EAS 170  
Geology and Oceanography  
Objective Sheet: Igneous Activity

**Vocabulary:**
- geothermal gradient  
- volcanic  
- laccolith  
- discordant  
- aa  
- volcano  
- pipe  
- volcanic dome  
- shield volcano  
- stock  
- magma  
- plutonic  
- dike  
- concordant  
- pahoehoe  
- cinder cone  
- vent  
- fissure eruption  
- hot spot  
- lava  
- batholith  
- sill  
- dike  
- concordant  
- pyroclastic  
- stratovolcano  
- caldera  
- flood basalt  
- crater

**Objectives:**

1. Contrast the beneficial and catastrophic effects of volcanism on humanity.

2. Describe the origin, movement, and cooing of liquid rock.

3. Relate the viscosity of lava to its composition, temperature, and dissolved gas and gas bubbles content.

4. Compare the main types of volcanoes in terms of their size, shape, composition, and eruptive style, and give examples of each.

5. List the main gases released during a volcanic eruption.

6. List and describe the effect of the three factors that determine the nature of a volcanic eruption.

7. Relate volcanism to the origin of the atmosphere and its affects on climate.

8. Explain the geographic significance of the "Ring of Fire".

9. Differentiate between magma and lava.

10. Compare variations in properties amongst magmas of differing composition (i.e. rhyolitic, andesitic, and basaltic.)

11. Discuss the potential hazards of future volcanic eruptions in the Cascade Mountain Range.