**Severe Weather**

**Thunderstorms**

* **Thunderstorms are a usually brief, heavy storm that consists of rain, strong winds, lightning, and thunder.**
* **Thunderstorms can occur along cold fronts, but only require warm and moist air near Earth’s surface and an unstable atmosphere.**
* **An unstable atmosphere occurs when the surrounding air is colder than the rising air mass.**
* **When the rising air reaches its dew point, the water vapor in the air condenses to form dark cumulonimbus clouds.**
* **Lightning**
  + **Lightning is an electric discharge that takes place between two oppositely charged surfaces, such as between a cloud and the ground, between two clouds, or between two parts of the same cloud.**
* **Thunder**
  + **Thunder is the sound caused by the rapid expansion of air along an electrical strike.**
  + **Like a balloon popping**
* **Severe Thunderstorms**
  + **Severe thunderstorms can produce one or more of the following conditions: high winds, hail, flash floods, and tornadoes.**

**Tornadoes**

* **A destructive, rotating column of air that has very high wind speeds , is visible as a funnel-shaped cloud, and touches the ground.**
* **1% of all thunderstorms have a tornado.**
* **The average tornado has wind speeds between 120 and 180 km/h**

**Severe Weather (cont.)**

**Hurricanes**

* **A severe storm that develops over tropical oceans and whose strong winds of more than 120 km/h spiral in toward the intensely low-pressure storm center.**
* **At the center of the hurricane is the eye, which is a core of warm, relatively calm air with low pressure and light winds.**
* **Hurricanes can vary in size from 160 to 1,500km and can travel thousands of kilometers.**
* **Hurricanes get their energy from the condensation of water vapor.**
* **Moisture is added to the air through evaporation from warm water which eventually condenses and gives the hurricane more energy.**

**Severe Weather Safety**

* **Tornado**
  + - **Watch- an alert that a tornado may happen**
    - **Warning- a tornado has been spotted**
    - **Go to a basement/cellar or a windowless room in the center of the building; outside lay in a deep ditch**
* **Flood**
  + - **Find a high place to wait out the flood; stay out of floodwaters**
* **Hurricane**
  + - **Have a disaster supply kit, evacuate if necessary, cover windows with plywood**
* **Thunderstorm Safety**
  + - **Stay away from water**
    - **If you are outside stay away from trees and crouch down**