

What do you know about volcanoes? Discuss the causes and types of volcanic eruptions?

VOLCANOS:-

Volcano eruption is simply as rupture on earth surface (vent) through which lava, ashes & gases come out and most of the time very destructive to ecosystem. To understand how eruption or eruption occurs it is important to know how it is formed by going briefly the structure of the earth.

How volcano eruption occurs:-

Structure of the earth:-

Earth surface (lithosphere) where we live is divided into three layers namely

- 1) Earth crust
- 2) Mantle
- 3) Core

Earth crust (where we live) is about 1800km long it is made of rocks, soil and other particles. Below the earth there is a mantle, mantle is composed of rich material, about 80% of earth (lithosphere's) particles are present in mantle.

Mantle is about 5100km. And it has many materials due to compression and pressure. The

change into liquid form and because of
magma. During compression solid is born higher
mantle material which is or, near to fault
when this compression is going or a duplicate vent
line or a weak point, or a magma come out
the earth crust then this magma come out
that weak point (hole). Thus, explosion
lava & lake piece.

3. Lava Comes out in different forms:-

Lava is composed

of very rich materials, Iron, magnesium, manganese
etc. It comes out mostly in liquid or
partly form. But mostly can also come out
in a form of ashes burst including in topographic
where some layer is present. And it also can
come out in a form of gases etc.

4. Effects of volcanic eruption:-

Unlike, floods, hurricanes,
and other disasters volcanic eruption have some
positive effects also both are follows.

a) Positive effects:-

- i) when lava comes out in different
types of eruptions in different beautiful
scenery this attracting tourists

Lava when cools down it turns into brown or black colour and it becomes soil, this type of soil is very rich with nutrients and very effective in agriculture (crops) and.

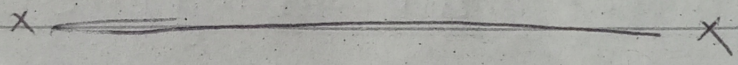
The places near to volcano eruption, are good for geothermal energy.

ii) Negative effects :-

When lava gush out in the air, it goes to atmospheric layer of stratosphere, where ozone layer is present it impacts and has destructive effects on it.

Aster and mud can mix with river flow thus forming lahars. Lahar is very fast water flow with a mixture of mud and ash, soil etc.

iii) Natural scenery destroys.



Q) Differentiate between renewable and non-renewable resources of energy? Briefly explain wind and solar energy and biofuels?

! Renewable Sources of energy :-

Energy can be produced by many ways. Energy is required for motion or work. Renewable energy resources are those energy resources which can be reuse and have

Zero degree degradation to environment. These are
Chapter and environmental friendly resources,
They are

- i- Solar energy (energy produced by sun heat)
- ii) Wind energy - (by wind)
- iii) Hydropower (Produced from water flow, water's potential energy is converted into electrical energy)
- iv) Tidal energy

2. Non-Renewable Sources of energy: -

These sources of

energy includes hydrocarbon. Electricity is generated by combusting hydrocarbons. These are expensive and environment degradable sources pollute our environment at high extent. Today's climate change (global warming) is mainly due to use of these sources for electricity generation at high rate.

Hydrocarbons are

-) Coal
- ii) Natural Gas (CNG, LNG)
- iii) Petrol

i, Solar energy: -

Solar energy is a trending

The source of energy. Solar energy is produced by the radiation of the sun. Earth receives high amount of heat in the form of solar energy every day. Radiation is absorbed by atmosphere, night preventing reaching directly on earth surface. 50% of solar radiation is trapped by atmosphere. Gases present in atmosphere collect these radiations. Such as, CO_2 , (CH_4) , ozone, etc. Though as much as energy reach on the earth surface it can be converted into electrical energy.

Electricity generation by Solar energy :-

Different devices are used for this purpose such as semiconductor device which is made up of silicon, these are called solar cells, solar cells are also called photo-voltaic. Electrons in the silicon gain energy from sun light to create a voltage. A single voltaic cell produce very less amount of energy that's why a large number of cells are collected on a UP is called solar panel to take sufficient amount of energy.

Advantages :-

It is a cheapest source of energy.
Renewable source of energy.

Environmental friendly
many calculators and industrial sectors run
through solar energy, and many developed
countries are manufacturing cars/vehicles which
run by solar energy
It is a trending, and demanding source of
energy now a days, China has spent billions
of dollar for solar energy projects.

(ii) Wind energy :-

Wind energy is produced from
the kinetic energy of wind. Kinetic energy of
wind is converted into electrical energy by
In modern wind turbines, winds rotates the
rotor blades, which convert kinetic energy into
electrical energy. The rotation of rotor, produces
rotational energy then this transferred to
the generator, thus producing electrical energy.

a) Advantages :-

This is again very useful and can
produce high amount of energy
Renewable source of energy
Cheapest source of energy
Environmental friendly and can generate electricity
for the whole city.

Disadvantages

- Flying birds can be struck with fans, that in some cases leads to their death.
- Changing wind are uncontrollable.
- Wind turbines are inseparable

Biofuels:-

Biofuel is also the source of energy. Biofuels are made up of environmental decay and animal debris. Biofuel energy resources made from living and nonliving organisms.

Sources of biofuels:-

Biofuels can come from variety of resources. But broadly are divided into four generations.

1st generation, in which biofuels are gained from plants, animal fats etc. Bio-diesel and bio-~~alcohol~~^{alcohol} make up of this generation's resources.

Second generation, in which biofuels come from non-agricultural and non-food materials, such as woodchips etc.

Third generation - in which biofuels are from algae or other quickly biomass sources.

Fourth generation - in which biofuel come from

quickly engineered plant or biomass may have higher energy yield.

Q. What is tornado? How is formed and what are the effects of tornadoes? Explain briefly.

1 Tornado:-

Tornadoes are violent rotating winds both above surface of the earth (Columbian clouds and surface (ground). It comes in many shapes and form but can be seen in condensation funnel shape originating from Columbian clouds. It contains these rotating wind carries debris and dust. winds rotate differently in different directions, such as winds rotate counter-clockwise in Northern hemisphere, and clockwise in Southern hemisphere. It is also called whirlwind, or cyclone or twist, or mesocyclone.

2. Effects of tornado:-

It is disastrous for the agricultural sector.

It causes soil erosion.

uprooting of trees and upturned vehicles.

... to houses near where air is formed
... wind speed is 180km per hour but air
... at high speed can be 190km per hour
... a very serious form of.

Discuss various factors which affect the
variation in the climate of a place?

Introduction to climate :-

Climate is a long weather
condition at a particular region.
Weather conditions included in climate are;

- Floods
- Droughts
- Heat waves
- Heavy rain fall
- Melting of Ice
- Cold spell
- Increase in sea ice

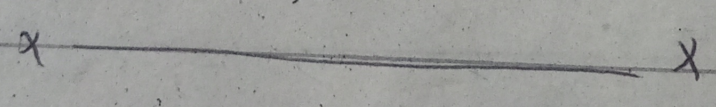
Factors involves in climate :-

These are various
factors or elements which contributes to
climate such as:
Wind

- b) Clouds
- c) Rainfall
- d) Heat waves / hot summers
- e) Sun

3. Effects of Climate Change:-

As stated above climate is long term weather condition and factors that change climate e.g. rainfall of it is above its average it causes change resultantly floods occur. Similarly, due to excessive heat by sun causes hot summers heat waves, resultantly it causes melting of glaciers. Climate change is not only by nature but also mainly by human being due to emission of various harmful substances by the factories, and commercial area.



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what is the scheme of strata of atmosphere and on what factors does it depend?

Strata of atmosphere:-

Atmosphere is one of the segments of our environment. Atmosphere consists of four layers depends on temperature. Atmosphere is regarded to a protective blanket around the surface of the earth, containing different gases such as CO_2 , and Nitrogen (78%), Oxygen (19%) and other gases. This blanket protect the earth from ultraviolet radiation by the sun, which can destroy ecosystem and biosphere if not be protected by Atmosphere. Atmosphere prevents the radiation reaching on touching the earth surface directly, about 50% of radiation, and solar energy is trapped by atmosphere. Atmosphere is divided into four segments/layers. These are

Troposphere

Stratosphere

Mesosphere

Thermosphere

Biosphere. (is considered as boundary of atmosphere, and present at 500km and this is considered as last layer)

i) Troposphere:-

This layer of atmosphere extends upto 11km above surface of the earth. The temperature decrease as altitude increases. Temperature is usually $(15^{\circ}\text{C}$ to -56°C)

ii) Stratosphere:-

It extends upto 11km to 50km. It has CO_2 (GHG) and Ozone layer in it. Ozone layer protect our earth from ultraviolet radiations. This is very important. In Stratosphere temperature increases as altitude increases it is typically due to the presence of Ozone layer in it which CO_2 & gases warms the earth.

iii) Mesosphere:-

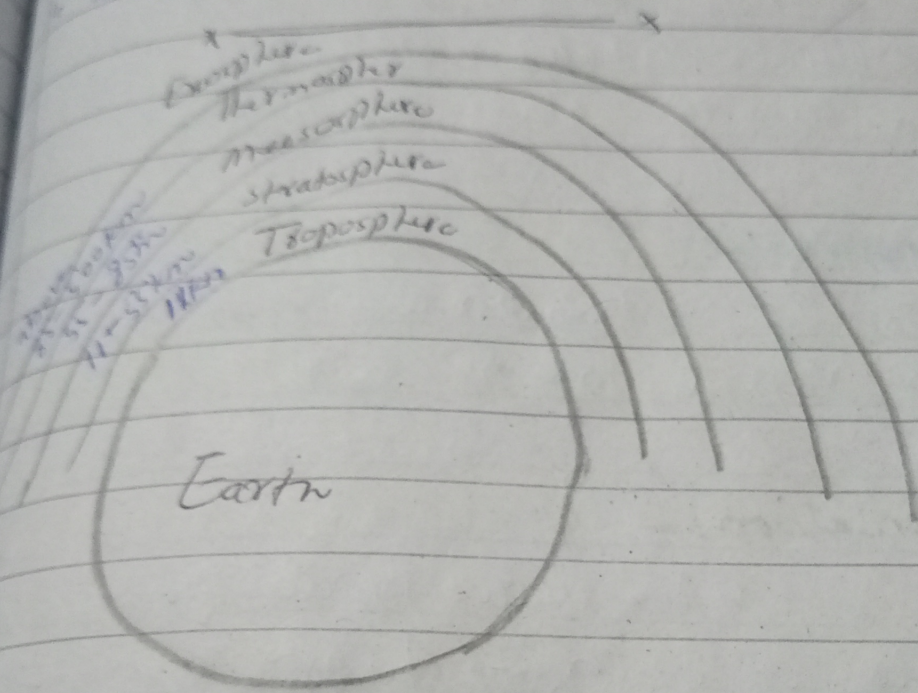
The third layer of atmosphere. It extends upto 50km to 85km above the surface of the earth. Temperature decrease as altitude increases.

iv) Thermosphere:-

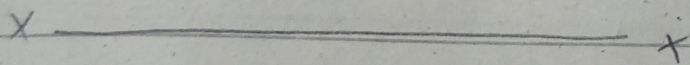
This is the uppermost layer of surface of the earth. It extends from 85km upto 500km. Temperature decreases as altitude

Conclusion: -

Atmosphere consists of four segments above the surface of the earth. The factors involved in it is mainly temperature.



Layers of atmosphere.



Describe the water cycle and briefly explain the major processes involved in water cycle?

Water cycle :-

Water cycle or also called "hydrological cycle" refers to how water moves

above from ground. by oceans, rivers and
water moves above by following processes

a) Evaporation:-

Water vapours rise above from
the sea water, oceans and rivers. The sun
when warms oceans, rivers and sea water
it produces water vapours. These water
vapours then rise above by the wind.

b) Transpiration:-

Transpiration from plants releases
water vapour into the air.

c) Condensation:-

When water vapours goes up into
the air at a certain height, these water
vapour condensed thus forming clouds. Water
vapours change into liquid again then.

d) The Precipitation:-

When cloud gets heavier
and voluminous these water vapours falls
back on the earth ground. called precipitation.

What is the difference between aesthenosphere and lithosphere? Explain various components of lithosphere?

Aesthenosphere and Lithosphere:-

Our environment is divided into different segments among which lithosphere and aesthenosphere. Lithosphere is basically a part of lithosphere segment of the environment and aesthenosphere both have different differences as well. Lithosphere is further divided into three layers, Earth crust, Mantle, and magma. Lithosphere part is considered as an earth crust whereas mantle has aesthenosphere layer. Aesthenosphere lies beneath the lithosphere the outermost layer called earth crust. Aesthenosphere is 700km deep mantle which lies below the earth crust has further divided in types such as aesthenosphere and mesosphere.

Differences:-

Temperature: Temperature is high in aesthenosphere and normal on earth (crust/lithosphere). Temperature moderate.

Location: It lies beneath the lithosphere layer.

Composition: Aesthenosphere is hotter and mainly composed of plant, animal debris, aluminium, iron,

manganese etc. Lithosphere consists of soil, rocks, where living organisms live.

2. Components of Lithosphere:-

Lithosphere as also called crust where we live is composed of rocks, minerals, soil, ocean/water, mountains etc. It is the outermost layer of the Earth's ground where life we live.

a) Soil/Minerals:-

Soil and minerals are naturally occurring inorganic compounds. Minerals are complex inorganic compounds having complex chemical composition. It has two physical properties such as crystalline, and hardness. Hardness is tested by "Mohs scale". There are almost 400 different types of minerals according to meteorological distribution. Some examples of minerals are diamond,

b) Rocks:-

Rocks are also naturally occurring inorganic substances found on Earth's crust. About 95% of the Earth's surface is composed by rocks. Rocks have simple or normal

composition than minerals. Rocks are of

three types

Igneous Rocks (Primary rocks or other rocks made by)

Sedimentary rocks (sedimentary rocks or secondary

are made up sediments or ocean beds or

debris of igneous rocks. Such as limestone,

etc.

Metamorphic rocks - They were initially weather

igneous or sedimentary but due to compression

their formation took place. These are such as

slate, is a Igne formed by compression of

mudstone (Igneous rock), similarly by

compression of limestone "marble" (metamorphic

stone) formed.

x-----x

Differentiate between food contamination
and food adulteration?

Food Contamination:-

Food contamination refers

to decomposition of food through making it

liable to grow, or uneatable.

Contamination of food occurs due to

various reasons such as temperature which

let grow different bacteria in food,

thus decomposing it. At time of decomposition of food an odour is produced which is called as food spoilage. Contamination of food during war is done by insects. It is a humid weather (wet weather/aid), cause contamination rapidly other than in dry weather.

2. Food Adulteration:-

Adulteration means to mix something in a food which is harmful and changes natural value of food. Various chemicals are being used today, though many are harmful to health. Adulteration also means addition of something less valuable and presenting it as pure. There are many diseases by shopkeepers on the ground to sell his products they add some substance in food, thus becoming liable and harmful to eat by affecting health badly.

3. An Overview:-

Food adulteration and Food Contamination both are different terms. Food Contamination means growth of bacteria and microorganisms which

Contamination of food is simply decomposition
whereas food adulteration is to bind
the composition of food by different substances
adding into food such as different chemicals
different flavours and chemicals are being
used in food for the purpose of preservation
and to making food profitable. These substances
are harmful. Thus, food adulteration is
something less valuable adding to the actual
food changing its purity.

The average of 11 numbers is 65, that of
the first 6 numbers are 60 and that of
the last 6 numbers are 65. Find the
6th number.

Solution:

$$\text{Average} = \frac{\text{Sum}}{\text{Number}}$$

Average of "11" numbers (Total)

$$65 \times \frac{\text{Sum}}{11} = 693$$

Average of first "6" numbers

$$60 \times \frac{\text{Sum}}{6} = 360$$

Average of last "6" numbers

$$65 \times \frac{\text{sum}}{6} = 390$$

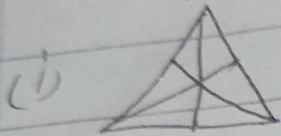
By adding both average of 6 numbers / then subtract from total

$$= 390 + 360 = 750$$

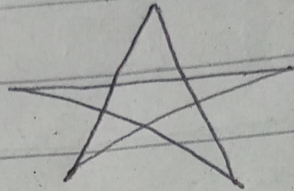
$$= 750 - 607 = 143$$

143 Answer.

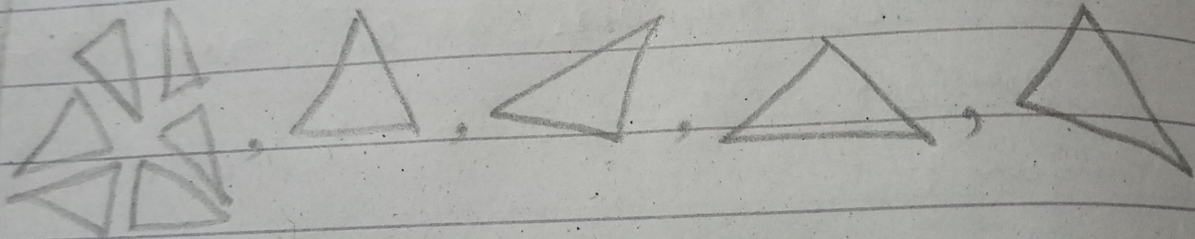
Q Find the number of triangles in the following two images.



(ii)



(i) Total number of triangles = 10



(ii) Total number of triangles = 11

