Section 9.3 Volcanoes. Notes:

Define a volcano: Where magma comes to the surface of the Earth. “An opening in the Earth’s crust that releases lava, smoke and ash when it erupts.”

Dormant volcanoes are not active ‘at this moment’, but could erupt in the future.

Types of volcano:

Cinder Cone – steep sided volcano with layers of mostly ash. They grow quickly, and erode quickly too. Never get too big.

Shield Cone – larger, gentler slopes, made mostly of igneous rock (solidified lava). Grow slower, last longer

Hawaiian Islands are examples of shield volcanoes. They are being formed as the Pacific plate moves over a ‘hot spot’ in the Lithosphere.

Composite Cones – made from various layers of both ash and lava flows. The volcanoes along the West Coast of North America tend to be composite cones.

The Ring of Fire

The edge of the Pacific ocean is an area of lots of tectonic activity – earthquakes and volcanoes. It outlines various plate boundaries.

Volcanic features (based on the action of magma/lava) page 279

-volcanic neck = the core of a volcano, the hard igneous rock left after the softer cone has been eroded away.

-volcanic sill = a horizontal layer of intrusive igneous rock formed when magma flows between layers of rock (think of a window sill)

-volcanic dike = a ‘wall’ of igneous rock formed when magma flows along vertical cracks in the rock

Geothermal energy

-magma heats up rock, water flows in cracks, heated, rises (convection currents) we use that heat as a source of energy

Relative age of rocks

“Theory of superposition”, the older rock will be below younger rock \*except where the rock layers have been highly disturbed/flipped upside down. Age given related to other rock layers.

Absolute age of rocks = age in “years” / unit of time. Measured with cool scientific measurements of radioactive decay in the rock itself (and special fossils too).

Questions:

Text page 282 #1(3), 3(2), 4(2)

Workbook pp 187 – 191

End of chapter:

Page 284 #1, 3, 7

Workbook pp 192 - 195