

Glue this side into your notebook

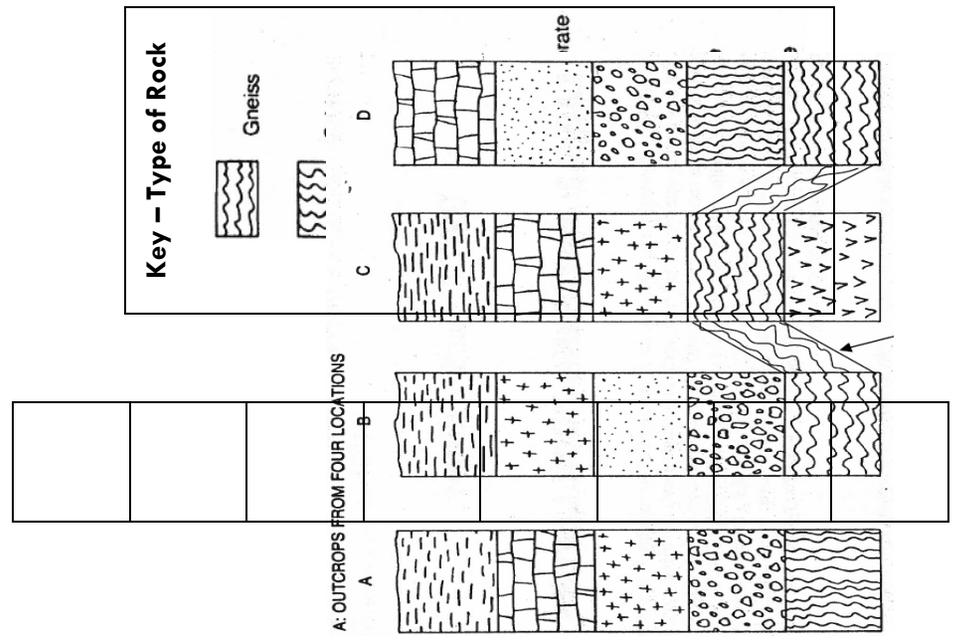


## Correlation Complication

### Part 1 – Relative Dating - Correlating Rock Layers

Below has the first set of four diagrams that represents four outcrops at different locations. You are going to try to figure out how the rocks were laid down in the correct order from oldest to youngest using all four samples from outcrops and some logic.

1. Color each layer of rocks a different color to see them better. Use the key provided inside the booklet.



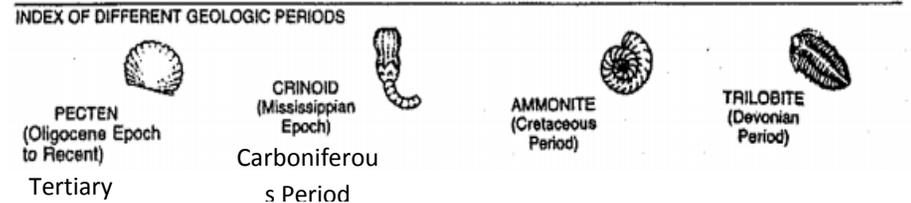
3. Draw in the layers and the colors in the proper order in the columns and label them on the side.

## Part 2 – Relative Dating - Correlating Index Fossils

Scientists will not only look at the rocks to try and piece together Earth's past but will also use index fossils along with the rocks to try and create an accurate representation of what happened in the past.

The second set of diagrams identifies four types of index fossils and shows four columns of fossil-bearing rock strata. Once again, assuming that the rock layers are horizontal and overturning has not occurred.

1. Cut out the four columns on the dashed line. Reconstruct the complete sequence of events by moving them around next to each other so that layers and fossils match across units. Glue them below the index fossil box. You should have 9 layers of rock/fossils to represent Earth's history.



## Part 3 – Absolute Dating – Radiometric Dating

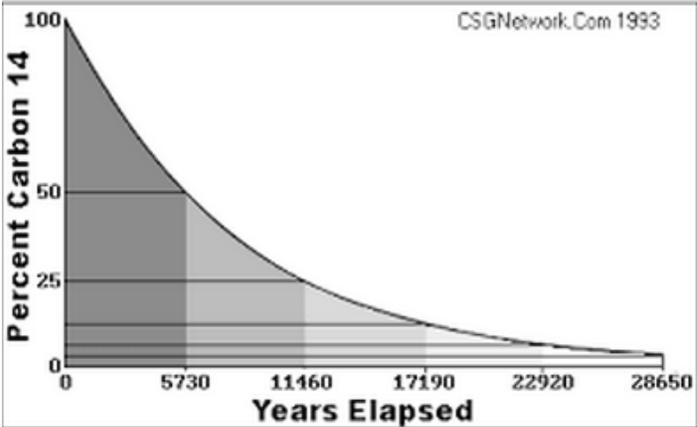
For Part 3 you discovered the way that the rocks were layered on Earth using index fossils. This helped us get a range of time for some of the layers. However, we can only infer some of the ages of the other layers. We can use **absolute dating** to give us the **actual age of things**. Using the data table below, information about specific layers, and the graphs of radioactive decay, see if you can get more information about the ages of layers and what period/epoch they occurred.

2. Reconstruct the complete sequence of events by correlating the layers. Assume that these represent undisturbed rock formations and the oldest rocks are on the bottom and the youngest are on top.

Layer #	Isotope	Amount Isotope Left	Estimated Age
Shell	Carbon-14	25%	

Layer 9	Uranium-238	90%	
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**Carbon-14 Data**



**Uranium 238 Data**

