**The Atmosphere Around You Study Guide**

Use Pages 4- 10 in your textbook to complete this study guide.

| Questions | Answers |
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| How does the atmosphere protect the Earth? (Give at least two ways) | The atmosphere protects Earth two ways. One, it protects the planet from harmful solar radiation. Two, the atmosphere keeps the planet’s temperature within a range that allows life to exist. |
| What are the two most abundant gases in the atmosphere? Identify each and state the percentage of the atmosphere each represents. | 78% nitrogen  21% oxygen |
| What is air pressure? | Air pressure is the column of air that exerts a force on you. |
| What is altitude? | Altitude is the distance above sea level. |
| How does altitude affect air pressure? | As air warms, it becomes less dense and has lower air pressure. Air moving from areas of high pressure to low pressure pushes the warmer air causing wind. |
| Identify the **four** layers of the atmosphere starting with the lowest layer. | The four layers of the atmosphere are the troposphere, stratosphere, mesosphere, and the thermosphere. |
| Troposphere:   1. What occurs in this layer? 2. How much weight of the atmosphere does it contain? 3. How does altitude impact temperature in this layer? | In the troposphere weather occurs in this layer, this layer also contains 80% of the atmosphere by weight, and it impacts the altitudes temperature by the temperature decreases quickly as the altitude increases. |
| Stratosphere:   1. What does this layer contain? 2. What does the ozone do? 3. What happens to the temperature in this layer? | In the stratosphere the layer contains the most ozone, the ozone does absorb ultraviolet radiation from the sun, it heats up the molecules of the air. In the stratosphere what happens to the temperature in this layer is the temperature increases as the altitude increases. |
| Mesosphere:   1. What does this layer protect us from? 2. How does altitude impact temperature in this layer? | In the Mesosphere this layer protects earth from meteoroids. The temperature in this layer decreases as the altitude increases. |
| Thermosphere:   1. How does the density of this layer compare to the other layers? What happens to the temperature in this layer? | The density of this layer compares to the other layers because it is the uppermost layer of the atmosphere, with the lowest density of air. The temperature in this layer is 1,800%C. |
| What are at least two ways that the heating of the Earth takes place? Make sure to explain. | Two ways that the heating of the Earth takes place is conduction and convection. |
| Why is the atmosphere heated unequally by the sun? | The atmosphere is heated unequally by the sun because of the tilt of Earth on its axis. |