Name: Date: Period:

Layers of the Atmosphere

1. Layers of the Atmosphere
   1. The is the layer of gases that surrounds the planet and makes conditions on Earth suitable for living things.
   2. Earth’s atmosphere is divided into several different extending from Earth’s surface outward.
   3. The is where all the weather occurs.
      1. It is the layer to Earth’s surface.
      2. It is the layer we live in.
   4. The is located directly above the troposphere.
2. This is where the layer is.
   1. The next layer up is the , followed by the , and then the .

Outer Space

Earth’s Surface

1. Atmospheric Gases
   1. Nitrogen and
      1. These are the two common gases found in the atmosphere.
      2. They can be found throughout the layers.
   2. Ozone
      1. Ozone is a form of .
      2. It is only found in the .
   3. & Carbon Dioxide (CO2)
      1. These are important gases for .
      2. They are found in the where weather occurs.
   4. Trace Gases
      1. These gases are unimportant and found in small amounts throughout the layers of the atmosphere.
      2. Example:
2. Atmospheric Temperatures
   1. Differences in are what separate each layer in the atmosphere from the one above and/or below it.
      1. In the troposphere, as altitude , temperature decreases.
      2. The is cold except in its upper region where is located.
      3. The mesosphere is the layer in the atmosphere.
      4. Even though the air is thin in the , it is very .
      5. Beyond the thermosphere is the which leads into outer space where it is very cold, because there is little to no atmosphere to absorb the Sun’s heat energy.

Temperature Altitude

Outer Space

Exosphere

Thermosphere

Mesosphere

Stratosphere

Troposphere

Earth’s Surface

1. Atmospheric Pressure
   1. is the force exerted by the gases pushing on an object.
   2. Air pressure is near the surface of the Earth in the troposphere.
2. Solar Energy
   1. Energy from the is known as Solar Energy.
   2. Solar energy is the driving energy source for Earth, and circulation in Earth’s atmosphere.
   3. Some of the Sun’s energy coming through Earth’s atmosphere is by and/or in the atmosphere.
   4. The land heats up and its heat fairly quickly.
   5. Water needs to absorb of solar energy to warm up.
   6. It is the water on Earth that helps to the temperature range of Earth’s atmosphere.
   7. Solar energy that is by Earth’s land and water surfaces is changed to heat that moves/radiates back into the atmosphere (troposphere) where the heat cannot be transmitted through the atmosphere so it is trapped, a process known as the .