

## Chapter 8. Geologic Time

1. Describe the key principles of relative dating:
  - a. Relative dating means:
  - b. Law of Superposition:
  - c. Principle of Original Horizontality
  - d. Principle of Cross-Cutting Relationships:
  - e. Inclusions:
2. Describe the different kinds of unconformities:
  - a. Unconformity represents:
  - b. Angular unconformity:
  - c. disconformity:
  - d. nonconformity:
3. Describe the various types of correlation:
  - a. Correlation:
  - b. Physical criteria correlation:
  - c. Principle of fossil succession:
  - d. Index fossils:

4. Use the accompanying figures of the Grand Canyon and the diagram at the back of the classroom and the preceding principles to arrange the following letters into the correct sequence beginning with 1.

- A. Deposition of the Grand Canyon Series.
- B. Expansion of the Paleozoic seas and deposition of the Tapeats, Bright Angel, and Muav formations.
- C. Erosion of the Grand Canyon.
- D. Deposition of the Redwall Limestone.
- E. Deposition of the rocks that were later metamorphosed to form the Vishnu Schist.
- F. Expansion of the sea over the area and deposition of the Kaibab-Toroweap Limestone.
- G. Mountain building and metamorphism to form the Vishnu Schist.
- H. Post-Redwall erosion.
- I. Tilting and faulting of the Grand Canyon Series (Unkar Group).
- J. Erosion and exposure of the Vishnu Schist.
- K. Intrusion of Zoroaster Granite.
- L. Deposition of the Supai Group and Hermit Shale.
- M. Extrusion of basalt and formation of lava dams and lakes in the Grand Canyon.
- N. Expansion of a desert and deposition of the Coconino Sandstone.
- O. Deposition of the Temple Butte Limestone on the Muav Limestone.
- P. Erosion and formation of the Great Unconformity on the Unkar group.

1 \_\_\_\_, 2 \_\_\_\_, 3 \_\_\_\_, 4 \_\_\_\_, 5 \_\_\_\_, 6 \_\_\_\_, 7 \_\_\_\_, 8 \_\_\_\_, 9 \_\_\_\_, 10 \_\_\_\_, 11 \_\_\_\_, 12 \_\_\_\_, 13 \_\_\_\_,  
14 \_\_\_\_, 15 \_\_\_\_, 16 \_\_\_\_

5. Radioactivity is:

6. Parent isotope is:

daughter products are:

7. Half-life is:

8. Fill in the blank boxes in the time scale on the following page (refer to your text):