Class:- 9th Science Notes Chapter-14 K.V.S.

NATURAL RESOURCES

Netural resources :- The stocks of nature which are useful to mankind are known as netural resources.
Eg:- air, water, soil etc.

Lithosphere :- The outermost crust of the earth is called lithosphere.

hydrosphere :- Water covers 75% of the earth's surface. it is also found underground.

Atmosphere :- The air that covers the whole of the earth like blanket is called the Atmosphere.

Biosphere :- All living things on earth together with atmosphere, the hydrosphere and the lithospere interact and make life possible is known as biosphere.

i) Biotic components :- Plants and animals
ii) Abiotic components :- Air, water and soil.

Air:- i) Air is a mixture of different gases.

ii) Air contains oxygen which is essential to living organisms for respiration. So it is called breath of life.

The movement of Air: winds:-

* During the day, the direction of wind is from sea to land. This is because the air above the land gets heated faster and starts rising.
* During the night, the direction of wing is from land to sea. This is because at night, both land and sea start to cool.
* The movement of air from one region to the other creates winds.

Air pollution can cause:-

- In humans:- Respiratory and renal problems, high blood pressure, eye irritation, cancer.
- In plants:- Reduced growth, degeneration of chlorophyll, motting of leaves.

Rain:- Rain is formed by evaporation and condensation of water through water cycle in which distribution of water takes place.

Acid Rain :- i) When fossil fuels are burnt, gases like sulphur dioxide and nitrogen dioxide (NO_2) are released.

ii) These gases are dissolving in water from nitric acid and sulphuric acid.

V. V. Imp.

Green house effect :- Carbon dioxide keeps the earth warm much like glass which keeps the green house warm.

EFFECT of Increase in Carbon dioxide (CO_2) :-

i) Intensifies green house effect.
ii) Leads to global warming.
iii) Increase in average temperature of earth.
iv) May lead to melting of polar caps.
v) Sub-merging number of castal cities.

Air pollution :- An increase in the Content of ~~these~~ harmful substances in air is called Air pollution.

Smog :- i) Smog is a type of air Pollution.

ii) The word 'Smog' comes from the blend of two words :- smoke and fog.

iii) Smog can from in any climate where there is a lot of air pollution especially in cities.

Water:- About three-fourth of the earth surface is 75% are covered with water.

Water pollution:- when water becomes unfit for drinking and other uses, then water is said to be polluted.

Causes of water pollution:-

→ Dumping of wastes from the industries into water bodies.
→ washing of clothes near water bodies.
→ Spraying chemical in water field.
→ Dumpling household wastes into the water bodies

Soil erosion:- Carrying away of upper fertile layer of soil by rain, wind, human activities and wrong agricultural practice is called soil erosion.

Biogeochemical cycles:- The cycling of chemical elements like carbon, oxygen, nitrogen, phosphorus Sulphur and water in the biosphere is called biogeochemcal cycles.

Water cycle:- The whole process in which water evaporates and falls on the land as rain and later flows back into the sea via rivers is known as water cycle.

V.Imp **Nitrogen cycle:-** The sequence in which nitrogen passes from the atmosphere to the soil and organisms, and then is eventually released back into the atmospher, is called nitrogen cycle.

* Nitrogen makes up 78% of the earth's atmosphere.

Ammonification:- it is the process by which soil bacteria decompose dead organic matter and release ammonia into soil.

Nitrification:- it is the process by which ammonia is converted into nitrites and nitrates.

Dentrification:- it is the process by which nitrates are converted into atmospheric nitrogen.

V.Imp ~~**Oxygen cycle:-**~~ **Carbon cycle:-** Carbon cycle maintains the balance of the element Carbon in the atmosphere. Carbon is found in various forms on the earth.

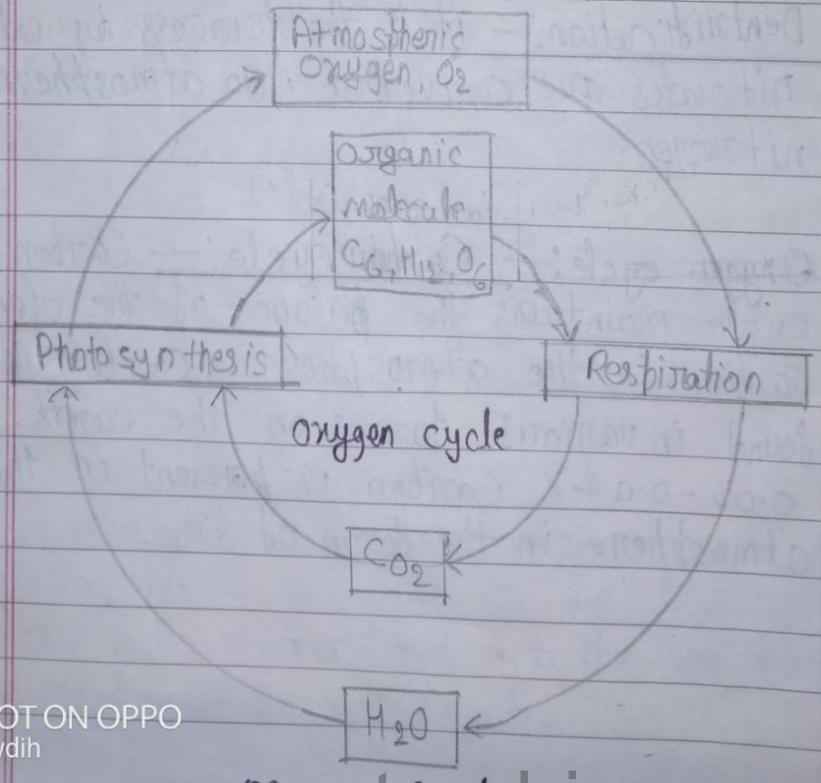
* 0.03 - 0.04% Caribon is present in the atmosphere in the form of CO_2.

Oxygen cycle:- The cyclic process by which oxygen element is circulated continuously through the living and non-living components of the biosphere constitutes is called oxygen cycle.

* The percentage of oxygen in air is 21%.

IMP **Ozone layer:-** The part of atmosphere which is rich in ozone may be called ozone layer.

* CFCs (chloro, fluoro carbon)
* Ozone layer is present in the stratosphere from 11 km to 30 km above sea level.
* The decline of ozone layer thickness in Antartica was first observed in 1985 and was termed as ozone hole.



Oxygen Cycle

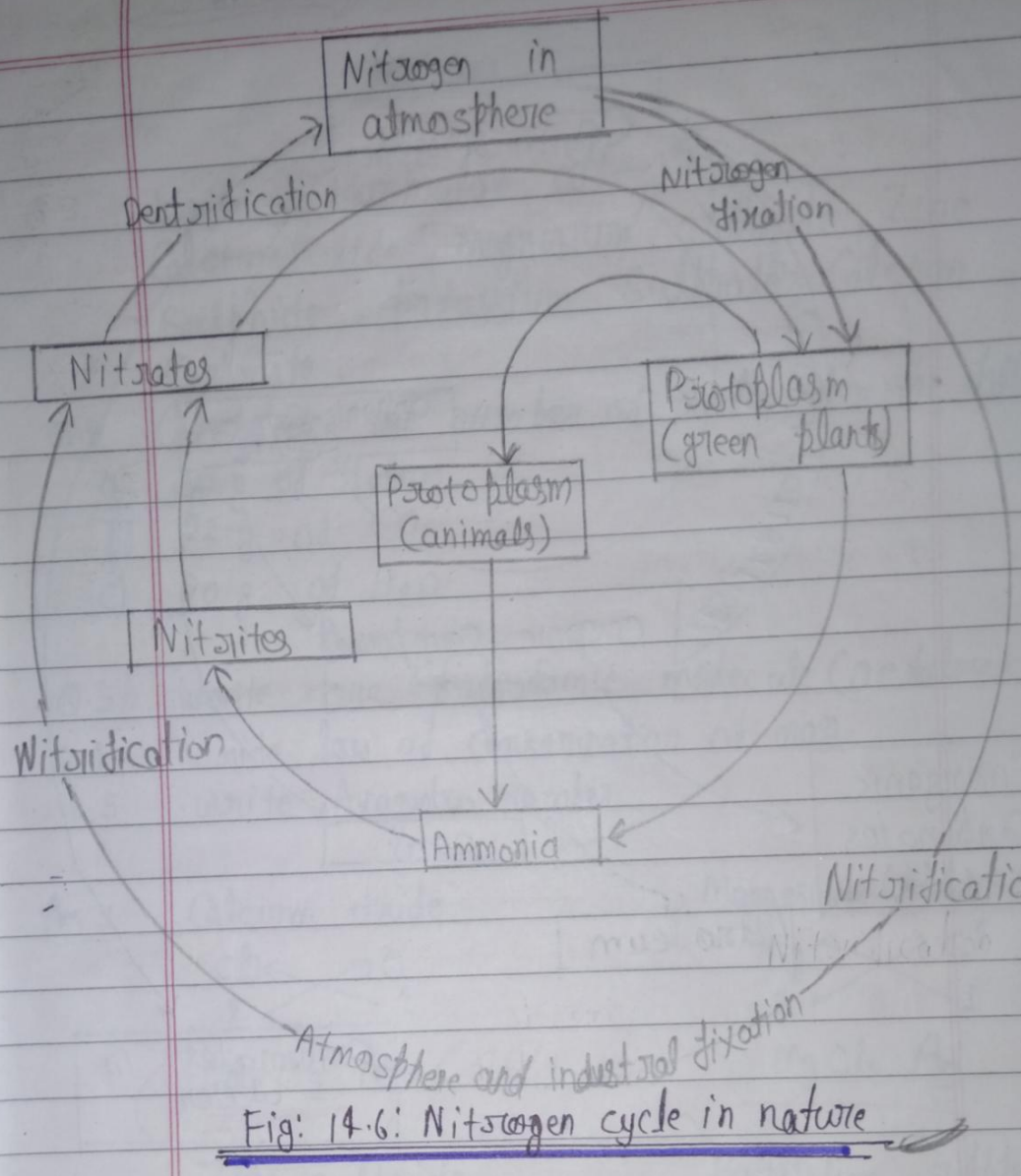


Fig: 14.6: Nitrogen cycle in nature

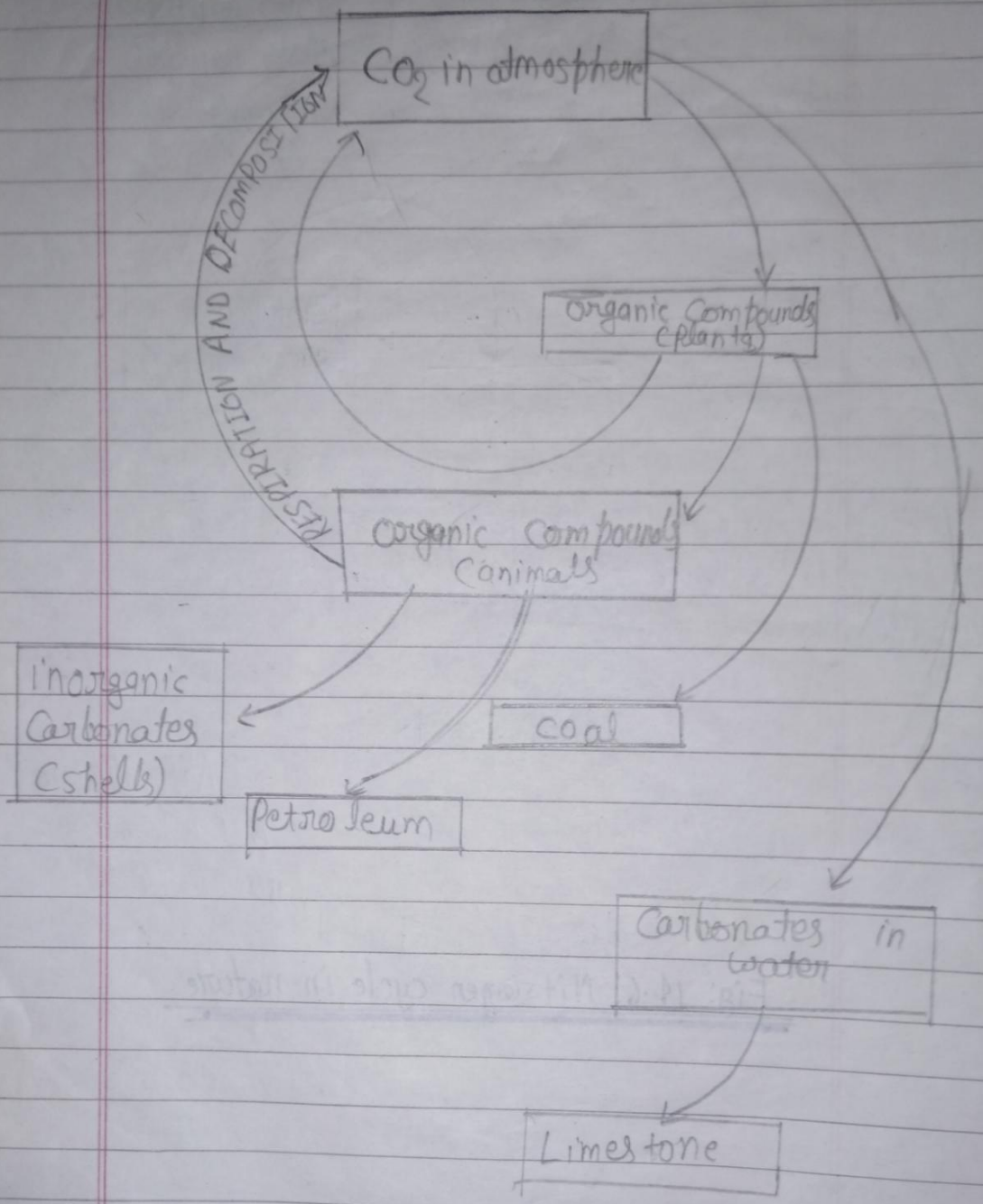


Fig:-14.7: Carbon cycle in nature

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Chapter-14

Neutral resources

Q.1 How is our atmosphere different from the atmosphere on venus and mars?

Ans Earth's atmosphere is a mixture of nitrogen (79%), oxygen (20%), and a small fraction of carbon dioxide, water vapours and other gases. This makes the existance of life possible on earth. However, the atmospheres on venus and mars mainly Consist of Carbon dioxide. The amount of carbon dioxide on these planets can range from 95% to 97%.

Q.2 How does the atmosphere act as a blanket

Ans i) it keeps the average temperature of the earth fairly constant during day time and even during the course of whole year.

ii) it prevents a sudden increase in the temperature during day time.

iii) it slows down the escape of heat from the surface of the earth into outer space during night time.

Q.3 What causes winds?

Ans An uneven heating of the earth's surface cause winds. On being heated, air becomes lighter and rises up. As a result, a region of low pressure is created. Then air from a high pressure region moves to a low pressure region, causing wind.

Q.4 How are cloud formed?

Ans water bodies and other water sources get heated during daytime and the evaporation of water takes place which rise along with the warm air. when the air rises, it cools and expands. The water vapour condenses around the dust particles to form tiny droplets of water. These droplets combine to form clouds.

Q.5 List any three human activities that you think would lead to air pollution.

Ans i) Smoke from industries etc.
ii) Burning of fossil fuels like coal and Petroleum.
iii) Deforestation.

Q.6 Why do organisms need water?

Ans i) for different cellular process.
ii) for transportation of substance from one place to another ~~place~~ inside the body.

Q.7 What is the major source of fish fresh water in the city / Town / Village where you live.

Ans Rivers.

Q.8 Do you know of any activity which may be polluting this water source?

Ans The discharge of waste water from homes, industries, hospitals etc. into the river pollutes this fresh water source.

Q.9 How is Soil formed?

Ans Soil formed of four factors:-

i) The sun:- it causes heating of rocks resulting in cracks and ultimately breaking down into smaller pieces.

ii) The water:- it breaks rocks by both freezing and their speed of flow.

iii) wind:- it causes erosion of rocks similar to the action done by fast flowing water. it also carries sound from one place to other like water does.

iv) living organisms:- Lichens and moss plants grow on the rock surface to powder down and form a thin layer of soil.

Q.10 what is Soil erosion?

Ans The blowing away or washing away of land surface by wind or water is known as Soil erosion.

Q.11 What are the methods of preventing or reducing soil erosion?

Ans The methods of preventing or reducing soil erosion are:-

i) plantation of trees and plants.
ii) prevention of deforestation.
iii) preven excessive grazing.

Q.12 What are the different states in which water is found during the water cycle?

Ans Water is found in three different states during the water cycle.

→ Solid (snow, ice)
→ Liquid (ground water, river water etc)
→ Gaseous state (water vapours)

Q.13 Name two biologically important compounds that contain both oxygen and nitrogen.

Ans i) Amino acids.
ii) Deoxyribo nucleic acid (DNA) and Ribonucleic acid (RNA)

Q.14 List any three human activities which would lead to an increase in the carbon dioxide content of air.

Ans i) Burning of fuels in various processes like heating, cooking, transportation and industry.
ii) Human induced forest fibres.

iii) The process of deforestation.

~~Q.15 What is green house effect?~~

~~Ans Sa~~

Q.16 What are the two forms of oxygen found in the atmosphere?

Ans i) Diatomic molecular form with chemical formula O_2

ii) Triatomic molecular form with a chemical formula O_3 known as ozone.

Q.17 Why is water essential for life?

Ans because of the following reasons:-

i) most biological reactions occur when substances are dissolved in water. Thus, all cellular processes need water as a medium to take place.

ii) Transportation of biological substances needs water as a medium.