**Pages for notes on Climate**

How air moves and Fronts pg. 79-82

**Fronts: There are four types of fronts- cold, warm, stationary, and occluded.**

**Cold Front**: When rapidly moving cold air runs into slow moving warm air, the denser cold air slides under the lighter warm air forming a cold front. As the warm air rises it reaches its dew point and heavy rain and or snow may fall. Move quickly and can cause abrupt weather changes including thunderstorms.

**Warm Front**: A moving warm air mass collides with a slow moving cold air mass and the warm air moves over the cold air. If the warm air is humid showers and light rain occur where the cold and warm air meet. Because warm fronts move slower than cold fronts the rainy/foggy weather may last for several days. In winter warm fronts bring snow.

**Stationary Front**: Sometimes cold and warm air meet but neither has enough force to move the other and it creates a standoff. Where the warm and cool air meet water vapor in the warm air condenses into rain, snow, fog, or clouds. This may bring many days of clouds and precipitation.

**Occluded Front**: A warm air mass is caught between two cooler air masses. The cooler denser air moves underneath the warm air and push it upward. The two cooler airs meet in the middle and mix. The warm air becomes cut off from the ground. As the warm air cools and its water vapor condenses, the weather may turn cloudy and rainy or snowy

Hurricanes pg. 88-90

Hurricane: Is a tropical storm that has winds of 119 km/h or higher. A hurricane begins over warm water as a low-pressure area, or tropical disturbance. Once hurricanes pass over land it no longer has warm air to draw energy from, but heavy rain fall may continue for several days.

Predicting Weather pg. 100-105

Meteorologist are scientist that study the weather and try and predict it. Changes in technology have occurred in two areas: gathering weather data and using computers to make forecasts.

Weather balloons measure temperature, air pressure, and humidity.

Reading a Weather Map: Lines connected indicate areas where air pressure or temperature are the same. Isobars are lines joining places with the same air pressure. Isotherms are lines joining places that have the same temperature. Newspaper weather maps are simplified versions of weather maps. Every map will give you the needed key to understand the symbols used.

Reading a Weather Map pg. 106

Refer to Predicting weather. This sections provides practice reading a weather map.

Climate Regions pg. 122-131

Scientist classify climates according to two major factors: temperature and precipitation. There are five main climate regions: tropical rainy, dry, temperate marine, temperate continental, and polar.

**Tropical Rainy Climates**: tropical wet and tropical wet-and –dry. Temperature always above 18degrees C.

*Tropical Wet*: Many rainy days with afternoon thunderstorms. With year around heat and heavy rainfall, vegetation grows lush and green. Rainforest are usually found in this climate region.

*Tropical wet-and-dry*: Always hot, with alternating wet and dry seasons. Heavy rainfall in the wet seasons.

**Dry**: Occurs wherever potential evaporation is greater than precipitation. Maybe hot or cold.

*Arid*: Desert, with little precipitation, usually less than 25 centimeters a year.

*Semiarid*: Dry but receives about 25-50 centimeters of precipitation a year.

**Temperate Marine**: Temperatures 10 degrees or above in the warmest months, between -3 degrees and 18 degrees C in the coldest months.

*Mediterranean*: Warm, dry summers and rainy winters.

*Humid subtropical*: Hot summers and cool winters.

*Marine west coast*: Mild winters and cool summers, with moderate precipitation year round.

**Temperate Continental**: Temperature 10 degrees C or above in the warmest months, -3 degrees C or below in the coldest months.

*Humid continental*: Hot humid summers and cold winters, with moderate precipitation year round.

*Subarctic*: Short, coo summers and long, cold winters. Light precipitation, mainly in summer.

**Polar**: Temperature below 10 degrees in the warmest month.

*Tundra*: Always cold with a short cool summer-warmest temperatures about 10 C.

*Ice cap*: Always cold, average temperatures at or below 0 C.

**Highlands**: Generally cooler and wetter than nearby lowlands, temperature decreasing with altitude.