

## Unit 5: Earth's History Study Guide

Directions: Be able to answer the questions below and be able to read pages 8 and 9 on your ESRT

### 1. Know how to **read** the Geologic History of New York State Table on pages 8 and 9 of the ESRT

- You will be asked to determine eons, era, periods and epoch of the index fossils
- Know what geologic events were occurring at different times (once again, reading your ESRT)
- The questions will be similar to the homework assignment and lab where there were different questions using the chart.

### 2. Relative Dating

- Know all of the laws for relative age dating: Principle of Original Horizontality, Principle of Superposition, Folds, Faults, Igneous Intrusions, Igneous Extrusions, Principle of Cross-Cutting Relationships, Unconformities
- Be able to determine the order from oldest to youngest of diagrams showing rock layers and different geologic events (You have many diagrams on your activity guides to practice with)

### 3. Fossils

- What is a fossil, how does it form (two conditions), what are the different types of fossils (use your fossil reading)
- What is an index fossils (what are the three conditions)? Be able to determine the index fossil when looking at multiple rock columns with many layers (there is an example on your activity guide and in the textbook)

### 4. Correlations

- What is a correlation, why are rock layers correlated?
- Be able to determine oldest and youngest rock layers when looking at multiple rock columns/outcrops
- Make sure you are able to correlate multiple columns (you have examples on your activity guides)

### 5. Radioactive Decay (Absolute Dating)

- Be able to determine how much of the radioactive isotope and decayed product there are for different half-lives.
- Be able to read a graph for the radioactive decay of any of the radioactive isotopes. Make sure you can determine the half-life in years or the percentage of the material at a given time/half-life.
- Be able to determine which radioactive isotope would be best to use on different materials (rocks or fossils)
- Be able to determine how old a rock or fossil is based upon knowing how much of an the radioactive isotope is left (either as a fraction or percent)
- Be able to determine how many half-lives a rock or fossil has been through when given the starting and current mass of the object.