Mr. Riley

Earth Science
Mt. Hebron High School

Midterm Study Guide

The midterm will consist of **100 questions** answered on a scantron sheet. The types of questions include **Selected Response** (multiple choice), **Matching**, and **True/False**.

Use the study guide below (All these study guides are available at http://www.ait-inc.com/mth)

Plan your study sessions in advance. Do not forget that you also need to plan in short breaks (hopefully where you can get out and do physical activity). Eat right and get enough sleep. When the body is not at its best the mind is also not at its best. Review the material and determine which concepts you need to spend more time on and those which require only a little review. Recognize that there is a component of memorizing when studying for a test, but also a component of understanding concepts which use the items that need memorization. The understanding of concepts is more lasting and often more important when approaching a test.

Need help or ideas? Contact Mr. Riley at winston_riley@hcpss.org day or night. I will respond quickly to your needs.

Good Luck!

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Introduction to Earth Science: (Chapter 1)

Terms: Define or describe the meaning of the following terms
Observation, interpretation, geology, meteorology, oceanography, astronomy, mass, weight, volume, density, manipulated variable, response variable, refracting and reflecting telescopes.

Concept mastery: You should be able to,

1. Identify differences between interpretations and observations.
2. State the topics of Earth Science and what is studied within them.
3. Use and list the steps of the scientific method.
4. Measure and describe mass, volume, and density.
5. Use the metric system.
6. Create a graph using the graphing rules.
7. Identify the different types of telescopes.

Rocks and Minerals: (Chapters 13, 14, 15)

Terms: Define or describe the meaning of the following terms
Matter, element, mixture, compound, mineral, crystal structure, glass, organic, inorganic, color, luster, hardness, streak, cleavage, fracture, rock, ore, gemstones, igneous, sedimentary, metamorphic, intrusive, extrusive, clastic, chemical, organic, fossil, rock cycle, compaction, cementation.

Concept mastery: You should be able to,

1. Explain the difference between an element, compound, and mixture.
2. Explain what a mineral is and the five requirements for being considered a mineral.
3. Be able to identify several minerals samples.
4. Define what is a rock.
5. Explain the classification system for igneous, sedimentary, and metamorphic rocks.
6. Identify several common rocks and know their properties.
7. Complete and use the rock cycle.

Dynamic Earth: (Chapter 9, 10, 11, 12)

Terms: Define or describe the meaning of the following terms

Ch 9: Inner core, outter core, mantle, moho, asthenosphere, crust, lithosphere

Ch 10: Stress, compression, tension, shear, fracture, fault, hanging wall, foot wall, normal fault, reverse fault, thrust fault, lateral fault, fold, anticline, syncline, plateau, dome, isostasy

Ch 11 Earthquake, tsunami, focus, epicenter, seismic wave, P-wave, S-wave, L-wave, seismograph, seismogram, Richter scale, magma, lava, volcano, vent, magma chamber, cone, cinder cone, shield volcano, composite volcano, crater, caldera.

Ch 12 Continental drift, Pangaea, sea floor spreading, midocean ridge, transform fault, trench, subduction, theory of plate tectonics, lithosphere, convection current.

Concept mastery: You should be able to,

1. Describe the structure of the Earth, with the state of matter and composition of each layer.
2. Identify the trends of temperature, pressure, and density as one moves from the crust to the core.
3. Describe the kinds of stress and the faults that are created by each kind.
4. Identify folding and the parts of a fold.
5. Recognize a plateau and dome.
6. Describe the process of isostasy.
7. Describe the model that causes earthquakes and tsunamis.
8. Recognize an earthquake's focus and epicenter.
9. Be able to use seismic wave to locate the epicenter of an earthquake.
10. Describe how a seismograph works.
11. Describe what a P-wave, S-wave, and L-wave are and how they move.
12. Identify the parts of a volcano and the model of a volcanic eruption.
13. Describe the theories of continental drift, sea-floor spreading, and plate tectonics and give the evidence for each.
14. Describe the different type of boundaries and zones of tectonic plates.

History of the Earth: (Chapter 19, 20)

Terms: Define or describe the meaning of the following terms

Ch 19: Fossils, petrifaction, mold, cast, imprint, trace fossil, index fossils, James Hutton, law of superposition, law of uniformitarianism, law of cross-cutting relationships, law of horizontality, unconformity, fault, intrusion, extrusion, absolute dating, relative dating, radioactive dating, half-life.

Ch 20: Geologic Time Scale, Era, Period, Precambrian, Paleozoic, Mesozoic, Cenozoic, Charles Darwin, evolution, natural selection, adaptation.

Concept mastery: You should be able to,

1. List the types of fossilization and some of the characteristics of each method.
2. Use absolute or relative dating to determine the age of items.
3. Develop and use a radioactive decay curve to tell the age of items.
4. Use the law of superposition, and the Law of Cross-Cutting Relationships to determine the relative age of items.
5. Explain how index fossils can be used to correlate relative ages ***AND*** absolute ages.
6. State the age of the Earth.
7. Identify the major divisions (eras) on the Geologic Time Scale.
8. List some of the events or developments during each era of the Geologic Time Scale.
9. Convert and use the Geologic Time Scale into another scale.
10. Be able to develop and use a scale for a timeline.