

## REVIEW FOR FINAL

### Lecture – Basics of Geologic Time (Lab 11; Textbook Chp. 11)

Terms to Know:

Relative Time	Absolute Time	Principle of Superposition
Cross-Cutting Relations	Original Horizontality	Unconformity
Half-Life	Principle of Inclusions	Radiometric Decay
Stable Isotope	Unstable Isotope	

Concepts to Know:

Know the simplified geologic time scale

What is the different between relative and absolute geologic time?

Know how to determine the relative geologic history using the four principles of relative age dating of a simple cross-section.

Know the different unstable isotopes useful for dating geological materials

Know how to calculate the age of a geologic material given the half-life value and using an isotope decay curve to determine the number of half lives

What is the significance of an unconformity?

### Lecture – Overview of Solar System (Planetarium Show; Textbook Chp 22)

Terms to Know:

Terrestrial Planets	Jovian Planets	Lunar Highlands	Lunar Maria
Craters	Asteroids	Impact Hypothesis	Comets
Kuiper Belt	Asteriod Belt	Oort Cloud	Gas Giants

Concepts to Know:

Be able to name the terrestrial and Jovian planets.

What basics general characteristics differentiate the terrestrial and Jovian planets?

In detail, describe the geology of Mercury

In detail, describe the geology and atmosphere of Venus

Give me an overview of the history of the moon

In detail, describe the geology and atmosphere of Mars

Discuss the possibility of life on Mars including a description of the factors that may support life.

What is the general principle of terrestrial planet development?

Know the composition of the Jovian planets and the nature of the moons that orbit around the Jovian planets

### Lecture – Earth History (Planetarium Show; Slide Show-CEES; Textbook Chp. 12)

Terms to Know:

Differentiation	Impact Hypothesis	Era of Asteriodal Bombardment	
Stromatolite	Red Bed	Prokaryote	Eukaryote
Snowball Earth	Trace Fossil	Continental Drift	Pangaea
Permian Extinction	K-T Extinction	Fossil	Trace Fossil
Dinosaurs	Mammals	Glacial Period	Interglacial Period

Concepts to Know:

**Know all six of the geologic eons/eras (in correct order) and know the absolute ages for each period.**

What geologic significant events occurred during the Hadean?

What geologic significant events occurred during the Archean?

What geologic significant events occurred during the Proterozoic?

When did the greatest pollution event in the history of the earth occur and describe this event.

What is the difference between Archean and Early Proterozoic sedimentary rocks?

What geologic significant events occurred during the Paleozoic?

Are continents fixed or do they move with geologic time? Explain!

What geologic significant events occurred during the Mesozoic?

What caused the extinction of the dinosaurs?

What geologic significant events occurred during the Cenozoic?

Be able to describe the climatic history of earth during the last 100 Ma

**Lecture – Earthquakes (Textbook Chp. 8)**

Terms to Know:

Focus	Epicenter	Fault	Mantle
Seismograph	Body Waves	P-waves	S-waves
Surface Waves	Crust	Intraplate Earthquakes	Inner Core
Outer Core	S-P Interval	Modified Mercalli	Ring of Fire
Oceanic Ridge System (mid-oceanic ridge)	Elastic Rebound Theory	Richter Scale	

Concepts to Know:

Know the basic terminology associated with earthquakes.

What is elastic rebound?

Know the internal structure of the earth (simple).

How do we know the outer core is liquid? Or the inner core is solid?

Locating an earthquakes epicenter.

How is earthquake intensity measured.

Where do most earthquakes occur?

**Lecture – Volcanoes (Textbook Chp. 9) and Powerpoint on CEES**

Terms to Know:

Shield Volcano	Composite Cone	Caldera / Volcanic Dome	Laze
Lahar	Pahoehoe	Tephra	Aa
Nuee Ardente	Obsidian	Andesite	Rhyolite
Volcanic Mudflow	Basalt	Lava River and Fountain	Vog
Pyroclastics	St Elmo's Fire	Votalite Content	Viscosity

Concepts to Know:

What is the relationship between lava chemistry, mineralogy, viscosity, gas content, and eruptive behavior?

What type of volcanoes erupt lava versus pyroclastics.

What are the three types of volcanoes and how are they connected with the three volcanic igneous rocks you will have on the lab final.

In detail know about the five different types of volcanic hazards

### **Comprehensive Section**

Terms to Know:

Oceans	Groundwater	Glaciers	Precipitation
Evaporation	Runoff	Running Water	Wind
Oxygen	Nitrogen	Carbon Dioxide	Troposphere
Stratosphere	Igneous	Metamorphic	Sedimentary
Minerals	Hardness	Cleavage	Tropopause

Concepts to Know:

What is the hydrologic cycle? Know the main reservoirs and fluxes.

What are the layers of the atmosphere?

What gasses presently make up Earth's atmosphere?

Know the outer loop of the rock cycle.

What is the difference between erosion and deposition?

Know in order all of the minerals on Mohr's hardness scale.