

Q What do you know about volcanoes?
Discuss the causes and effects of volcanic eruptions.

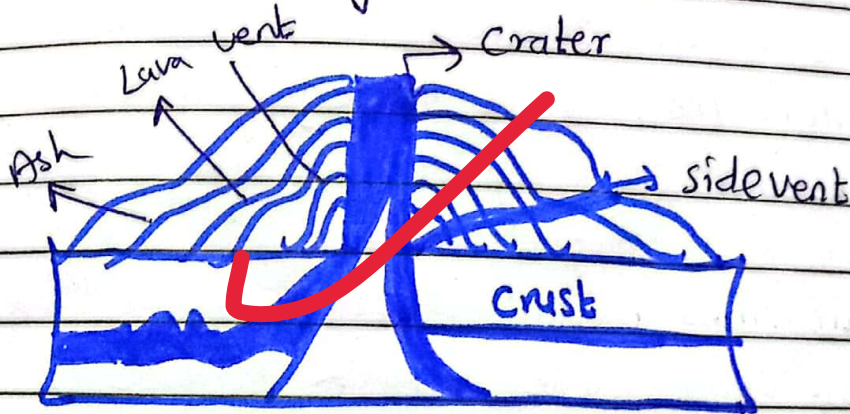
Volcanoes:

Volcanoes are essentially the vents on the earth's crust through which molten mineral - magma - is erupted due to the density variation within the volcano. When the magma reaches the surface, as lava, it cools and hardens in the form of a dome or crust.

Most volcanoes appear along the sides of the tectonic plates.

Example: The Pacific ring of fire includes two-thirds of the world's volcanoes.

Mount Etna, Italy (etc)



Volcanic Eruption

Causes of Volcanic Eruption:

1. Movement of tectonic plates

When tectonic plates move toward each other below magma sediments and seawater are forced into chambers which eventually overflow, and eruption of volcano takes place.

2. The Pressure from saturated gases in the magma:

The magma, in the interior of the earth, is often saturated with gases like CO_2 and hydrogen sulfide. When the gases exert pressure together with water vapours, the highly explosive magma is forced out as lava on the surface of the earth.

Effects of volcanic eruption:

Positive effects:

- The temperature of Earth is very high near volcanic eruptions. Thus, the sites where magma is very close to the surface can be used to produce geothermal energy to ameliorate the renewable energy utilization.
- Volcano sites attract many tourists around the world to enjoy astonishing views.

Negative Effects:

- Volcanoes can reflect sunlight back from stratosphere, which causes abrupt cooling of the temperature, thus damaging vegetation.
- The accumulation of sulfur dioxide gases and carbon dioxide from the volcanic eruption in the stratosphere can cause acid rain, air pollution and global warming.

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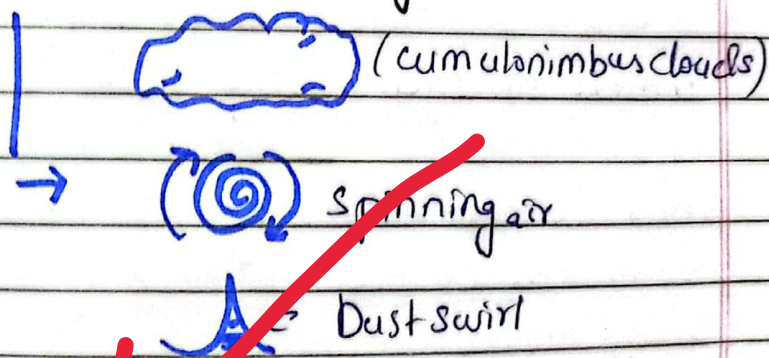
What is Tornado? How is it formed and what are effects of Tornadoes?

Tornado:

A tornado is a small but intense vortex of rising air associated with the strong updraft of an intense thunderstorm. It generally occurs in mid-latitude. The air speed of tornadoes ranges from 40-300+ mph and width varies from a few yards to more than a mile. Apparently, it is a dark funnel cloud hanging from the base of a dense cumulonimbus clouds. While moving around the countryside, it withers and twists and where it touches the ground, it can destroy almost everything.

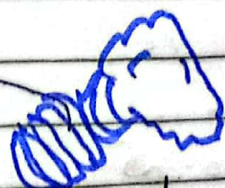
Formation:

1. Storm Development stage



2. Storm Organization:

Rolling motion filled vertically

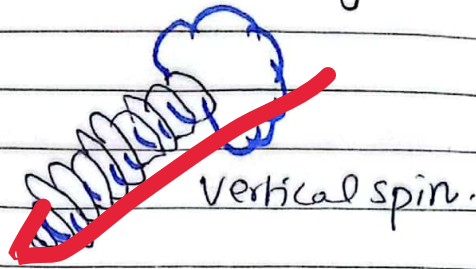


horizontal spin created.

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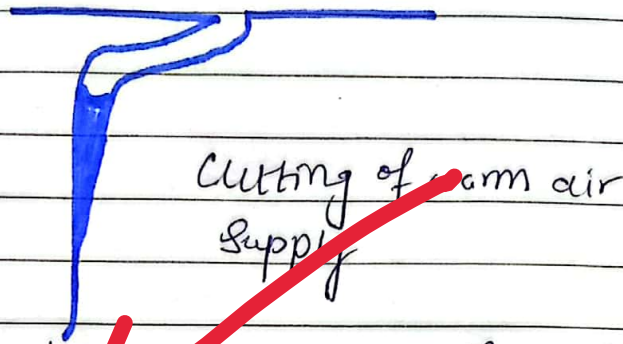
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3- Tornado maturation stage:



(Tornado is funnel shaped cloud)

4- Tornado dissipation stage:



(Tornado narrows, and funnel dissipates)

Effects of Tornado:

Devastation from these tornadoes is often complete within the narrow limits of their paths. The enhanced Fujita intensity scale is used to measure the intensity of tornadoes destruction based on their speed.

Damage intensity	Speed of tornado	Damages
Light damage	(65-95 mi/hr)	Chimneys are damaged, trees are broken
Severe damage	(136-165 mi/hr)	building destroyed, forests uprooted.

Good answers!!