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Date _____

ESRT Practice – The Three Spheres

Mrs. Brighton
Earth Science

PAGE 10

1. How far down below the surface is the inner core? _____
2. How thick is the outer core? _____
3. What is the pressure at the bottom of the asthenosphere?
4. What is the radius of Earth? _____
5. What is the diameter of Earth? _____
6. What is the density of the 'stiffer' mantle? _____
7. At a depth of 2500 kilometers, what is the inferred temperature and pressure?

Temperature: _____ Pressure: _____

PAGE 14

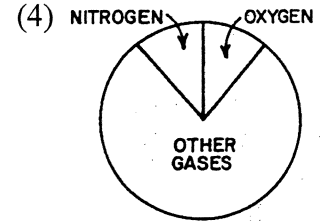
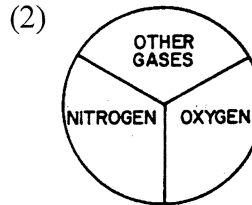
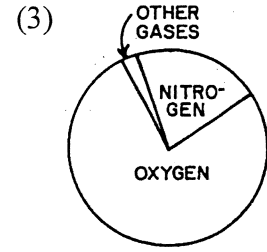
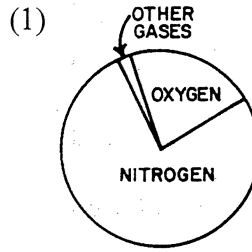
8. How high above the surface is the top of the mesopause? _____
9. In what two layers of the Earth's atmosphere can water be found? _____
10. At a height of 50 miles above the Earth's surface, what is the temperature? _____
11. At a height of 70 km above the Earth's surface, what is the temperature? _____
12. As altitude in the atmosphere increases, what happens to Pressure? _____

PAGE 1

13. What element makes up most of Earth's crust, by volume? _____
14. What element makes up most of Earth's crust, by mass? _____
15. How much of the hydrosphere is Hydrogen? _____
16. List the Lithosphere, Hydrosphere and Atmosphere in order of INCREASING Density.
17. What is the most abundant element in Earth's troposphere? _____
18. Write your own question about Page 1, 10 or 14 and answer it

- The greatest atmospheric pressure occurs in the
 - troposphere
 - stratosphere
 - mesosphere
 - thermosphere
- As the elevation above sea level in the Earth's atmosphere increases, the measured atmospheric pressure will
 - decrease
 - increase
 - remain the same
- What is the most abundant element in the troposphere?
 - helium
 - nitrogen
 - hydrogen
 - oxygen
- Which part of the atmosphere has the *smallest* distance from the bottom to the top of its zone?
 - troposphere
 - stratosphere
 - mesosphere
 - thermosphere
- What is the approximate elevation of the stratopause?
 - 10 km
 - 30 km
 - 50 km
 - 80 km
- Which statement most accurately describes the Earth's atmosphere?
 - The atmosphere is layered, with each layer possessing distinct characteristics.
 - The atmosphere is a shell of gases surrounding most of the Earth.
 - The atmosphere's altitude is less than the depth of the ocean.
 - The atmosphere is more dense than the hydrosphere but less dense than the lithosphere.
- What is the approximate elevation above sea level at which atmospheric pressure is 10^{-1} atmosphere?
 - 7.0 km
 - 17 km
 - 27 km
 - 37 km

- Which circle graph best represents the volume of gases in the troposphere?



- According to the *Earth Science References Tables*, the element oxygen is found in the Earth's

- troposphere, only
- hydrosphere, only
- troposphere and hydrosphere, only
- troposphere, hydrosphere, and crust

- In which zone of the atmosphere would a temperature of 95°C most likely occur?

- troposphere
- stratosphere
- mesosphere
- thermosphere

- Which graph best represents the relationship between air temperature and elevation in the troposphere?

