**Semester 1 Study Guide**

**Earth/Space Science**

**Chapter 1: Earth as a System**

4 Spheres of the Earth & Interactions in events such as a hurricane, etc.

Know at least 2 gases in the atmosphere

Model

Open/Closed Systems

3 Physical States of Water

Fresh water/salt water, etc

Water Cycle

Evapotranspiration, evaporation, precipitation, etc.

Carbon Cycle

Photosynthesis, phytoplankton, etc.

Energy Cycle

Geothermal, Tidal & Solar

Laws of Thermodynamics

Albedo

Sublimation (might have to look it up…)

**Chapter 2: The Nature of Science**

Scientific Method

Peer Review

Theory & Law

**Chapter 3: Models of the Earth**

Cartographer

3 Types of Projections

Equator, Prime Meridian, International Date Line (IDL is in Chapter 4)

Latitude/Longitude

How does GPS work? Radar? Aerial Imaging?

Topographic Maps

Contour lines: Contour intervals 🡪Close together? Far apart?

**Chapter 4: Earth’s Structure and Motion**

Geology

Oblate Spheroid

Nebular Hypothesis

Layers of the Earth & Characteristics

Lithosphere/Asthenosphere

Degree of tilt for the Earth?

How long is an astronomical year? \_\_\_\_\_\_\_ days

How long is a calendar year? \_\_\_\_\_days

How do we make up the difference in the calendar & astronomical year?

Solstices, Equinoxes, Seasons

What gave rise to Earth’s internal heat?

What is allowing the Earth’s heat to slowly leave?

Rate/Path of Earth’s Rotation, Cite evidence

Rate/Path of Earth’s Revolution, Cite evidence

**Chapter 5: Atoms to Minerals**

Matter

Difference between weight & mass

Atomic Number

Atomic Mass (Mass Number)

On the periodic table a row is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

On the periodic table a column is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

In a normal state, an atom has an equal number of \_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_.

What makes hydrogen chemically active?

Isotope

Compound

Covalent Bond

Ionic Bond (when atoms gain or lose electrons they take on a charge, what does this mean?)

Metallic Bond

How is specific gravity determined?

5 Characteristics of a mineral

3 Processes that form minerals

Mohs Scale

Methods to identify minerals (luster, streak, hardness, etc)

Archimedes Principle

**Chapter 6: Rocks**

Definition of Rock

Where are they found?

Differentiate between igneous, sedimentary & metamorphic

Intrusive/Extrusive

Weathering (4 types)

Exfoliation

Erosion (Dust Bowl, Contour farming, wind breaks, etc)

Deposition

Compaction

Cementation

Mass Wasting

Delta

Glacier

Fossils (what are they????)

Uplift

Rock Cycle