

WHAT IS WEATHER

Weather :-

Weather is the state of the atmosphere including temperature , winds , air pressure , humidity, the amount of water and other factors .

Scientists who predict weather are called meteorologists.

Barometric pressure

The pushing force of the atmosphere is called barometric pressure , The barometric is an instrument that shows air pressure



Temperature

Air temperature also affects weather . As the sun warms up earth's surface , Air that is in contact with the surface becomes warmer .

Winds

Winds is air movement caused by differences in pressure , in general air moves from areas of high pressure to eareas of low pressure .

Water in the Atmosphere

The other factors that affect the weather are : humidity, precipitation, clouds.

Humidity is the amount of water vapor in the air .

Circulation : Have you ever used fan to cool or to warm up a room ?

The fan moves air around the room , Circulation is the movement of air . that redistribute heat on earth

Q1: Explain the weather today by the factors you learned ?

Q2: what is weather?

Q3: what are the factors that affect the weather at the atmosphere?

? Q4: What are the spheres of earth

Earth as a System

Earth is a system . A system is a group of parts that work together .
Earth's system is made of parts called spheres . **There are Four major spheres of earth's system**

Air , water , land , and all living things

Atmosphere 1)

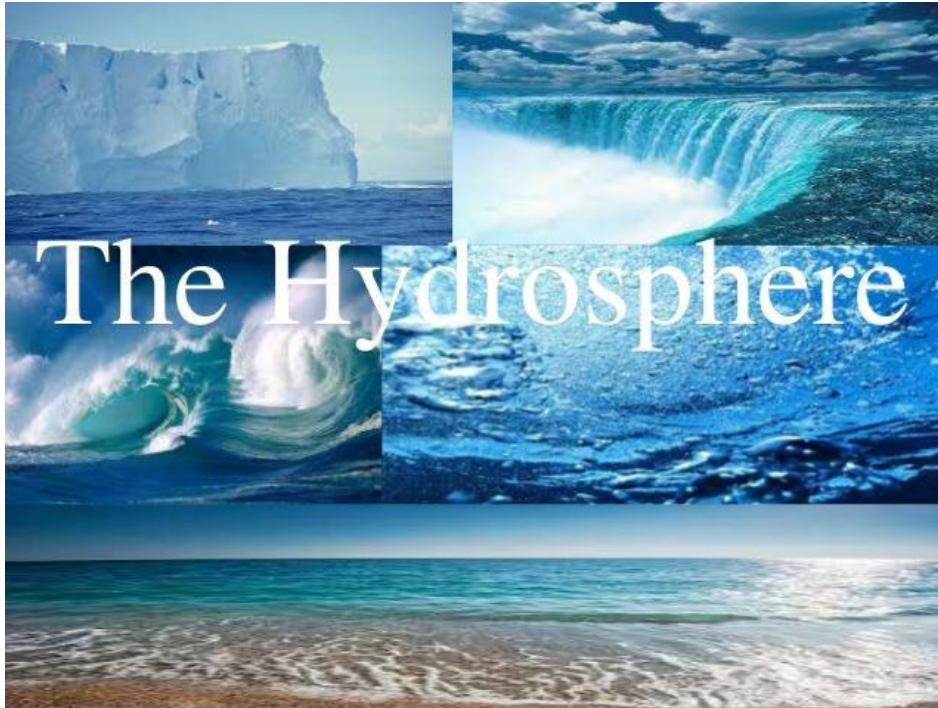
Is the mixture of water vapor and other gases , Nitrogen and oxygen are the main gases at the atmosphere, it also contains a small amount of carbon dioxide.

The atmosphere is essential for life on earth , it contains mixture of gases that organisms need to live, and the atmosphere hold the heat . from the sun , and help protect organisms from harmful sunlight



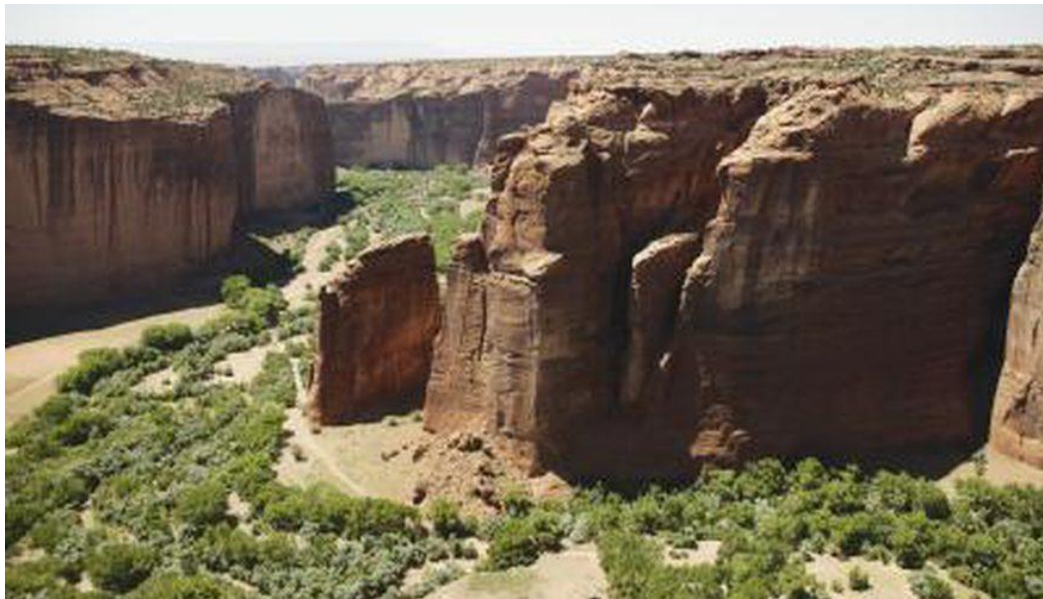
Hydrosphere (2)

All the water of earth make up the hydrosphere. The hydrosphere covers a little less than %75 of earth's surface , most of the hydrosphere is ocean water .



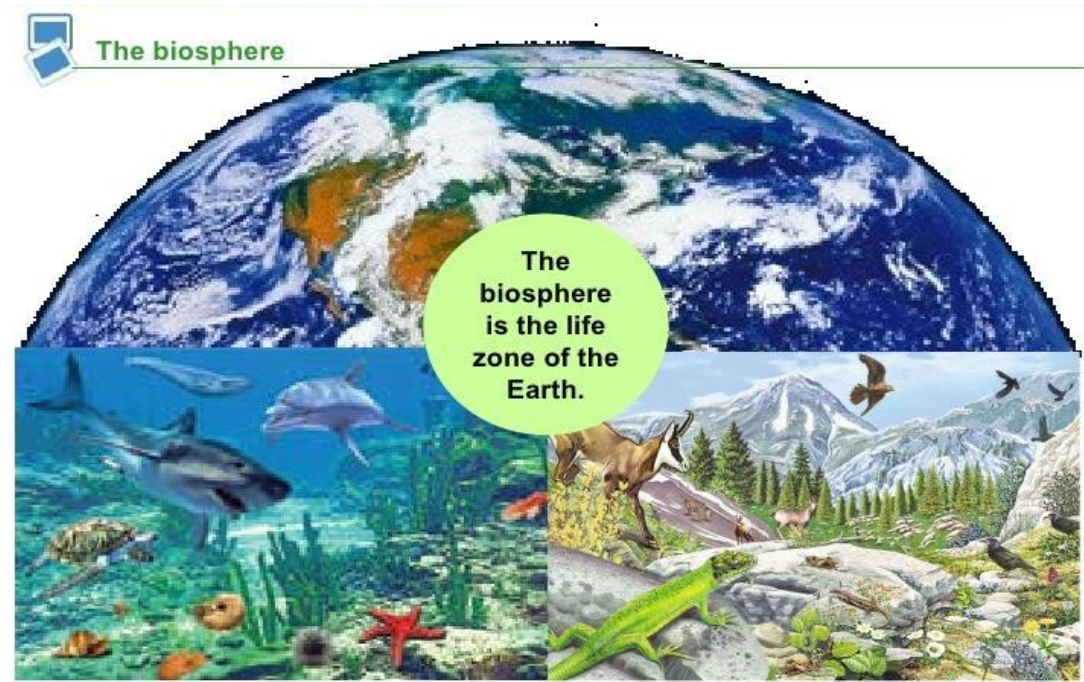
3) Lithosphere

The solid , rocky outer layer of earth is the lithosphere and it contains rocks , soils , and minerals and it covers the entire surface of earth and it's made up of the continents , island , and the ocean floors , the . lithosphere various from hills and valleys to mountains



Biosphere(4

The part of earth which all living things are found , the biosphere extends from about 10 kilometers above earth surface to about 10 . kilometers below the surface of the ocean



? Q1: What are the four major spheres of earth

? Q2: Explain the Hydrosphere

:- Q3 : Complete the empty spaces

There are four major spheres on Earth which they are,,, And

The sphere that is responsible for the mixture of water vapor and other gases is called , When all the water of earth makes up , The solid, rocky outer layer of earth is the , The part of earth where all living things are found is called

? How do clouds and precipitation form

Water in the Air

Clouds come in many shapes and sizes . Remember that clouds form when water vapor changes into tiny water droplets or icy crystals . Whether a cloud is made of water droplets or icy crystals depends partly on air pressure .

Precipitation

Is the form of ice crystals that fall down from the clouds , The ice crystals change as they fall through different temperatures, If the ice crystals fall into air that is warmer than 0°C. They will melt and fall as rain , and if the rain near the ground is very cold the rain sometimes freezes before it hits the ground , The frozen rain drops are sleet or hail. The frozen precipitation that forms layers is called hail and it's at the size of pea and some can get bigger than a baseball.

Sleet is the tiny frozen droplets that fall longer through cold air.

But if the air near the ground is below 0°C , ice crystals fall as snow .

Types of Clouds

1)Cirrus : cirrus clouds are high altitude clouds that are often thin , . wispy , and white



Cumulonimbus : clouds that grow vertically have rising air inside(2 them , cumulonimbus clouds cause thunderstorms, and rain



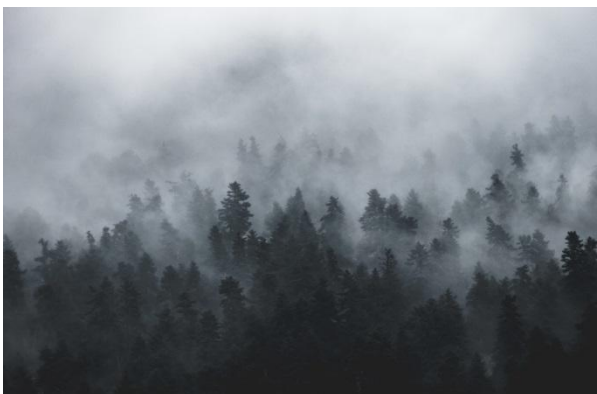
Alto cumulus: alto cumulus clouds are midlevel clouds look like small ,(3 puffy balls .



4) Stratus : stratus clouds are low level clouds that cover the whole sky and they look dark.



5) Fog : Fog is a cloud at ground level , as the air near the ground cools .



Sometimes many types of clouds may appear at the same time .

Q1 : What are the types of the clouds?

Q2 : complete the empty spaces with the right words:-

1-If the temperature near the ground is warmer than 0C the ice crystals fall as

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2- If the temperature near the ground is about 0C the ice crystals fall as

.....

3-If The temperature near the ground is less than 0C the ice crystals fall as

.....

The type of cloud at the ground level4-

5-The type of cloud that is responsible of the thunderstorm and rain

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?WHAT IS CLIMATE

Average Weather:-

Weather is made up of all conditions in one place at a Single moment.

Weather changes very often .

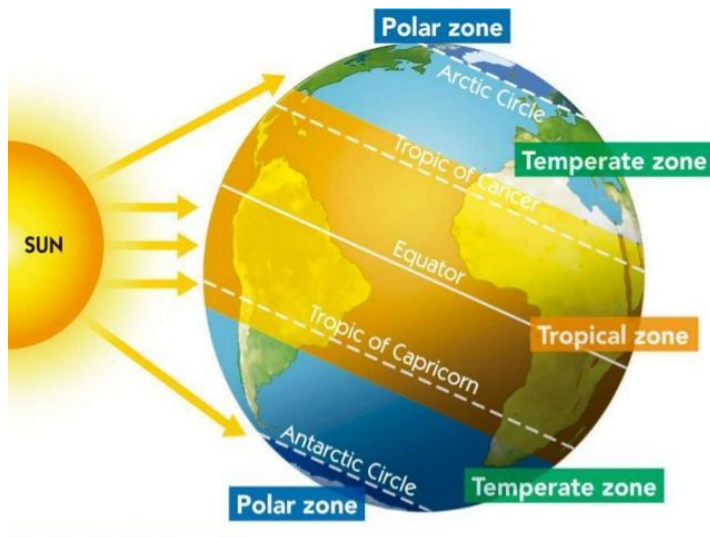
Climate describes the weather conditions over a long time , at least thirty years .

Factors That Affect Climate:-

1)Latitude

Latitude is a measure of how far a place is from the equator.

There are three major zones of climate according to latitude , 1) polar zone , 2)temperate zone , 3)tropical zone .



2)Bodies of water

The air over beaches is often cooler than air over areas inland .Ocean currents can make a climate warmer or cooler.

3)Elevation

Is the height above sea level , Mountain ranges may have different climates than areas around them , In general higher land is cooler than lower land.

Q1 : What is the different between weather and climate?

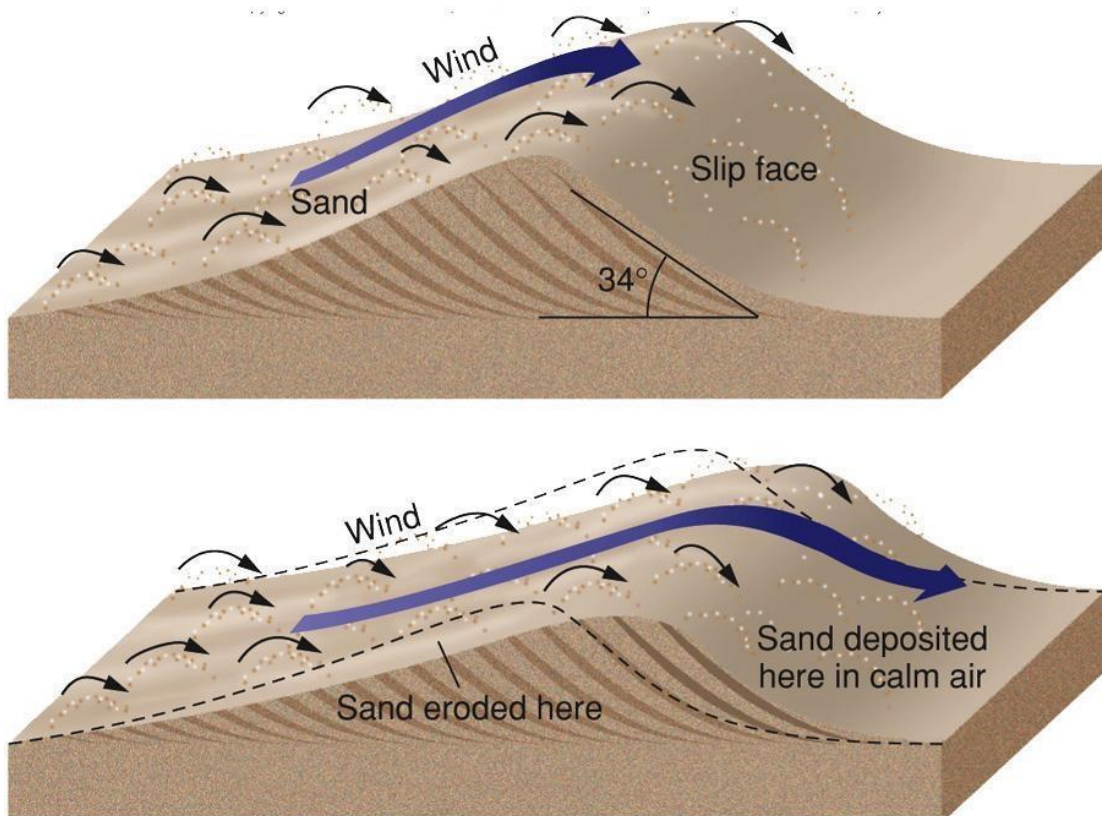
Q2 : What are the factors that affect the climate?

?Q3 : What are erosion and deposition

Erosion and Deposition

Erosion and Deposition : materials such as rocks particles on earth moves . Water, wind and ice can carry particles from one place to another place , The movement of materials away from a place is called erosion. **Gravity** is the main force that causing erosion followed by winds and water .

Deposition is the process of laying down materials such as rocks and soil . These sediments can be deposited in different places by wind or flowing water



The sand erosion and deposition by the wind

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Water Erosion and deposition

Rivers : Gravity causes rivers to flow as rivers downhill they pick up and carry sediments such as rock , soil and sand .

Rain: rain can loosen sediments from soil and carry them away . Rain can cause flooding in low , flat areas flooding damages roads , and buildings.

Waves : waves can cause erosion along coastlines. As waves hit against rocks , the rocks can break .

Glaciers: water frozen in glaciers can cause erosion, gravity pulls glaciers down along the valley, the glaciers deposit sediments downhill.

Wind Erosion and deposition

Wind erosion is caused by the wind blowing dust , soil , or sand from one place to another, wind erosion also changes sand dunes and fields.

? Q1 :explain the erosion and deposition

? What is the water cycle

Water in the air

Water surrounds you all the time ,This water is not always in a liquid form as in rivers or in a solid form as in glaciers, a water can be found as a form of gas called water vapor , Air has always some water vapor in it .

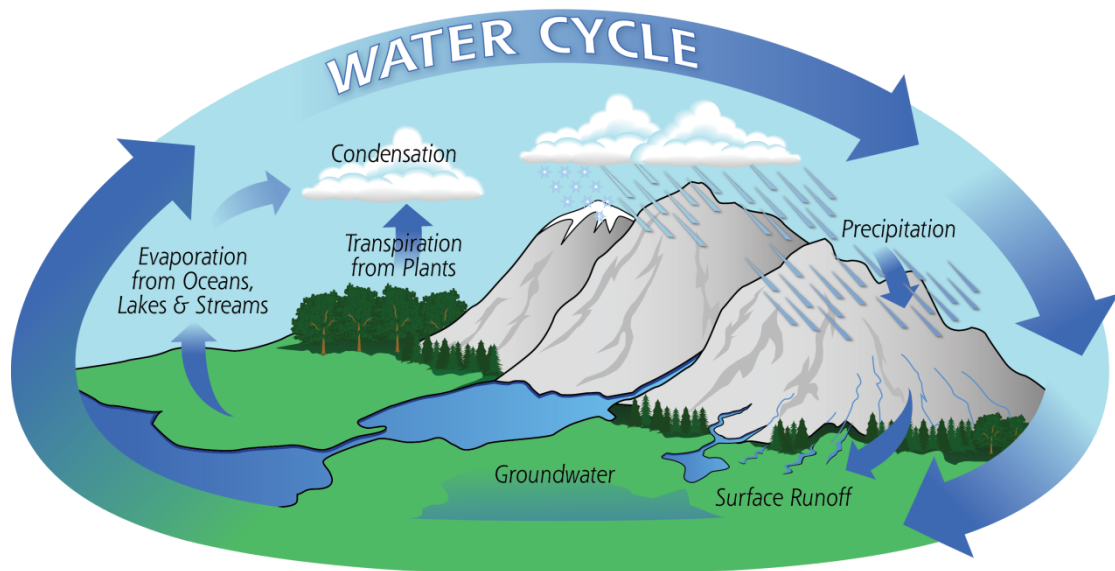
The water Cycle

The water cycle is the repeated movement of water through the environment in different forms , Which they are :-

1) Evaporation : is the changing of a liquid water into gas

- 2) **Condensation** : a gas such as water vapor turns into liquid
- 3) **precipitation**: the water falls form clouds as rain , snow , hail and sleet .

water cycl



? Q1 : Draw or explain the e