

Name: \_\_\_\_\_ Summative Date: \_\_\_\_\_

Unit I Chapter 2 (2-4)  
Summative Study Guide

**Vocabulary:**

1. **Air Mass** – a large body of air where temperature and moisture content are constant throughout
2. **Front** – the boundary between air masses of different densities and usually different temperatures
3. **Cyclone** – an area in the atmosphere that has lower pressure than the surrounding areas and has winds that spiral toward the center
4. **Anticyclone** – the rotation of air around a high-pressure center in the direction opposite to Earth's rotation
5. **Thunderstorm** – a usually brief, heavy storm that consists of rain, strong winds, lightning, and thunder
6. **Lightning** – 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
7. **Thunder** – the sound caused by the rapid expansion of air along an electrical strike
8. **Tornado** – a destructive rotating column of air that has very high wind speeds, is visible as a funnel-shaped cloud, and touches the ground
9. **Hurricane** – a severe storm that develops over tropical oceans whose strong winds of more than 120 km/h spiral in toward the intensely low-pressure storm center
10. **Thermometer** – an instrument that measures and indicates temperature
11. **Barometer** – an instrument that measures atmospheric pressure
12. **Anemometer** – An instrument used to measure wind speed

**Things to Know:**

1. cT – continental tropical air mass (dry, warm), cP – continental polar air mass (dry, cold), mT – maritime tropical air mass (wet, warm), and mP – maritime polar air mass (wet, cold).
2. When air masses move and meet, it causes changes in weather.
3. A warm front forms when warm air moves over cold air and replaces it. A cold front develops when a cold air mass moves under a warm air mass, which forces the warmer air upward usually brings stormy weather.
4. A stationary front is formed by two weak air masses. A warm front is most likely to produce hot, humid weather after a period of rain. A blizzard, or large amounts of snow with strong winds, would most likely be caused by a cold front. A occluded front is caused by three different air masses.
5. An occluded front brings a lot of precipitation, while a stationary front brings many days of cloudy, wet weather.
6. Meteorologists track cyclones and anticyclones because they help predict stormy or clear weather.
7. Cyclones spiral toward the center and an anticyclone is an area of high pressure that is likely to bring dry and clear weather.
8. Unstable atmospheric conditions lead to the formation of lightning and thunder in cumulonimbus clouds.
9. Winds moving in two directions over a prairie makes air in the middle spin, which is the beginning of a tornado. A tornado is dangerous mostly because of its strong winds. If there is a tornado warning for your area, you should go to a room with no windows. 75% of the world's tornadoes occur in the United States.
10. When encountering flash flooding, you should find a high place to wait as a safety measure.
11. A storm surge is a dangerous part of a hurricane.
12. During a lightning strike, lightning is seen before thunder is heard because lightning travels faster than sound, so although the two occur at the same time, the sound of thunder does not reach our ears until after the sight of light reaches our eyes.
13. A source region is the area over which an air mass forms.
14. Isobars help meteorologists by showing high and low pressure areas.
15. A barometer measures air pressure. An anemometer measures wind speed. A thermometer measures air temperature. Radar locates precipitation and a windsock measures wind direction.