Geology 12
Unit 0 – Introduction
Day 4 – Intro to Geologic Time

Name: _____

Date: _____

Block: _____

Geologic Time: the extensive interval of time occupied by the geologic history of Earth

Why is it important?

The amount of time that is involved in the carving of the landscape, the formation of rocks, or the movement of the continents is an important scientific question.

Different hypotheses about the age of the earth can change our perspective of the workings of geologic events that molded the Earth.

EX: If the geologic time is relatively short then catastrophic events would be required to form the features we see on the surface of the earth, whereas a vast amount of time allows the slow and steady pace that we can easily observe around us today.

Construction of the Geologic Time scale:

Scientists studying rocks were able to piece together a progression of rocks through time to construct the Geologic Time Scale. It was constructed by lining up in order rocks that had particular features such as rock types, environmental indicators, or fossils.

Scientists looked at clues within the rocks and determined the age of these rocks in a comparative sense. This process is called Relative Dating

Relative Dating: the process of determining the comparative age of two objects or events.

EX: you are younger than your parents.

Absolute Dating: As time progressed, scientists discovered and developed techniques to date certain rocks as well as the Earth itself. They discovered the earth was billions of years old (4.54 billion years old) and put a time frame to the geologic time scale. This process is called Absolute Dating, which is the process of determining the exact

Advantages of each:

relative dating: allows a geologist to reconstruct a series of events cheaply, often very quickly, and can be used out in the field on a rocky outcrop. can be used on many different types of rocks,

absolute dating : con->is restricted to certain minerals or materials.

***is the only method that allows scientists to place an exact age to a particular rock.

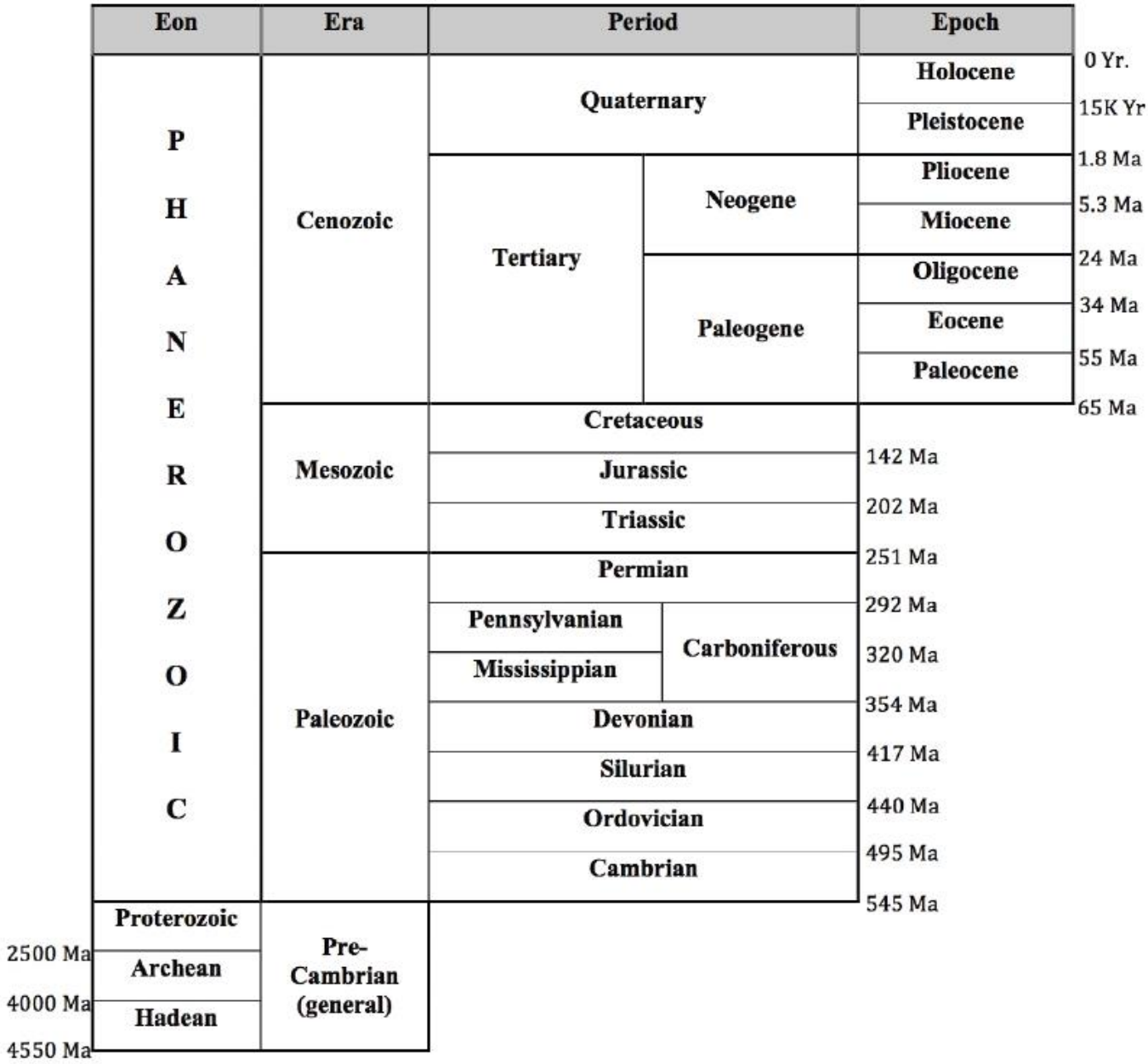

Figure 1.1 | The geologic time scale. Ma, Million years, K. Yr, Thousand years