9.2 and 9.3

Types of Volcanoes, and what comes out of them

Name_____

Date _____

Block _____

Types of Magma

•Magma contains '_____' – the more silica, the more '_____', or 'thick, slow flowing'.

– _____ magma = low silica, fast flowing

•Darker coloured – _____ (magnesium and iron)

– _____ = high silica, slow flowing.

•Lighter coloured – _____ (feldspar and silica)

•Magma also contains gases – mainly_____-.

–If the magma is thinner, the gases escape more easily, and the lava flows more smoothly and harmlessly.

–If the magma is thicker (viscous), the gases don't escape so easily, so there is more of an explosive effect (eg. Mt. St. Helens).

•Basaltic magmas tend to form at _____ (think Hawaii)

•Andesitic magmas tend to form at _____ boundaries (Cascade mtns)

•Rhyolitic magmas generally form where _____ are under _____ plates (Yellowstone)

Lava Flows

•Basaltic lava forms basaltic rock – appearance of the rock depends on how it cools.

–'_____' – Very hot, _____ lava with smooth, ropelike textures

–'_____' – Cooler lava that flows more _____, and cools more quickly into rough, jagged surfaces.

–If lava cools underwater, it forms a rounded, _____ form with a hard crust – '_____'

•'_____' – fragments of ash and rocks that are ejected out of a volcanic eruption

– _____ – material less than ____ mm in diameter

– _____ – material from _____ mm

– _____ – greater than _____ mm

'_____' – a very hot, dense cloud of pyroclastic material that will rush downhill with amazing speed (up to the speed of sound) \

Types of Volcanoes

• _____

–Comes from fast flowing, Basaltic lava

–Lava builds up in layers with wide bases and gently sloping sides
–Mountains can get to great heights
–Less explosive, but lava can be very damaging to homes and property.

•_____

•Forms when molten lava is thrown into the air from a vent, and fragments cool before hitting the ground.
–Fragments accumulate forming a cone-shaped mound with an oval base.
–Smaller, and form in _____ on the sides of _____.

•_____

•Form when layers of erupted materials from many eruptions accumulate around the vent.
–Include _____ and other pyroclastic material.
–A '_____' is when the hot ash mixes with snow and ice from the mountain, and forms a fast flowing river of mud.
–Composite volcanoes can stay quiet and 'dormant' for a long time, but gasses can build beneath the surface until the pressure is released in a massive eruption.

•'_____' – when magma is released in an eruption, the top of the mountain caves in forming a depression.

•This bowl can fill with water forming a lake.

•'_____' – Plate tectonics results in formation of a long narrow crack in the Earth's surface

–Basaltic lava comes out forming a 'plateau'.