**GC A2 Important Terminology**

Script

Instructions: Advance the PowerPoint slides at every new paragraph and anywhere you see “/”

[1] The Geologic Column—Important Terminology

[2] Recall that all the rock strata around the world make up what we call the Geologic Column

[3] As scientists study the data in the geologic column, they use some very specific terminology.

[4] In this presentation, we will learn about two different sets of words that we can use to describe the geologic column and why it matters which words we use.

[5] One set of words refers just to the rock layers themselves, / and the other refers to the rock layers *and* the millions of years of time that have come to be associated with them. Knowing both sets of words allows us to be more precise as we talk about the geologic column.

[6] You may have heard the Phanerozoic section of the geologic column referred to as an eonothem…

[7] …the Phanerozoic eonothem

[8] We have also referred to the Paleozoic, Mesozoic, and Cenozoic sections as erathems

[9] The Paleozoic erathem…

[10] Mesozoic erathem…

[11] …and the Cenozoic erathem

[12] Each erathem is further divided into sections we refer to as systems

[13] Like the Cambrian system…

[14] The Jurassic system

[15] and the Neogene system.

[16] All of these terms we have used so far are chronostratigraphic names.

[17] Notice the part of the word in yellow. / The word strata means layers / and stratigraphy is the term for the study of the rock layers.

[18] Chrono (as in the word chronology) refers to a sequence in a certain order. / So the chronostratigraphic names we have been using refer to the layers themselves and their placement in a certain order. / There are no ages or dates inferred when we use these terms.

[19] Another set of terms refers to the same rock layers / but also includes the inference of time. These are called geochronologic terms

[20] Instead of the term eonothem (which refers simply to the layers themselves)…

[21] The term eon refers to the layers as well as the time associated with them.

[22] While the word erathem refers to the layers…

[23] The word era carries with it the connotation of inferred time

[24] Instead of system—which refers to the placement of the layers themselves

[25] the word period includes the idea of millions of years

[26] Compare the chronostratigraphic terms in the left column / with the geochronologic terms in the right column.

[27] Notice how similar the words eonothem and eon are.

[28] And how similar erathem and era are.

[29] Notice how all the words in the geochronologic column are related to time.

[30] Geologic time scale charts usually contain the abbreviation Ma--which means millions of years ago. / Sometimes you will see Mya, but the most current abbreviation is Ma.

[31] Sometimes suggested numbers correspond with boundaries between sections. While numbers sometimes vary from chart to chart, / 541 million years ago is the standard suggestion for the boundary between the Precambrian and the Cambrian. / 252 million years ago is suggested for the boundary between the Permian and Triassic periods. / 65 million years ago is the consensus for the boundary between the Cretaceous and Paleogene periods.

[32] Other times the numbers on geologic column charts suggest the length of time scientists think a particular period—like the Cambrian—lasted.

[33] To summarize, there are two sets of terminology used to describe the geologic column. / Chronostratigraphic terms refer just to the rock layers themselves, / while geochronologic terms refer to the rock layers *and* the millions of years associated with them.

[34] Observations that we make about the rocks and fossils in the geologic column are data. These data can be verified by others who study or measure them as well.

[35] The millions of years of inferred time is an interpretation of that data from a particular worldview.

[36] It’s important to understand both sets of terminology. / Because geochronologic terms are used most often by scientists, we should know and be able to use them accurately even if we do not accept the millions of years associated with them. / We also have the option of using chronostratigraphic terms when we want to refer just to the placement of the rock layers in the geologic column.

[37] In our next presentation, we will learn some basic principles about how the rocks in the geologic column were formed.