|  |
| --- |
| **1.2 The sun supplies the atmosphere’s energy** |
| 1. What two things happen to the sunlight that reaches Earth?
 | **1)Absorbed****2)Reflected** |
| 1. What is radiation?
 | **Energy that travels across distances in the form of certain types of waves.**  |
| 1. What happens to most of the solar radiation that reaches Earth?
 | **70% of the solar radiation that reaches earth is absorbed.** * **50% by Earth’s Surface**
* **20% by clouds and atmosphere**
 |
| 1. What different things do sand and air do with solar energy?
 | * **Sand absorbs solar energy all day and stores it in one place**
* **Air absorbs solar energy all day but moves it around and spreads it out.**
 |
| 1. What are three ways that atmosphere moves energy?
 | * **Radiation**
* **Conduction**
* **Convection**
 |
| 1. What is conduction and how is energy transferred in conduction?
 | **Conduction is the transfer of heat energy from one substance to another by direct contact.**  |
| 1. What is convection?
 | **Convection is the transfer of energy from place to place by the motion of gas or liquid.**  |
| 1. What happens to the energy of heated air during convection?
 | **Cool dense air sinks downwards and pushes warm air out of the way. Warm air carries energy upward.**  |
| 1. Compare conduction and convection. How are they similar?
 | **Both are processes that move energy from place to place. Both involve the movement of molecules.**  |
| 1. What produces the motion of air convection?
 | **Differences in density produce the motion of air convection.**  |
| 1. What are the four layers of the atmosphere mentioned in the book in order from closest to farthest away?
 | **1) Troposphere 3) Mesosphere****2) Stratosphere 4) Thermosphere** |
| 1. How does the temperature change in each layer?
 | **With altitude*** **Troposphere temp decreases**
* **Stratosphere temp increases**
* **Mesosphere temp decreases**
* **Thermosphere temp increases**
 |
| **Using the diagram on page 20, answer questions 13-14** |
| 1. Does each layer have a set temperature or a range?
 | **A range** |
| 1. Where in the troposphere would you find the warmest temperatures?
 | **At the bottom** |
| 1. Where is the troposphere, and how is it heated?
 | **It extends from 0 to 10km above Earth’s surface and is heated by the ground.** **\*\*0 km is sea level on earth\*\*** |

|  |
| --- |
| **Atmosphere Layers Information** |
| **Layer** | **Based on background information found on pg 20 and 21, list the important characteristics of each layer.**  |
| **Troposphere** | * **0-10 km**
* **Heated by the ground**
* **Temp decreases as you move upward**
	+ **Temp is highest at ground level**
	+ **Generally decreases 6.5°C each km you rise**
* **Contains 80% of the total mass of the atmosphere**
	+ **Including almost all the water from vapor present in the atmosphere**
 |
| **Stratosphere** | * **10 – 50 km**
* **Temp rises as you move upwards**
* **Ozone is in this layer**
	+ **Absorbs energy from the sun and heats this layer**
	+ **Absorbs harmful UV Radiation**
* **Clear dry layer.**
 |
| **Mesosphere** | * **50 – 90 km**
* **Air is extremely thin in this layer**
* **Less than 0.1% of the total mass of atmosphere**
* **Most meteors burn up in this layer**
* **Temp decreases as you rise**
 |
| **Thermosphere** | * **90 km and up**
* **Air becomes less dense as you rise**
* **Temp increases as you rise**
* **When you reach the edge of this layer you reach outer space.**
 |