

Write your name here: _____ **KEY** _____

This assignment is due in one week (November 10-11). It is composed of midterm worksheet questions, and will be excellent study material for the final exam.

1. Draw a picture of the interior of Earth that includes the core, mantle and crust. Include information about the properties and composition of the zones.

Diagram page 2

5 pts

Crust: two types, all of which is part of lithosphere

Continental: mostly silica, some metals mostly aluminum, density 2.7g/cm^3 , rigid

Oceanic: about $\frac{1}{2}$ silica, about $\frac{1}{2}$ iron+magnesium, density 3.0g/cm^3 , rigid

Mantle divided into upper mantle and lower mantle

Upper: topmost part is the lower lithosphere, lower silica than crust, but also rigid

Below lithosphere is asthenosphere, same composition, but mobile, not rigid

Lower mantle: also lower silica than crust, solid

Core: iron-nickel alloy, two zones

Outer core is liquid

Inner core is solid

2. What is a comet made of, and what causes it to appear the way it does?

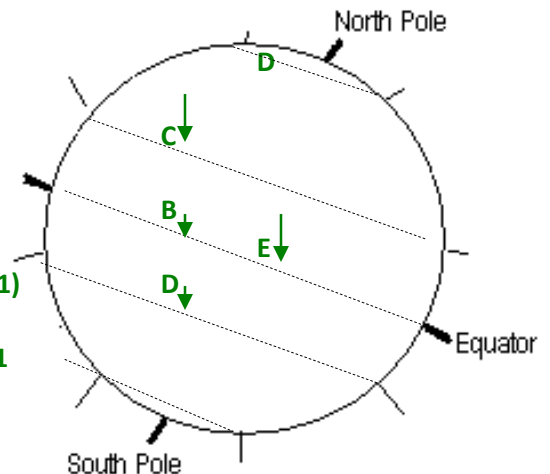
5 pts

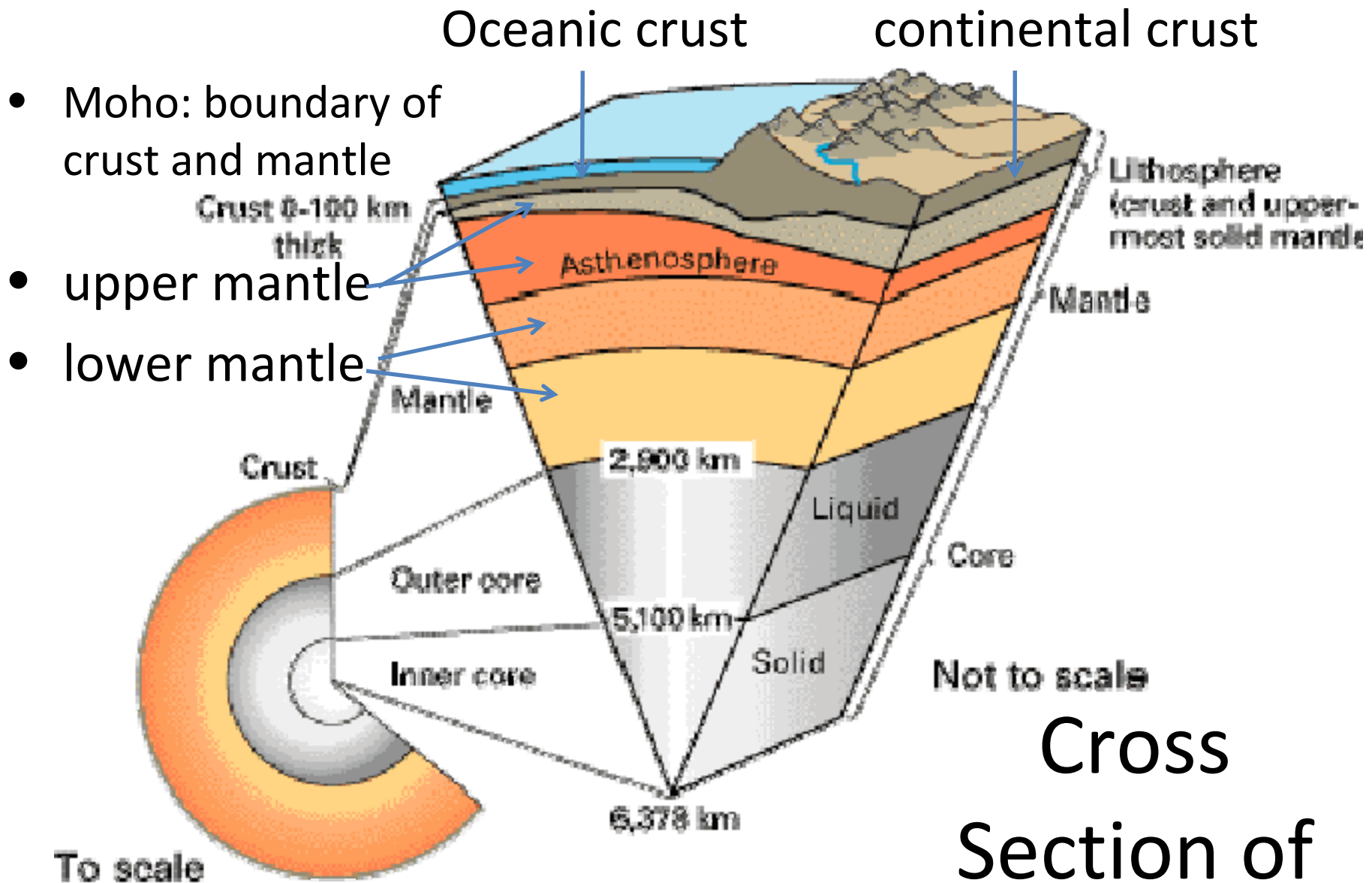
Comet is made of ices (methane, carbon dioxide, water, ammonia) that hold together rocky material (metals and silicates). As comets approach Sun in a highly elliptical orbit, the ices vaporize, and the rocky material and (now) gases (that were ices before they melted) form two tails that stream directly away from Sun by the pressure of the solar wind. The coma glows because the solar wind ionizes the gases.

3. Label the diagram below with the letters of these locations. If there is no place with this orientation, leave that letter off of the diagram.

5 pts

- A. Sun rays are directly overhead on December 21.
Tropic of Capricorn
- B. Sun rays are directly overhead on March 21.
Equator
- C. Location of the Tropic of Cancer.
Sun rays directly overhead June 21
- D. Location of the Arctic Circle.
Furthest north limit of 24 hour daylight (on June 21)
- E. Location of the equator.
Sun's rays directly overhead on March and Sept 21





Cross Section of Earth

Drawing from <http://pubs.usgs.gov/gip/dynamic/inside.html>