

This is a study guide to help you to organize your notes based on the Objectives for this Module. This is not graded and is provided only as a study aid. To use it, fill in the table. Box 1 will ask you to redefine the terms or explain the concept. Box 2 will ask you to provide information about where you can find this information. Provide enough information in this box for you to be able to use this box as a reference to finding the information again. Box 3 will ask you to give an example or try to apply the concept to a new situation.

Use the geologic time scale to understand Earth history.

List the major eras in order from oldest to latest. How old is the Earth?	Where is this information located?	How do we know how old the Earth is?
1	2	3

Identify the key geologic time periods.

List the four major eras (again), but this time, add the major periods.	Where is this information located?	What are the major Earth events that separate these eras?
1	2	3

Differentiate “human time” from “geologic time.”

How do you define “old”? How do geologists define “old”?	Where is this information located?	What is meant by “deep time”?
1	2	3

Distinguish the rates of geologic processes.

Give examples of slow and fast geologic rates.	Where is this information located?	Could we apply these rates to explain past phenomenon if Uniformitarianism wasn't true?
1	2	3

List the evidence for geologic time.

List the evidence.	Where is this information located?	Could geologists know how old the Earth was if there were no fossils? (Think about the Principle of Faunal Succession.) If so, what other evidence is there?
1	2	3

Identify relationships between plate tectonics and geologic time.

Explain the Theory of Plate Tectonics.	Where is this information located?	Could geologists know how old the Earth was if the plates didn't move?
1	2	3

Describe the internal structure and processes of Earth.

Starting with the middle of the Earth, list the major Earth structures (or layers).	Where is this information located?	How do scientists know this? Do you think this is a theory or a hypothesis? (Think: Have scientists been able to observe and measure the Earth's internal structures?)
1	2	3

Identify the mechanism of plate tectonics.

What causes the plates to move?	Where is this information located?	Would the plates move if the interior of the Earth was solid rock (not molten)? Why or why not?
1	2	3

Describe and give examples of types of plate boundaries.

What are the two types of plates? What is their relative density? List the types of plate boundaries	Where is this information located?	Why does plate density matter when plates collide?
1	2	3

List the evidence to support the theory of plate tectonics.

List the ways that scientists can observe and measure plate movement.	Where is this information located?	What makes this a Theory as opposed to a hypothesis?
1	2	3

Understand isostasy as it relates to the movement at plate boundaries.

What is isostasy and how does this govern how plates interact when they move against each other?	Where is this information located?	Use this concept to explain how mountains form. (Ever go rafting? Why would a collision of two blow-up rafts end up with people being tossed out of the boat as the boats "jumped" out of the water rather than boats sinking?)
1	2	3

Describe how the three Rock Laws relate to plate tectonic and geologic time.

List the three Rock Laws. Explain what they mean in your own words.	Where is this information located?	Could geologists know how old the Earth was if there were sedimentary rocks? (Think about the Rock Laws.) If so, what other evidence is there?
1	2	3