**Review Answers Chapter 1 Page 30-31 #1-19**

**Chapter Review –**

1. Air pressure is measure of force with which air molecules push to a surface, wind is movement of air caused by differences in air pressure.
2. Troposphere is lowest layer in atmosphere, and thermosphere is upper most layer.
3. The greenhouse effect is the Earth’s natural heating process, by which gases in atmosphere absorb and reradiate thermal energy. Global warming is rise in average global temperature.
4. Convection is transfer of thermal energy by circulation of a liquid or gas. Thermal conduction is the transfer of thermal energy through a material.
5. A global wind is a large scale pattern of air circulation in the atmosphere. A local wind generally flows short distances and can blow from any direction.
6. The stratosphere is the atmospheric layer above the troposphere, where temperature rises with altitude. Mesosphere temp decreases with increasing altitude.
7. C
8. C
9. B
10. C
11. A
12. B
13. D
14. A
15. B
16. D
17. As altitude increases, there are fewer gas molecules. Gravity pulls most of the atmosphere’s gas molecules cloes to the Earth’s surface, which makes the lower layers more dense than the upper layers.
18. Air rises as it is heated because it is less dense.
19. Mainly due to the way solar energy is absorbed. Some layers are warmer because they contain more gases that absorb more solar energy.

**Section Review- Atmospheric heating page 13 #1-5**

1. Thermal conduction is the transfer of thermal energy as heat through a material. Radiation is the transfer of energy by electromagnetic waves. Convection is the transfer of energy by circulation in a fluid. The greenhouse effect is the Earth’s natural warming process. Global warming is the gradual increase in average global temperature.
2. B
3. Energy from the sun warms atmosphere by radiation. The Earth reradiates energy from the sun, which warms the atmosphere. The air directly above the Earth’s surface also heated by conduction. Warm air is then circulated through the atmosphere by convection currents.
4. The greenhouse effect is what heats the atmosphere, global warming is a rise in average global temperature and may be caused by an increase in greenhouse gases.
5. Radiation balance is balance between incoming solar energy and thermal energy that the Earth reradiates into space.

**Section Review – Global and local winds page 19 #1-6**

1. Wind is the movement of air from areas of high pressure to areas of low pressure. The Coriolis Effect is the apparent curving of path of winds and ocean currents due to the rotation of the Earth. Jet streams are high altitude belts of strong winds. Polar easterlies are global winds that blow east to west from the poles toward 60 degrees. Westerlies are global winds that blow between 30 and 60 degress from west to east. Trade winds are closer to the equator and were used by sailors for trading.
2. A
3. Pressure belts are band of high and low pressure found approximately every 30 degress.
4. Wind is caused by uneven heating of Earth’s surface, which causes changes in air pressure.
5. The Coriolis effect affects wind movement because the Earth’s rotation cause winds to be deflected and curve. In the Northern Hemisphere they curve east and southern curve west.
6. Sea and land, mountain and valley breezes similar in that they all result from pressure differences due to uneven heating of Earth’s surface.