

11-2,3 Review

Vocabulary:

1. **Radiation:** the transfer of energy as electromagnetic waves
2. **Thermal Conduction:** the transfer of energy as heat through a material (ex: pan on stove getting hot when above a flame)
3. **Convection:** the transfer of thermal energy by the circulation or movement of a liquid or gas
4. **Greenhouse Effect:** the warming of the surface and lower atmosphere of Earth that occurs when water vapor, carbon dioxide, and other gases absorb and reradiate thermal energy
5. **Global Warming:** a gradual increase in average global temperatures
6. **Wind:** the movement of air caused by differences in air pressure
7. **Coriolis Effect:** the apparent curving of the path of a moving object from an otherwise straight path due to the Earth's rotation
8. **Polar Easterlies:** prevailing winds that blow from east to west between 60 and 90 degrees latitude in both hemispheres
9. **Westerlies:** prevailing winds that blow from west to east between 30 and 60 degrees latitude in both hemispheres
10. **Trade Winds:** prevailing winds that blows from northeast from 30 degrees north latitude to the equator and that blow southeast from 30 degrees south latitude to the equator
11. **Jet Stream:** a narrow belt of strong winds that blow in the upper troposphere and can reach 40 km/h

Things to Know:

1. Of the energy radiated by the sun, about 2 billionths reaches Earth.
2. Radiation balance is when the amount of energy received from the sun and the amount of energy returned to space are about equal.
3. One reason for global warming may be increasing greenhouse gases.
4. The differences in air pressure around the Earth is caused by warm air rising at the equator, and cold air sinking at the poles.
5. Air moves in large, circular patterns called convection cells. Pressure belts are bands of high and low pressure about every 30 degrees latitude.
6. In the Northern Hemisphere, winds traveling north appear to curve to the east because of the Coriolis Effect.
7. Mountain and valley breezes are caused by differences in temperature and elevation.
8. Sea breezes are an example of a local wind. Local winds can blow from any direction.
9. Unequal heating of the planet causes differences in air pressure on Earth.
10. Air temperature over land masses and adjacent bodies of water changes between day and night. During the day, the air is cooler over the water. At night, the air is cooler over land.
11. Mountain breezes and valley breezes are two kinds of breezes that result from local topography.