

Grade 6 science

CH-11 (NATURE'S TREASURES)

HComponent	Percentage (%)	Role & Daily Life Uses
Nitrogen (N ₂)	78%	<p>1. Food Packaging: Used in potato chip packets to keep them crisp (it prevents the chips from reacting with oxygen).</p> <p>2. Fertilizers: Essential for plant growth and producing proteins.</p> <p>3. Fire Safety: It acts as a "diluter" for oxygen, preventing fires from burning uncontrollably.</p>
Oxygen (O ₂)	21%	<p>1. Respiration: Every breath you take provides the oxygen your cells need for energy.</p> <p>2. Combustion: Required for lighting a stove, a candle, or running a car engine.</p> <p>3. Medical: Used in oxygen cylinders for hospitals and for mountaineers.</p>
Argon (Ar)	0.9%	<p>1. Lighting: Filled in incandescent light bulbs to protect the filament.</p> <p>2. Welding: Used as a shield to protect metals from reacting with air while being joined.</p>
Carbon Dioxide (CO ₂)	0.04%	<p>1. Photosynthesis: Plants use it to make food (treasures like fruits/vegetables).</p> <p>2. Fire Extinguishers: It is heavier than air and doesn't support burning, so it smothers fires.</p> <p>3. Fizzy Drinks: Added to sodas and soft drinks to give them that "fizz."</p>
Water Vapor	Variable	<p>1. Weather: Responsible for rain, snow, and humidity.</p> <p>2. Skin Care: Affects how dry or oily our skin feels (humidity).</p>
Dust & Smoke	Variable	<p>1. Rain Formation: Dust provides a surface for water vapor to condense onto, forming clouds.</p>

Where is Earth's Water?

- **Total Water:** About **71%** of Earth's surface is covered with water.
- **Saline Water:** Roughly **97%** is in oceans and seas (too salty to drink or use for plants).
- **Freshwater:** Only about **3%** is fresh.
 - Most of this is "locked" in **glaciers and ice caps**.
 - Only a tiny fraction is available as **groundwater, lakes, and rivers**.

Why is Water Scarce?

Even though the water cycle naturally recycles water, we face scarcity because:

- **Population Growth:** More people needing the same limited amount of water.
- **Pollution:** Chemicals and waste making freshwater sources unusable.
- **Over-extraction:** Pumping out groundwater (using borewells) faster than rain can refill it.

Quick Ways to Preserve Water

- **Rainwater Harvesting:** Collecting rain from rooftops to recharge groundwater or store in tanks.
- **Drip Irrigation:** Watering plants **drop-by-drop** at the roots to stop wastage.
- **Fixing Leaks:** Repairing dripping taps immediately to save thousands of liters.
- **Smart Usage:** Using a **bucket** instead of a hose for bathing or washing cars.
- **Reusing Water:** Using "waste" water (from RO filters or washing vegetables) to water plants or mop floors.

Energy from the Sun (Solar Energy)

- **Primary Source:** The Sun is the ultimate source of almost all energy on Earth.
- **Nature:** It is an **Inexhaustible** (renewable) and **Clean** (non-polluting) resource.

1. Natural Use: Photosynthesis

- Plants trap sunlight to make food.
- This energy is passed to humans and animals through the food chain.

2. Human Use: Technology

- **Solar Panels (Cells):** Convert sunlight directly into **electricity** (used in homes, calculators, and satellites).
- **Solar Cookers/Heaters:** Use the Sun's **heat** to cook food or warm water.
- **Types of Forests in India**

Forest Type	Main Feature	Example
Evergreen	Stay green all year (heavy rain).	Rosewood, Ebony
Deciduous	Shed leaves in dry season (most common).	Teak, Sal, Neem
Thorny	Have spines/thorns to save water.	Cactus, Babool
Mountain	Cone-shaped with needle-like leaves.	Pine, Deodar

2. Layers of a Forest

To understand a forest, look at its vertical layers:

- **Emergent Layer:** Tallest trees reaching for the sun.
- **Canopy:** The "roof" of the forest formed by thick leaves.
- **Understory:** Shorter trees and shrubs.
- **Forest Floor:** Ground level with moss, fungi, and decaying leaves.

1. Soil: The Living Foundation

Soil is the thin top layer of Earth where plants grow.

- **Formation:** Created by **Weathering** (breaking down of rocks by wind, water, and heat over thousands of years).
- **Humus:** Decayed plant and animal matter that makes soil fertile.

Gemini said

Here are the super-short, high-impact notes for **Soil, Rocks, and Minerals**.

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- **Formation:** Created by **Weathering** (breaking down of rocks by wind, water, and heat over thousands of years).
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- **Conservation:** Preventing **Soil Erosion** (loss of topsoil) by planting trees (Afforestation) and terrace farming

2. Rocks: Earth's Building Blocks

Rocks are solid masses made of minerals. They are classified into three types:

Type	How it's Formed	Example
Igneous	From cooled molten lava/magma.	Granite, Basalt

Type	How it's Formed	Example
Sedimentary	Layers of sand/mud pressed together.	Sandstone, Limestone
Metamorphic	Changed by extreme heat and pressure.	Marble, Slate

3. Minerals: Natural Treasures

Minerals are the chemical substances that make up rocks.

- **Metallic:** Minerals containing metals (e.g., Iron, Copper, Gold).
- **Non-Metallic:** Minerals like Coal, Petroleum, Salt, and Quartz.
- **Ores:** Rocks that contain a large amount of a specific mineral (e.g., Bauxite is the ore of Aluminum).

2. Fossil Fuels

Fossil fuels are a type of exhaustible resource formed from the **remains of dead plants and animals** buried under the earth for millions of years.

Main Types of Fossil Fuels:

1. **Coal:** Formed from ancient plant remains. Used mainly for generating electricity in power plants.
2. **Petroleum (Crude Oil):** "Black Gold." Refined to make Petrol, Diesel, and Kerosene.
3. **Natural Gas:** Often found with petroleum; used as a clean fuel (**CNG**) for vehicles and cooking (**LPG**).

1. Natural Resources

Natural resources are the "treasures" provided by Earth that we use to survive.

- **Inexhaustible (Renewable):** Resources that will never run out (e.g., **Sunlight, Wind, Water**).
- **Exhaustible (Non-renewable):** Resources that are limited and take millions of years to form (e.g., **Coal, Petroleum, Minerals**).