

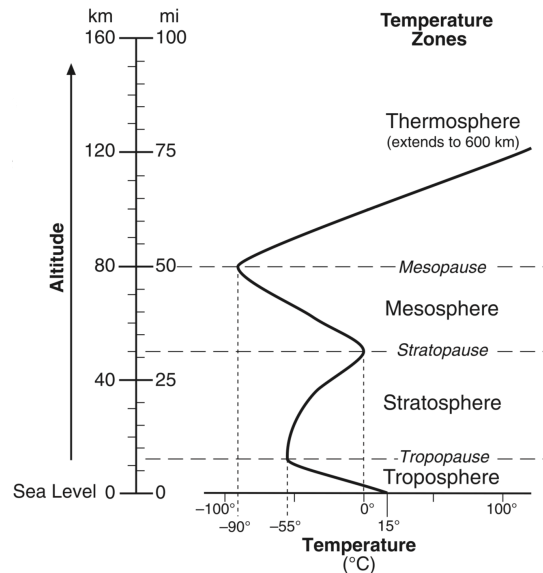
Name: _____

Date: _____ Period: _____

Packet: Spheres of the Earth

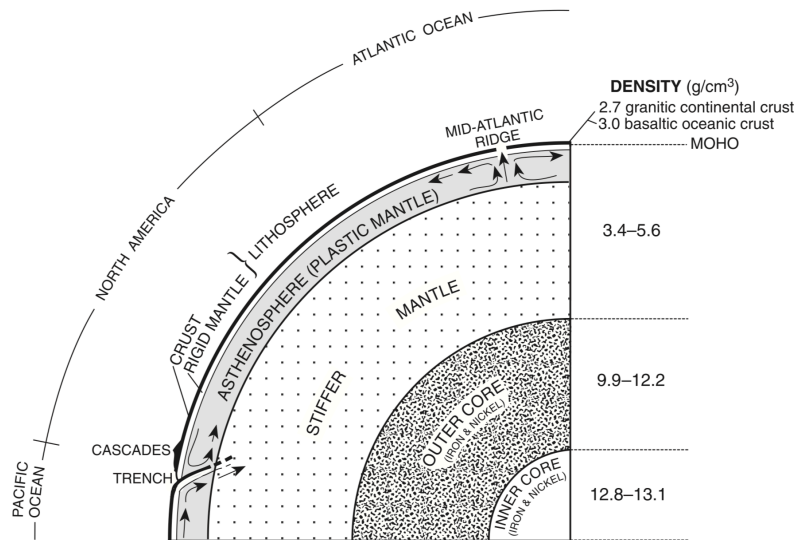
CLASS NOTES

- Atmosphere - layer of _____
- Lithosphere - layer of _____
- Exosphere - _____
 - With no clearcut boundary gases slowly "leak" out
- Thermosphere - _____
- Mesosphere - _____
- Stratosphere - _____
 - Ozone - molecules that absorb harmful _____ [UV] light
- Troposphere - _____



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- Lithosphere - _____
- Mantle - _____
- Outer Core - _____
- Inner Core - _____

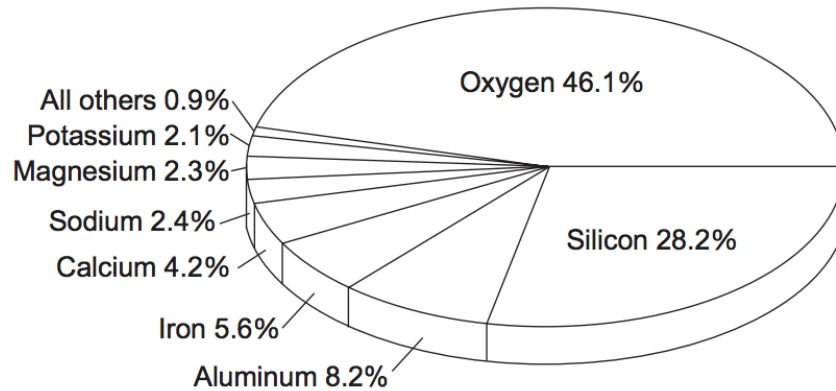


**Average Chemical Composition
of Earth's Crust, Hydrosphere, and Troposphere**

ELEMENT (symbol)	CRUST		HYDROSPHERE	TROPOSPHERE
	Percent by mass	Percent by volume	Percent by volume	Percent by volume
Oxygen (O)	46.10	94.04	33.0	21.0
Silicon (Si)	28.20	0.88		
Aluminum (Al)	8.23	0.48		
Iron (Fe)	5.63	0.49		
Calcium (Ca)	4.15	1.18		
Sodium (Na)	2.36	1.11		
Magnesium (Mg)	2.33	0.33		
Potassium (K)	2.09	1.42		
Nitrogen (N)				78.0
Hydrogen (H)			66.0	
Other	0.91	0.07	1.0	1.0

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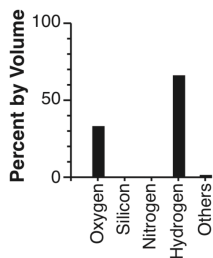
The chart below represents composition, in percent by mass, of the chemical elements found in an Earth layer.



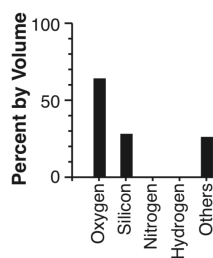
1. The composition of which Earth layer is represented by the pie graph?
 - a. crust
 - b. troposphere
 - c. outer core
 - d. hydrosphere
2. Which layer of the atmosphere experiences a decrease in temperature?
 - a. Troposphere
 - b. Stratosphere
 - c. Thermosphere
 - d. Exosphere
3. Which layer of the atmosphere experiences a increase in temperature?
 - a. Stratosphere
 - b. Mesosphere
 - c. Troposphere
 - d. Endosphere
4. Which layer of the atmosphere experiences a decrease in temperature?
 - a. Mesosphere
 - b. Stratosphere
 - c. Thermosphere
 - d. Exosphere
5. Which two elements make up the largest percentages by mass in Earth's crust?
 - a. nitrogen and potassium
 - b. oxygen and silicon
 - c. hydrogen and oxygen
 - d. potassium and oxygen

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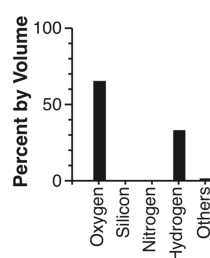
6. As altitude increases in the troposphere and stratosphere, the air temperature
 - a. decreases in the troposphere and increases in the stratosphere
 - b. decreases in both the troposphere and stratosphere
 - c. increases in the troposphere and decreases in the stratosphere
 - d. increases in both the troposphere and stratosphere
7. Which pair of elements makes up most of Earth's crust by volume?
 - a. nitrogen and potassium
 - b. oxygen and silicon
 - c. hydrogen and oxygen
 - d. potassium and oxygen
8. The hydrosphere covers approximately what percentage of Earth's lithosphere?
 - a. 100%
 - b. 50%
 - c. 70%
 - d. 25%
9. In which group are the layers of Earth's interior correctly arranged from the surface?
 - a. crust, mantle, inner core, outer core
 - b. crust, mantle, outer core, inner core
 - c. inner core, outer core, mantle, crust
 - d. outer core, inner core, mantle, crust
10. In which group are the layers of the atmosphere correctly arranged from the surface?
 - a. troposphere, mesosphere, thermosphere, stratosphere
 - b. stratosphere, troposphere, mesosphere, thermosphere
 - c. troposphere, stratosphere, mesosphere, thermosphere
 - d. thermosphere, troposphere, stratosphere, mesosphere
11. In which atmospheric temperature zone does most precipitation occur?
 - a. thermosphere
 - b. mesosphere
 - c. stratosphere
 - d. troposphere
12. Which graph best shows the percent by volume of the elements that make up Earth's hydrosphere?



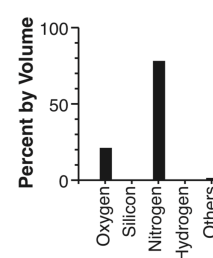
a.



b.



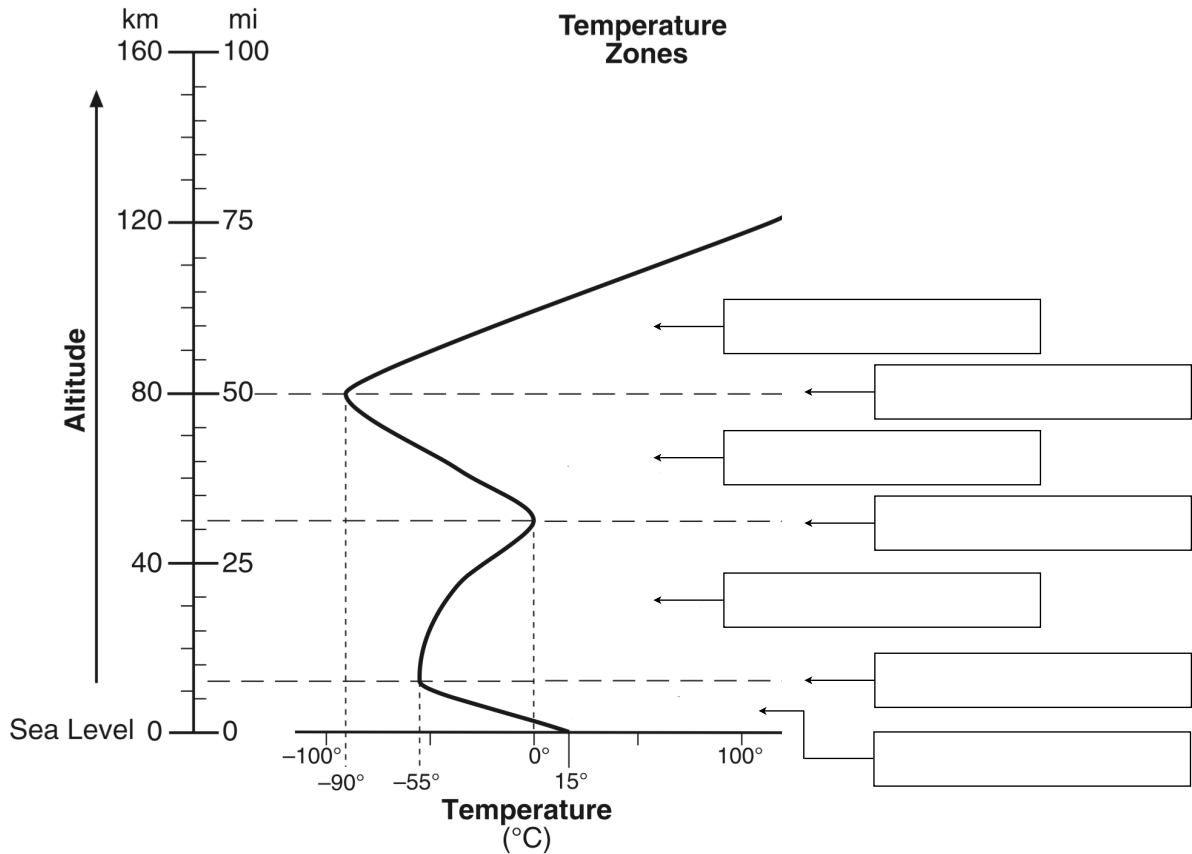
c.



d.

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Directions: Fill in the layers of the atmosphere, interfaces and answer the questions below.



13. What is the temperature of the atmosphere at an altitude of 80 kilometers?

14. What layer(s) of the atmosphere can the temperature be -75°C?

15. What is the altitude of the tropopause?

16. What is the temperature range of the mesosphere?

Packet: Spheres of the Earth

Directions: Fill in the “Layer of Earth’s Interior” and “Density” and answer the following questions below.

Depth	Layer of Earth’s Interior	Density [g/cm ³]
6,000 km		
4,000 km		
2,000 km		
0 km		

17. What happens to the density of Earth’s interior as you move from the lithosphere to the inner core?

18. Infer what happens to the temperature as depth increases within Earth’s interior?

19. Infer what happens to the pressure as depth increases within Earth’s interior?

20. What is the composition of the inner core and outer core?

21. Why is the lithosphere [composed of granitic and basaltic rock] found on the surface?

22. What type of relationship exists with temperature and depth within Earth’s interior?