Chapter 9 Notes

**Space**

**Units of measurement**

**- Astronomical unit (AU)**

The average distance between the Earth and the Sun. (about 150 million km)

**- Light year**

The distance travelled by light in one Earth year (about 9 500 billion km)

**Location of the Earth in the universe**

Distance between the Earth and the moon < distance between planets within our solar system < distance between our solar system and other solar systems within our galaxy

🡪 2 stars are usually pretty far apart, but there are stars that are close enough together that they just spin around each other (some known to be closer than our Earth and moon)

**Conditions for the Emergence of Life**

🡪 Presence of essential chemical elements (including atmosphere)

🡪 Presence of an energy source

🡪 Presence of liquid water

🡪 A VERY long period of time

Chapter 10 Notes

**Geological time scale**

(**PR**etty **P**lease **M**ake **C**hocolate!)

**Pr**ecambrian Era (88%)

**P**aleozoic Era (6.5%)

**M**esozoic Era (4%)

**C**enozoic Era (1.5%)

Precambrian Era (4600 to 543 million years before present time)

🡪 Earth formation (including oceans) and first signs of life

🡪 O2 increase in atmosphere

🡪 Appearance of first protists and first bacteria

🡪 Appearance of first animals (Soft-bodied invertebrates)

Paleozoic Era (between 543 and 245 million years before present time)

🡪 Colonization of plant life and animals onto dry land

🡪 Appearance and multiplication of animal and plant life (starting with hard-shelled invertebrates and first species of fish)

🡪 More and more species emerge, including amphibians, insects, conifers and reptiles)

🡪 A mass extinction occurred during this era (especially marine life)

Mesozoic Era (between 245 and 65 million years before present time)

🡪 Multiplication of conifer species

🡪 Appearance of dinosaurs, mammals, first birds and flowering plants

🡪 Ends with the extinction of the dinosaurs

Cenozoic Era (between 65 million years and present time)

🡪 More species of mammals, birds and flowering plants emerge

🡪 First Primates

🡪 Ice Ages

🡪 Human Beings

**Stratigraphic layers**

🡪 Oldest layers on bottom, newest layers on top

(Sediments slowly layer on top of older layers)

**Fossils**

Fossils are traces of organisms preserved mostly in sedimentary rock.

Oldest fossils are therefore preserved in lower stratigraphic layers.