

Earth Structure

Crust = solid rock, making up the surface
Mantle = molten rock, 200 - 4,000°C.
Outer core = liquid iron, 4,000 - 6,000°C.
Inner core = solid iron, 6,000°C + (as hot as the surface of the sun).

Rock cycle

Igneous Rock is formed from **magma** through **cooling** and **melting**.
Metamorphic Rock is formed from **Igneous Rock** or **Sedimentary Rock** through **heat and pressure**.
Sedimentary Rock is formed from **sediments** through **weathering and erosion**, **compaction**, and **cementation**.

Sedimentary: Rocks that are formed from other broken up rocks.
Igneous: Rocks formed from volcanoes.
Metamorphic: Rocks that have been changed by heat and pressure.

Volcano management

Monitoring – volcanoes may give off warning signs like releasing more gas. This can be measured.
Prediction: Using the evidence from monitoring, a prediction can be made. This is saying when the volcano will erupt to warn people.
Planning: Emergency services make plans for how to help people in an eruption. Place can be found for evacuation.
Evacuation: Getting people away to safety.

Plate tectonics

Destructive margin: One plate is pushed down into the earth, it heats up and melts. This molten rock pushes to the surface and erupts. These are very explosive!

Constructive margin: 2 plates pull apart, magma can rise through the gap.

Conservative margin: 2 plates push past each other. No volcanoes, but big earthquakes.

Tectonic Hazards

Volcanos

The diagram illustrates a volcano with the following features labeled:
- **Ash Cloud**: A large plume of ash rising from the crater.
- **Pyroclastic Flow**: A fast-moving mixture of hot gases, ash, and rocks flowing down the side of the volcano.
- **Volcanic Bombs**: Large, incandescent rock fragments hurled from the volcano.
- **Crater**: The opening at the top of the volcano.
- **Main vent**: The main pipe through which magma rises.
- **Lava Flow**: Molten rock flowing from the volcano.
- **Secondary Cone**: A smaller cone formed by a secondary vent.
- **Secondary Vent**: An additional vent on the side of the main cone.
- **Magma Chamber**: A large reservoir of molten rock beneath the volcano.

Main Features of a Volcano

Ash: small shards of rock, can be very sharp!
Volcanic bombs: Rocks hurled from an erupting volcano
Pyroclastic flow: Very hot mixture of air, ash and rocks that rushes down the side of a volcano.
Magma chamber: Hole full of liquid rock (magma) under the volcano.

Why do volcanoes erupt?

Conservative: As the two plates pull apart, magma rises through the gap between them.
Destructive: As the one plate is pushed down into the earth, it heats up and melts. This molten rock pushes to the surface and erupts. These are very explosive!

Earthquakes

Earthquake = ground shaking
Causes: Earthquakes are caused by plate movements. The strongest ones are caused at destructive and conservative margins as the two plates push past each other.
Effects: They cause buildings to collapse. It is the collapse of buildings that kills people.

Earthquake management

Earthquake-proof buildings are one of the best ways to protect people during an earthquake. If buildings don't fall down then people won't die!

Educating people about what to do if an earthquake happens can also save many lives!

Protect Yourself During Earthquakes!

IF POSSIBLE

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