

GEOL 1122 History of Global Change on Earth Walker 2008

Lecture 4: The Nature and Origin of Rocks and Minerals

Reading: Chap. 2, pp. 27-47.

I. Origin of Elements

Origin of Elements

Big Bang, Estimated Age of the Universe, number of elements on Earth

What is an element?

Brief Overview of Element Formation in the Universe

Are we star dust?

II. Difference between Rocks and Minerals

Rocks

Minerals

Example of minerals

How Geologists study rocks, minerals

III. Rock Types, Examples

Igneous Rocks, what are they? form? Know the difference between lava, magma and examples of igneous rocks (extrusives and intrusives)

Felsic and Mafic Rocks, know the difference between them

Sedimentary Rock: what are they and how do they form?

Difference between weathering and erosion

Sediment

Remember strata!

Examples of sedimentary rock: limestone, shale, evaporites, coal

Metamorphic Rocks, what are they? how do they form?

Regional and contact metamorphism

High grade and low-grade metamorphic rocks

All related by the rock cycle through the process of Plate Tectonics!