Name:

**02.05 Severe Weather Guided Notes**

1. What is lightning? **Lightning** is a very powerful electrical discharge made during a thunderstorm.
2. What causes thunderstorms? Thunderstorms form when warm, moist air rises into cold air. The warm air becomes cooler, which causes water vapor, to form small water droplets. The cooled air drops lower in the atmosphere, warms and rises again.
3. What are some hazards associated with thunderstorms? Thunderstorms can cause flooding, lightening induced wildfires, tornadoes, strong winds and hail.
4. What is a tornado? A **tornado** is a narrow, violently rotating column of air that extends from a thunderstorm to the ground.
5. What is a water spout? A **waterspout** is a column of cloud-filled wind rotating over a body of **water**.
6. Where is Tornado Alley? The region from central Texas, northward to northern Iowa, and from central Kansas and Nebraska east to western Ohio is often collectively known as **Tornado Alley**.
7. What causes the tornadoes in Tornado Alley? Storms are caused when dry cold air moving south from Canada meets warm moist air traveling north from the Gulf of Mexico.
8. How do tornadoes form? The denser cold air is pushed over the warm air causing thunderstorms. The warm air rises through the colder air, causing an updraft. The updraft will begin to rotate if winds vary sharply in speed or direction
9. How is tornado intensity measured? What are the ranges in the scale? Fujita **Scale** (or **F Scale**) 12 ranges are levels.
10. What is a hurricane? **Hurricanes** are large, spiraling tropical storms that can pack wind speeds of over 160 mph and unleash more than 2.4 trillion gallons of rain a day.
11. Where do hurricanes occur? **Hurricanes occur** in the Atlantic and Gulf of Mexico coastal areas. Or any body of water warm enough to cause a Hurricane.
12. What are other names for hurricanes? A hurricane also called a Cyclone or a typhoon.
13. How do tropical storms and hurricanes form?

Tropical storms- **form** whenever sea temperatures rise above 27 °C. The air above the warm sea is heated and rises. This causes low pressure. As the air rises it cools then condenses, **forming** clouds.

Hurricanes- **Hurricanes form** in a single warm air mass. Have warm water and air.

**02.06 Global Climate Change**

1. Explain climate change.  is a **change** in the pattern of weather, and related **changes** in oceans, land surfaces and ice sheets, occurring over time scales of decades or longer.
2. What is global warming? Is the long-term heating of Earth's **climate** system.
3. What is Earth’s primary source of energy? The sun.
4. What are the three ways heat is transferred in Earth’s atmosphere? Convection, Conduction, and radiation.
5. Where is the majority of solar energy absorbed? The land or the Earth itself.
6. What is the greenhouse effect?  is a natural process that warms the Earth's surface.