SUMMARY

- The **important natural resources** available on Earth are land, water and air.
- The region of Earth where the **atmosphere, hydrosphere** and **lithosphere** interact and support life is called **biosphere.**
- Living organisms constitute the **biotic** component of the biosphere. Air, water and soil constitute the **abiotic** component of the biosphere.
- **Air** is a mixture of gases like **nitrogen, oxygen and carbon dioxide.** Plants and animals use oxygen for respiration, carbon dioxide is used by plants for photosynthesis are the **uses of air.**
- **Experiment -role of air in climate control:** concludes that soil gets colder faster than water and air.
- **Why is the land near water bodies cool?**

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- Cycling of chemicals between biological and geological world is called **biogeochemical cycle. Four biogeochemical cycles** includes **water cycle, nitrogen cycle, carbon cycle** and **oxygen cycle.**
- Water enters the atmosphere as water vapour by **evaporation.** Water from plants evaporates as vapour into the atmosphere through **transpiration.** Water vapour in the atmosphere form clouds, called **condensation.**
- Clouds break into rain, snow or fog, called **precipitation. Photosynthesis with respect to carbon cycle:** Plant use sunlight, carbon dioxide in the atmosphere to form carbohydrates.
- **Respiration with respect to carbon cycle:** Plants and animals breakdown carbohydrates for energy and release of carbon dioxide.

- **Decomposition with respect to carbon cycle:** Bacteria and fungi decay dead plants and animals releasing carbon dioxide.
- **Combustion with respect to carbon cycle:** Burning of fossil feuls release carbon dioxide into the atmosphere.
- **Types of nitrogen fixation** include both **biological nitrogen fixation** and **physical nitrogen fixation.**
- Bacteria in the soil decompose the organic matter into ammonia, called **ammonification.**
- Bacteria in the soil convert ammonia to nitrate, called **nitrification.** Denitrifying bacteria convert nitrite and nitrate to nitrogen, called **denitrification.**

Respiration and Combustion with Respect to Oxygen Cycle:

- Plants and animals use atmospheric oxygen during respiration and oxygen is used for burning of fossil fuels.
- Temperature inside a glass house is much higher than the surroundings, such enclosures are called **greenhouse.** Carbon dioxide trap the heat and thereby increase the temperature on earth, called the **greenhouse effect.**
- **Ozone** absorbs harmful ultraviolet radiations from the Sun. ozone layer is depleting due to an increase in **chlorofluorocarbons.**