

Geology 171 – Earth Science

Exam 1 study guide

You should do fine on Exam 1 if you study factual information on the following:

- 1) The three steps of the scientific method and how it is used.
- 2) Age of the Earth (Bishop Ussher's date and today's accepted date).
- 3) Hutton's observation that led to the concept of uniformitarianism.
- 4) Main parts of the Earth (core, mantle, crust) and what comprises them.
- 5) Facts about ocean crust and continental crust.
- 6) Behavior of seismic waves below the Earth's surface and what boundaries they define.
- 7) Facts about the three types of plate boundaries (there are a number of these).
- 8) Source of heat in "hot spots."
- 9) Modern-day examples of plate boundaries (there are a number of these).
- 10) Wegener's four-lines of evidence for continental drift (three were grouped into one).
- 11) Why continental drift wasn't accepted by most of the scientific community.
- 12) What discoveries were made by Marie Tharp, Harry Hess, and Tuzo Wilson.
- 13) Facts about the Earth's present-day magnetic field (origin and polarity shifts).
- 14) What declination is and how it varies in the lower 48 US states.
- 15) What a magnetometer measures and how magnetic banding in the ocean floor is interpreted.
- 16) Names of common igneous textures and how each is interpreted.
- 17) Differences between dikes, sills, stocks and batholiths and any examples discussed in class.
- 18) Relationship between magma type and plate tectonics (there are a number of these).
- 19) The two main controls on explosivity of volcanos.
- 20) Variation in silica content with the 3 magma / igneous rock types (i.e. granite = high silica).
- 21) Relationship between the 3 magma types, silica polymerization & magma viscosity (see handout).
- 22) Relationship between magma type and type of volcanic landform.
- 23) Facts about volcanic landforms.
- 24) Volcanic hazards in the US.
- 25) Facts about the Yellowstone caldera / volcano, and where it is moving in the future.