Weather or Not 2021

Student Sheet

Name:_____

Part I

1. What is an air mass?

2. Describe the temperature, moisture and air pressure associated with a Continental Polar air mass.

3. Describe the temperature, moisture and air pressure associated with a Maritime Tropical air mass.

4. Describe a high pressure center. What is another name for a center of high pressure?

5. Watch this animation on how winds flow around cyclones (pressure lows) and anticyclones (pressure highs) in the Northern Hemisphere. Draw and describe what you observe below.

6. What is a cold front? Describe the characteristics before, during and after a cold front below.

Before	During	After
Winds: Temp: Pressure Clouds: Clouds: Precip: Visibility: Dew point:	Winds: Temp: Pressure: Clouds: Precip: Visibility: Dew point:	Winds: Temp: Pressure: Clouds: Precip: Visibility: Dew point:

7. Individual surface weather stations use a standard format to report data. Review the weather stations symbols for temperature, weather symbol, dew point, cloud cover, sea level pressure and wind. Draw and label the station symbol in this example.

Part II

1. What is the importance of temperature in the formation of rain, freezing rain, sleet or snow? (draw the diagram shown with freezing rain, sleet, and snow)

2. What is a Supercell Storm? What dangerous conditions may develop during supercell storms? What wind and cloud conditions are prevalent in supercell storms?

3. What is the "Jet Stream" and at what altitude is the jet stream measured?

4. Describe the “trends” method of forecasting. What factors does a meteorologist using the trends method consider?

5. If a line of thunderstorms is located 60 miles to your northwest and moving southeast at 30 miles per hour, how long will it take to reach your location? Show your calculation.

6. Hurricanes are formed from thunderstorms. What 2 criteria must be met for a hurricane to develop from a thunderstorm?

Part III

1. You can manipulate the tornado diameter and pressure differential. Which factor has the most influence on the amount of damage done?

2. What is the Enhanced Fujita Scale?

3. What characteristics constitute a EF3 tornado?

4. What is the highest Fujita Scale score you made with the tornado simulator?

Part IV

1. What type of precipitation causes charges to separate in clouds?

2. What is the difference between cloud to ground and intra-cloud lightning?

3. What keeps the precipitation in clouds?

4. What is your highest score in the simulation?