

# Geology 261 -- Physical Geology

## Exam 1 study guide

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

the scientific method  
age of the Earth (Bishop Ussher's date and today's accepted date)  
catastrophism & uniformitarianism...who were the players, and the basis for each argument.  
conditions necessary for conchoidal fracture  
different chemical bond types in minerals  
main elements that comprise the Earth's crust  
relationship between size of atom and charge  
relationship between size of atom and bond strength  
the basic building block of all silicate minerals  
basic structures of common silicates: olivine, pyroxene, amphibole, mica, quartz & feldspars  
main parts of the earth (core, mantle, crust) and what comprises them  
facts about ocean crust and continental crust  
behavior of seismic waves below the Earth's surface and what boundaries they define  
facts about the three types of plate boundaries  
modern-day examples of plate boundaries  
variation in silica content with magma type  
variation of temperature with magma type  
what "part" of the Earth experiences partial melting to produce the three magma types  
relationship between magma type and plate tectonics  
the two main controls on explosivity of volcanos  
relationship between magma composition, silica polymerization and magma viscosity

### *Terms:*

mineral  
dike  
sill  
stock  
batholith  
xenolith  
cinder cone  
shield volcano  
caldera  
pillow lavas  
polymerization