Chapter 3 Study Guide

Define the following terms:

Air Mass Large volume of air in which temperature and humidity are nearly the same in different locations at the same altitude.

Continental Polar air mass – Dry, cold air mass

Continental Tropical air mass – Dry, warm air mass

Maritime Polar air mass – Moist, cold air

Maritime Tropical air mass – Moist, warm air

Cold Front - Forms when a cold air mass pushes a warm air mass and forces the warm air to rise. As the warm air rises, its moisture condenses and tall clouds form

Warm Front - Forms when a warm air mass *pushes a cold air mass*. The warm air rises slowly over the cold air and its moisture condenses into flat clouds.

Stationary Front - Occurs when two air masses push against each other without moving. Becomes a warm or cold front when one air mass advances.

Eye - Clear weather area in the center of a hurricane.

Eye Wall - Tall ring of cumulonimbus clouds that forms around the eye of the hurricane producing heavy rains and tremendous winds.

Storm Surge - A rapid rise is water level in a coastal area that occurs when a hurricane pushes a huge mass of ocean water, often leading to flooding and widespread destruction.

Meteorologist - A scientist who studies weather.

Climate – long term weather patterns

Blizzards - A blinding snowstorm with winds of at least 35 mph, usually with temperatures belong 200F.

Hurricane - Tropical low-pressure system with winds blowing at speeds of 74 mph or more.

Tropical Storm - Low-pressure system that starts near the equator and has winds that low at 40 mph.

Tornado - Violently rotating column of air stretching from a cloud to the ground.

Isobar - A line that connects places that have the same air pressure.

Answer the following questions

What 2 things define an air mass? Temperature and Humidity

Why is a continental tropical air mass warm and dry? – Land near the equator

What kind of weather is associated with a warm front? –Steady rain and snow

What weather is associated with low-pressure system? Stormy weather

What weather is associated with a high pressure system? – Clear and gentle breezes

What weather conditions are most likely to form a hurricane? A low pressure system over the ocean near the equator in late summer.

\*List 4 effects of thunderstorms? – Flash Floods, Winds, Hail and Lightning.

Change the original to the question above

Which invention has done the most to help predict weather and warn people of approaching storms? Satellites

\*What kind of weather does a cold front bring? Tall cumulonimbus clouds and precipitation.

\*List 2 conditions produced by thunderstorms – cold front and convection

\*Add or change.