

# CHAPTER 8 - EARTH'S SYSTEMS & RESOURCES NOTES

## I. Earth's Layers -

- Geologic Cycle: Tectonic Cycle, Rock Cycle, and Soil Formation
- The Earth's resources (volume & availability) were determined when the planet formed about 4.6 billion years ago.

Identify and describe the chemical and physical properties of the Earth's layers using the references in the Dropbox (Earth's Layers 1 & 2).

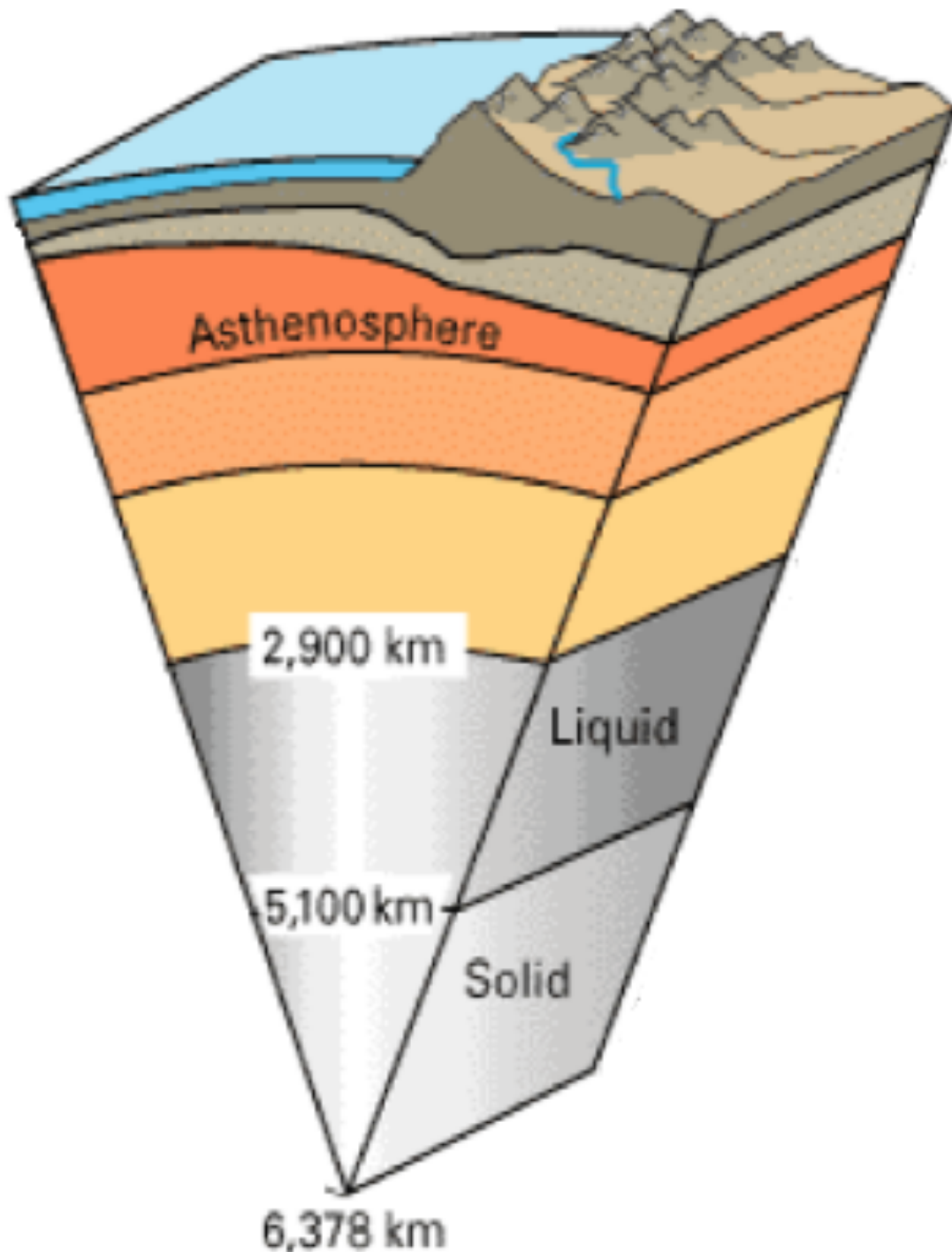


Diagram and describe Earth's convection cells.

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### II. Plate Tectonics Theory -

- Earth's lithosphere is continually moving.
- Plates converge/diverge and slide past each other.
- Volcanoes and earthquakes occur at plate boundaries.

Diagram the following tectonic boundaries.

Divergent Plate Boundary

Convergent Plate Boundary

Transform Fault

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### III. The Rock Cycle -

- A very slow chemical cycle recycles three types of rock found in the earth's crust. The earth's crust contains igneous, sedimentary, and metamorphic rocks that are recycled by the rock cycle.
- The rock cycle is the interaction of physical and chemical processes that change rock from one type to another. It is the slowest of the earth's cyclic processes.

Diagram the Rock Cycle.



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### IV. Extracting Mineral Resources -

- The extraction, processing, and use of mineral sources has a large environmental impact.
- The greatest danger from mineral extraction may be environmental damage from the processes used to get to the end product.
- Higher grade ores are more easily extracted.
- Greater environmental damage comes with extraction of lower grade ores in higher energy costs and greater environmental damage to the land.

Diagram the following mining techniques.

**Open-pit mining**

**Contour strip mining**

**Area strip mining**