

Study guide Exam 2

1. Volcanoes: Understand how composition, temperature and gas content can control the viscosity of the magma and the nature of the volcano. Know the differences between basaltic magma, granitic magma and andesitic magma and how they form shield, composite cone and cinder cone volcanoes, respectively. Be able to define viscosity, pyroclastics, lava, magma, aa, pahoehoe, crater, caldera, nuee ardente, intrusive, extrusive, hot spots, dikes, sills, laccoliths and batholiths.
2. Mineralogy: Be able to define mineral, rock, crystal form, luster, cleavage, specific gravity, streak, hardness. Know the differences between silicates and nonsilicates, which is most common in the continental crust and be able to give examples of each.
3. Rocks and igneous rocks: Know the differences between the three rock types, examples of each and how one type can become either of the other two. Understand the consequences of gradual cooling, rapid cooling and instant cooling and be able to give examples of each. Be able to define glass, crystallization, weathering, erosion, frost wedging, unloading, bioerosion, sediments, lithification, beds, fossils, compaction and cementation. Understand the differences between mechanical and chemical weathering.
4. Sedimentary rocks: Know the differences between detrital and chemical sedimentary rocks and be able to give example of each. Understand how we classify sedimentary rocks and the sizes of those particles given in class. Understand the origin of rocks such as sandstones, siltstones, shales, conglomerate, breccia, evaporites, limestones built by animals, chalk, oolites, travertine, chert and coal.
5. Sedimentary processes: Understand where most of the Earth's water is located, factors that affect erosion levels, parts of a stream, and the differences between braided and meandering streams. Be able to define load (dissolved, suspended and bed), alluvium, alluvial fan, delta, sorting and rounding.
6. Groundwater: Understand how water is stored and can flow through the ground. Be able to define aquatard, zone of saturation, zone of aeration, porosity, permeability, aquifer, spring, hot springs, geysers and well. Know some of the problems associated with human interaction on groundwater.
7. Metamorphic rocks: Understand how metamorphism works and the processes that lead to metamorphic rock. Be able to define low grade and high grade metamorphism, regional and contact metamorphism, texture, foliation, gneiss, slate and schist.