

# TCSS Weather & Climate Unit Study Guide

Name \_\_\_\_\_

The map of the United States to the right shows the locations of Missoula, MT, and Cape Elizabeth, ME.



1. Explain why Cape Elizabeth is more likely to have warmer winters and cooler summers than Missoula. (S6E4a)

2. Define air mass. (S6E4a,b)

3. What are the circumstances that cause precipitation and storms to occur? (S6E4b)

4. Describe the weather most associated with a high-pressure system and a low-pressure system. (S6E4a,b) Explain.

5. Describe a tornado. (S6E4b)

6. Describe a hurricane (S6E4c)

7. Winds are blowing into the Southeastern U.S. from the Gulf of Mexico. A large air mass is moving quickly down from Canada. Predict what weather might occur in the Southeast. (S6E4a,b)

8. Describe three factors that impact the development of a storm when two air masses meet. (S6E4b)

9. Identify the main factor that impacts the development of wind. (S6E4a,b)

10. What is the underlying reason for major systems such as hurricanes, tornadoes, and thunderstorms? (S6E4a-c)

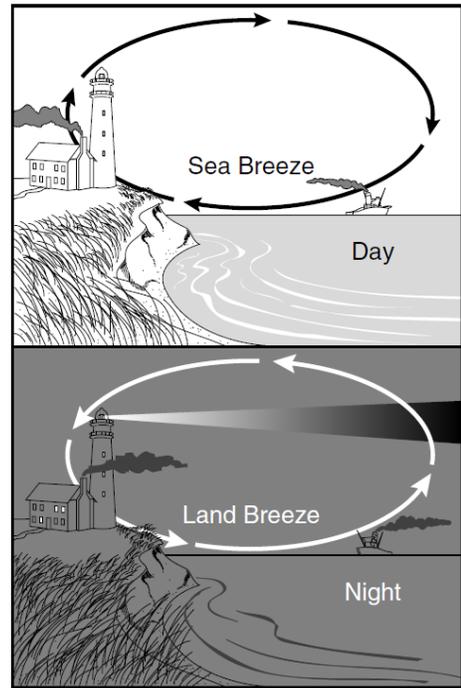
11. Where do tropical storms begin? Why? (S6E4c)

12. Describe the Coriolis effect. How does it influence wind patterns?

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13. Explain what is happening in the two images to the right. Include in your explanation the following: Radiation; Conduction; Convection; Sea Breeze; Land Breeze; High pressure; Low pressure; Wind



14. Identify the forces that cause weather. (S6E4)

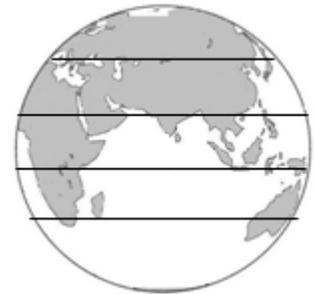
15. Explain how a warm ocean current flowing near land can influence the weather of that land. (S6E4)

16. Identify two ways in which energy from the Sun is distributed around Earth. (S6E4; S6E6)

17. Define climate. (S6E4)

18. How does wind move between Low and High pressure areas? (S6E4a,b)

19. In the diagram to the right, identify the area of the Earth that receives the most direct sunlight. (S6E6a)



20. On the diagram of the Earth to the right, draw an illustration of the movement of global winds. (S6E4)



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21. In the diagram to the right, identify the area where most tropical storms form. (S6E4b)



22. The tables to the right show information from a weather station at two different times. Based on the changes between the weather conditions, what type of weather most likely passed by the weather station between time 1 and time 2? Explain your answer. (S6E4)

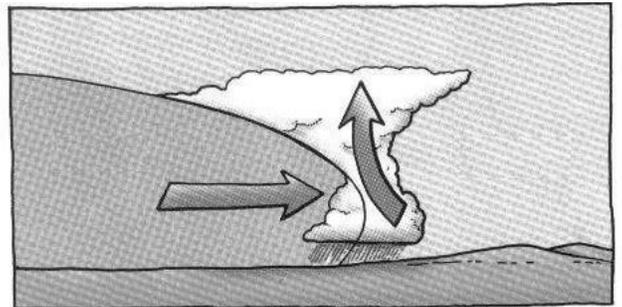
**Conditions at Time 1**

Temperature	45 °C
Pressure	1010 mb
Wind direction	From the south
Precipitation	None

**Conditions at Time 2**

Temperature	30 °C
Pressure	1025 mb
Wind direction	From the north
Precipitation	None

23. Identify the type of weather front shown in the diagram to the right. What type of weather can be expected? Explain (S6E4)



24. Identify the type of weather front shown in the diagram to the right. Explain (S6E4)

