

## UNIT FOUR – GEOLOGY

### 9<sup>TH</sup> GRADE SCIENCE EXAM STUDY GUIDE

**STUDY SESSION:** TUESDAY, 4/17/2007 IN CLASS & AFTER SCHOOL (3:00-4:00)

**EXAM:** WEDNESDAY, 4/18/2007

Below is a list of topics covered on the upcoming exam. Same format as before: the exam will consist of multiple choice, short answer, and fill-in-the-blank questions. Material will come from the book and from in-class notes and activities. Please see me if you have any questions.

GEOLOGY TOPIC	STUDY RESOURCES
• The Earth's Story	Uniformitarianism vs. Catastrophism (Sec. 3.1) <ul style="list-style-type: none"><li>○ Details of each theory</li><li>○ Current geologic theory</li></ul> Debate Poster <i>Know supporting evidence, details of theory</i>
• Relative Dating	Guided Notes (Section 3.2) <ul style="list-style-type: none"><li>○ Principle of Superposition</li><li>○ Geologic Column</li><li>○ Types of rock layer disturbances</li><li>○ Unconformities</li></ul> Know how to decode relative aging puzzles Relative Aging Quiz
• Absolute Dating	Guided Notes (Section 3.3) <ul style="list-style-type: none"><li>○ Radioactive Decay, Half Life, etc...</li><li>○ Types of Radiometric Dating</li></ul> Absolute Aging Problem Set <i>Know how to calculate half lives, age, etc...</i>
• The Fossil Record	Self-guided notes (Section 3.4) <i>Know differences/importance of each type</i>
• The Geologic Timeline	Geology Text (Section 3.5) Geologic Timeline Lab Handout; Timeline <i>Know basics of eons, eras, periods, etc...</i>
• Continental Drift	Geology Text (Chapter 4) Continental Drift Puzzle Activity <i>Know supporting evidence, details of theory</i>

Short answer essay questions on the test *may* come from the list below.

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1. Compare *and contrast* uniformitarianism and catastrophism. What are some details of each theory and list some examples of geologic phenomena that support each.
2. What is the Principle of Superposition? How can it help geologists?
3. What is an angular unconformity? How does it form?
4. What is an unconformity and how does it form?
5. What is the difference between relative and absolute aging?
6. What is radioactive decay and how is it used as a tool by geologists?
7. How can carbon help us learn the age of an old rock or fossil? Give complete details.
8. Why can carbon-14 dating not tell us the age of dinosaur bones? What method *will* work on dinosaur bones?
9. What is an index fossil and what makes it more useful than other types of fossils?
10. What evidence do we have that a large asteroid impact was the cause of the mass extinction that included the end of the dinosaurs? Describe at least two pieces of evidence in detail for full credit.
11. What are all eras not the same length? Why was there a great deal more information on your timeline on the “today” end versus the other end of the timeline?
12. Who came up with continental drift theory and why was he not readily believed?
13. What is sea-floor spreading and what does it tell us about plate tectonics?
14. What does plate tectonics theory tell us about the past and the future?
15. Explain the drift of the continents, beginning with Pangaea and ending with present-day.