



Vocabulary

Atmosphere	The layer of gases surrounding the Earth, which protects life and makes it possible for humans, animals, and plants to survive.	from Greek words: “Atmos” → means vapor or air “Sphaira” → means sphere or ball
extinction	Extinction is when a species of plant or animal completely disappears from the Earth and no members are left alive.	from Latin word “extinctio” → meaning “a putting out or extinguishing”
greenhouse gas	A greenhouse gas is a gas in the Earth’s atmosphere that traps heat from the Sun, keeping the planet warm—like a blanket around the Earth.	from the idea of a “greenhouse”, which is a glass building for plants that traps heat inside. “Gas” comes from Greek “khaos” meaning empty space or air.
renewable energy	Renewable energy comes from sources that don’t run out and can be used again and again, unlike fossil fuels which can run out.	Renewable” comes from Latin “renovare” → meaning “to make new again” “Energy” comes from Greek “energeia” → meaning “activity or work”
Longitude	Longitude is the distance east or west of the Prime Meridian, measured in degrees (°). It helps us find exact locations on Earth.	from Latin “longitudo” → meaning “length” or “long distance”
latitude	Latitude is the distance north or south of the Equator, measured in degrees (°). It helps us find exact locations on Earth.	from Latin “latitudo” → meaning “breadth” or “width”
sustainable	Something is sustainable if it can last a long time without harming the environment or using up resources.	from latin “sustinere” → meaning “to hold up” or “to support”
indigenous	Indigenous people or animals are those that are native to a particular place and have lived there for a very long time, before other people or species arrived.	from Latin “indigena” → meaning “born in a country”

Sticky and Key Knowledge

To know why the atmosphere is essential for life on earth	Exploring the different parts of the atmosphere and understand its significance to life on Earth The atmosphere is essential for life on Earth because it provides breathable oxygen, protects against harmful solar radiation, regulates temperature through the greenhouse effect, and enables the water cycle. It acts as a protective shield and contains vital gases—nitrogen for nutrients and carbon dioxide for photosynthesis—that create a habitable environment
To know the causes, consequences and solutions to climate change	Climate change is driven by human-induced greenhouse gas emissions, primarily from burning fossil fuels and deforestation, causing global temperatures to rise. Consequences include extreme weather, rising sea levels, and ecosystem disruption. Solutions require rapid decarbonization, transitioning to renewable energy, and nature restoration
To know the greenhouse effect and the role it plays in climate change.	The greenhouse effect is a natural process where atmospheric gases (CO ₂ , methane, water vapor) trap the sun's heat, keeping Earth habitable. Human activities, primarily burning fossil fuels, have intensified this process, creating

	an " enhanced greenhouse effect " that traps excess heat, causing rapid global warming and driving climate change.
To know the impact of farming and agriculture	Agriculture is a critical driver of global environmental change, accounting for roughly one-quarter to one-third of global greenhouse gas emissions. While feeding a growing population, farming significantly causes deforestation, biodiversity loss, water depletion, and pollution. It remains, however, the foundation of human civilization, rural employment, and economic stability.
To locate polar regions using latitude.	Latitude lines run east to west around the Earth. The closer you get to 90°, the closer you are to a pole. 90° North = North Pole 90° South = South Pole
To understand the significance of polar day and night.	During polar night, the sun stays hidden below the horizon for over 24 hours, while in polar day, it shines brightly above the horizon for the same length of time
To know the key aspects of physical geography of the Arctic and Antarctic	Know the arctic is sea surrounded by land and that the Antarctic is land surrounded by sea. The Arctic is a frozen, semi-enclosed ocean surrounded by land (North America, Europe, Asia), while Antarctica is an isolated, high-altitude continent surrounded by the Southern Ocean. The Arctic features thin sea ice and tundra, whereas Antarctica is covered by a massive, thick ice sheet containing 70% of Earth's freshwater. Both are polar deserts with extreme temperature variations, polar nights/days, and intense, climate-sensitive cryosphere.
To know what natural resources are present in the Arctic.	There's an estimated 30% of the world's undiscovered gas and 13% of its oil, primarily offshore. The region holds significant deposits of minerals like iron ore, copper, zinc, nickel, and diamonds, alongside substantial fisheries fresh water, and valuable shipping routes
To know how climate change effects the polar regions.	Polar regions are warming up to four times faster than the global average, a phenomenon known as polar amplification . This rapid heating causes massive sea ice loss, melting glaciers in Greenland and Antarctica, and thawing permafrost , which disrupts ecosystems, threatens infrastructure, and drives global sea-level rise.
To know the impact on the distribution of natural resources due to climate change.	Climate change is altering the distribution of natural resources by impacting temperature, rainfall, and extreme weather events, which affects where resources like water, fertile land, and certain species can thrive.

Key Images

Latitude and longitude

Lines of latitude and longitude are used to locate places accurately on the Earth's surface.



