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STUDY NOTES

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CLASS- IX (All Section)

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BIOLOGY

LESSON-05

CHAPTER: Natural resources

Today's Topic: Natural resources

Temperature: Temperature and light is also required for all biotic components.

Pollution: Contamination of natural sources with unwanted substances.

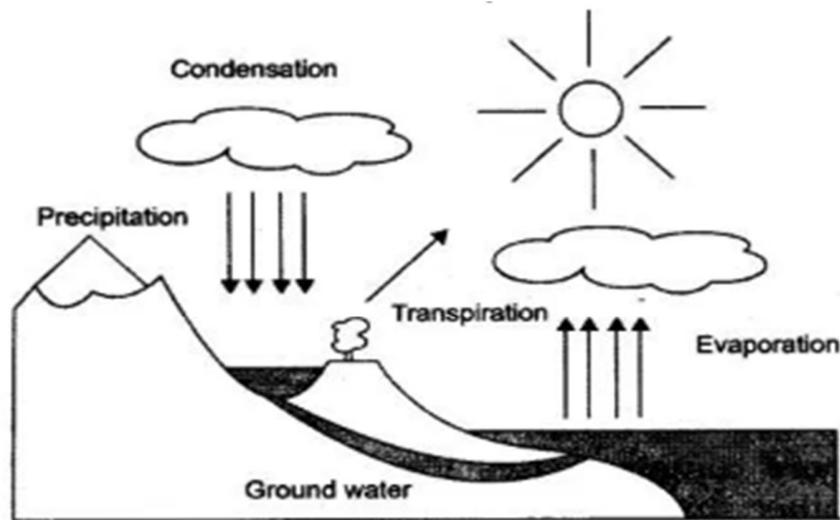
* **Air Pollution:** Air contaminated with smoke, fumes, dust, pollen grain, etc.

* **Water Pollution:** water contaminated by sewage, industrial waste, excreta, chemicals, fertilizers etc.

* **Soil Pollution:** Soil gets contaminated with fertilizers, pesticides, garbage, chemical's etc.

Bio-geo-chemical Cycles: A constant interaction between biotic and abiotic components of the biosphere makes a system and these flow of components form a cycle called bio-geo-chemical cycle.

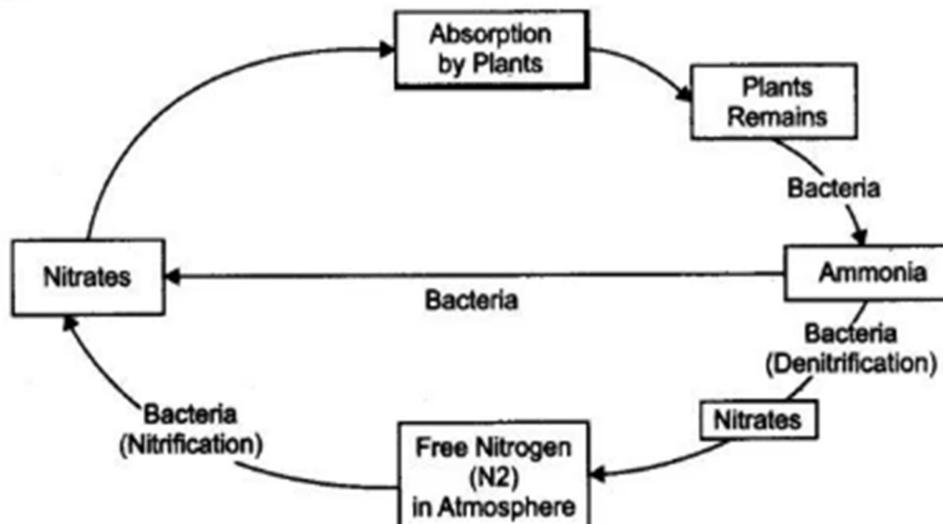
Water Cycle: water from various sources evaporates, condenses and again precipitates as rain, falls on the land, flows back in the sea and river is known as water cycle.



Water Cycle

Nitrogen Cycle:

Nitrogen Cycle:



Nitrogen from the atmosphere is fixed by the process of nitrification. Nitrification is done by nitrogen fixing bacteria e.g. Rhizobium present in soil, these compounds of nitrogen are absorbed by plants. The fixation is also done by atmosphere or industries. In atmosphere, during lightning, high temperatures and pressures created in air converts nitrogen into oxides of nitrogen, which dissolves in water forming nitric and nitrous acids and is then used by life forms.

Plants contain nitrogen in the form of proteins or other complex compounds. Plants are eaten by animals. When die bacteria present in soil act on and convert plants and animals various compounds of nitrogen into nitrites and nitrifies. Another group of bacteria convert these nitrates and nitrites into free, elemental nitrogen, this process is called **denitrification**.

Carbon Cycle: Carbon is present in the compound form in atmosphere i.e., CO₂, carbonates in water which forms limestone.

CO₂ is taken by plants during photosynthesis to form organic compounds like glucose, carbohydrates, these plants are further eaten by animals, and decomposition gives CO₂ back to the atmosphere. Plants and animals which get buried under the earth and does not decompose from coal and petroleum respectively.

Animals and plants also release CO₂ back to the atmosphere during respiration.

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