**Middle school task:**

**08-ESS1-4**

**PE: Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.** [Clarification Statement: Emphasis is on how analyses of rock formations and the fossils they contain are used to establish relative ages of major events in Earth’s history. Examples of Earth’s major events could range from being very recent (such as the last Ice Age or the earliest fossils of homo sapiens) to very old (such as the formation of Earth or the earliest evidence of life). Examples can include the formation of mountain chains and ocean basins, the evolution or extinction of particular living organisms, or significant volcanic eruptions.] [Assessment Boundary: Assessment does not include recalling the names of specific periods or epochs and events within them.]

**Learning target: Use evidence to explain how rock strata and fossils from different locations can be used to piece together a larger understanding of earth’s history.**

You have a collection of simulated drill cores from different locations across the continent. Your task is to use the information they contain to create an evidence-based model of the sequence of events they represent.

**Student Directions**

Copy the drill cores onto your paper strips

Using what you know about the “rules” for interpreting earth history, work with your group to assemble the drill cores into a single sequence of layers.

**Student Questions**

List the layers in what you think is the sequence in which they were deposited, beginning with the youngest. If there are any layers you are unsure of, do not list them in this sequence.

Were there any layers you were unable to locate in your sequence? Why were you not able to determine where they might fit? What additional evidence might you have needed ?

Briefly explain the process you used with your partners to determine the sequence the layers were deposited in. Be sure that your explanation includes a di8scussion of the evidence you used to construct this sequence, and any limitations of that evidence.