**Video Study Guide: Earth Revealed  
Episode 10: Geologic Time**

Read the questions first. Then answer them while watching this episode of "Earth Revealed". If you miss it in class you are still responsible for the viewing this segment and answering the questions. The video is available online at <http://www.learner.org/vod/video.html?sid=78&po=10> . The index for these programs is online at <http://www.learner.org/progdesc/index.html?uid=78>  . If you do not have an internet connection at home, view it after school or during study hall in the media center. Each segment is 30 minutes long.

1. What was the original Biblical estimate of when the earth was formed?
2. What is one of the most difficult aspects of understanding any study of the earth?
3. What important question intrigued Hutton?
4. What did he observe which helped answer his dilemma?
5. What did he reason about unconformities, and what did they indicate to him?
6. Describe the Principal of Uniformity and how it relates to the timing of geological events.
7. Describe the Principle of Superposition and how it helps to unravel earth's history.
8. Describe the Principle of Original Horizontality.
9. Describe the Principle of Cross-cutting Relationships.
10. How do geologists use relative age dating?
11. What are fossils, and how do they help geologists locate themselves in time?
12. What is paleontology?
13. How have geologists established the Relative Geologic Time Scale?
14. What did Rutherford determine in 1905?
15. How does radioactive dating work?
16. What is half-life? What is the half-life of Carbon-14?
17. Why is Carbon-14 age dating only good for materials less than 50,000 years old?
18. How do geologists date older materials?
19. What is the correlation between absolute and relative age dating, and how do they work together to establish a chronology of earth history?