**Vocabulary: Observing Weather (Metric)**

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**Vane anemometer**



**Vocabulary**

* Anemometer – an instrument used for measuring the speed (and sometimes direction) of the wind.
	+ A vane anemometer (also called a propeller anemometer) uses a propeller to measure the wind speed and rotates to show wind direction. The propeller points in the direction the wind is coming from.
* Atmosphere – the layer of gases that surrounds Earth or another planet.
	+ Earth’s atmosphere is about 100 km thick.

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**Aurora australis**

* Aurora borealis – a glowing light in Earth’s atmosphere, usually near the North Pole, caused by the collisions of charged particles with atoms in Earth’s atmosphere.
	+ Aurora borealis is also known as “northern lights.”
	+ In the southern hemisphere, the aurora is called *aurora australis* or “southern lights.”
* Cumulonimbus cloud – a large, tall, and dense cloud that often produces heavy rain and *thunderstorms*.

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**Cumulonimbus cloud**

* + Cumulonimbus clouds form when hot, moist air rises rapidly within the cloud, giving the cloud a great height.
* Equator – an imaginary line drawn around the middle of Earth, halfway between the north and south poles.
* Evaporate – to change from a liquid to a gas.
	+ Evaporation is occurring when a puddle of rainwater dries up.

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**Fog**

* Fog – a thick, dense cloud located near the ground.
	+ Fog forms when moist air is cooled near the ground. This may happen when the ground cools at night or when moist air is cooled by a cold ocean surface.
	+ Unlike mist, fog is very hard to see through. Driving or sailing in fog can be very dangerous.
* Humidity – the amount of water vapor in the air.
	+ The *relative humidity* is the amount of water vapor in the air divided by the maximum amount of water vapor the air can hold.
		- For example, a relative humidity of 60% means that the air contains 60% of the maximum amount of water vapor it can hold.
* Hygrometer – an instrument used to measure humidity.
	+ One form of hygrometer uses a human hair to measure humidity. The hair is attached to a weight. As humidity increases, the hair stretches to a longer length. When humidity decreases, the hair contracts.
* Latitude – angular distance north or south of the equator.
	+ The latitude of the equator is 0°, the latitude of the North Pole is 90° N, and the latitude of the South Pole is 90° S.
* Precipitation – any form of water that falls to the ground.
	+ Examples of precipitation include rain, snow, sleet, and hail.
* Rain gauge – an instrument used to measure the amount of liquid precipitation.
	+ A typical rain gauge uses a funnel to collect water into a graduated cylinder. Rainfall is measured in millimeters.
* Thermometer – an instrument used to measure temperature.
	+ Inside a thermometer, a liquid (usually alcohol) expands when heated, causing it to rise into a narrow tube. The level of the liquid indicates the temperature.
* Temperature – the hotness or coldness of a substance, such as air.
* Thunderstorm – a storm that produces *lightning*.
	+ Lightning is an electrical discharge from one part of a cloud to another or from the cloud to the ground.
	+ A lightning bolt causes the air around it to heat and expand rapidly. This causes sound waves to be transmitted, which we hear as thunder.
	+ Thunderstorms typically produce high winds and heavy rains.
* Weather – the state of the atmosphere at a time and place.
	+ Weather is described by temperature, wind speed, humidity, cloud cover, precipitation, and barometric pressure.
* Weather station – a structure containing instruments for measuring the weather.
	+ A typical weather station contains a thermometer for measuring temperature, an anemometer for measuring wind speed and direction, a rain gauge for measuring precipitation, a hygrometer for measuring humidity, a *barometer* for measuring pressure, and a *pyranometer* for measuring the intensity of sunlight.