Review Questions Topic 8: Igneous Rocks

What is the definition of “igneous rocks”?

Why are there “technically” no images of real “magma”?

Define “mafic” and “silicic”

What is “felsic” another word for?

What are the four major compositional categories of igneous rocks?

State what types of igneous rocks (compositions) are found in the mantle and each of the crustal types

What does the core consist of?

Why does the Earth have layers?

What is the lowest temperature at which some igneous rocks melt at surface pressures?

What is the highest temperature produced by your kitchen oven?

How hot does the crust get?

How hot does the core get?

How is pressure related to melting temperature?

Explain heat transfer, decompression, and flux melting

Explain how a combination of heat transfer and decompression melting can lead to volcanic activity at the surface (NOT at a subduction zone)?

Explain how flux melting is caused at a subduction zone

What are two broad categories that igneous rocks are divided into?

How is crystal size influenced by cooling rate?

What compositional ranges do granite, diorite, and gabbro fall into (mafic, silicic, etc.)?

Explain how partial melting creates magma of a different composition from its source rock

Explain how fractional crystallization changes the composition of magma inside a magma chamber

Explain how assimilation in the crust increases the silica content of rising magma

Explain each of the following: dike, laccolith, sill, pluton, batholith