oil. It mainly contains methane gas. It has become a popular fuel for vehicles like three wheeler scooters, cars, buses. It is a cheap fuel and as well as pollution free. It is used as a substitute of petrol

Difference in composition.

11) a) Nitrogen constitutes 78 % of air by volume. It is of vital importance to the plants, animals and human beings as it is needed to prepare vital nutrient 'protein' to every living being which is necessary for their growth.

b) Nitrogen cannot be absorbed directly by plants. It is first fixed up in the soil as nitrites and nitrates and then absorbed by the plants in soluble forms. This phenomenon is called nitrogen fixation.