

# ATMOSPHERIC VARIABLES

Name \_\_\_\_\_

Partner(s) \_\_\_\_\_

Define the following terms.

weather -	meteorology -	atmospheric variables -	probability of occurrence -
station model -	isotherm -	air (atmospheric) pressure -	barometer -
isobar -	winds -	currents -	pressure gradient -
aerosol -	smog -	temperature inversion -	



Give the best answer to the questions below.

1. Changes in the weather are caused by

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. The five main atmospheric variables are

1) \_\_\_\_\_ 2) \_\_\_\_\_

3) \_\_\_\_\_ 4) \_\_\_\_\_

5) \_\_\_\_\_

3. Weather predictions are not always accurate because

\_\_\_\_\_  
\_\_\_\_\_

4. A statement like “there’s a 70% chance of showers today” means \_\_\_\_\_

\_\_\_\_\_

5. On weather maps, atmospheric variables for each location are recorded on a \_\_\_\_\_

\_\_\_\_\_

6. Page 13 of the reference tables shows keys for the following four types of weather symbols:

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_

4) \_\_\_\_\_

7. Daily and seasonal temperature variations are caused by

\_\_\_\_\_  
\_\_\_\_\_

8. The atmosphere receives most of its heat energy by \_\_\_\_\_ from the Earth’s surface.

9. Two other sources of atmospheric heat are direct absorption of \_\_\_\_\_ and \_\_\_\_\_ from Earth’s surface.

10. The amount of energy **absorbed** by the atmosphere is directly related to \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

11. Three factors which can influence local daily and seasonal temperatures are

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_

12. The higher the latitude, the \_\_\_\_\_ the intensity of insolation and the \_\_\_\_\_ the temperature.

13. The higher the altitude, the \_\_\_\_\_ the temperature.

14. Compared to inland regions, coastal regions have \_\_\_\_\_ winters and \_\_\_\_\_ summers, because the specific heat of water is \_\_\_\_\_, meaning it warms and cools \_\_\_\_\_.

15. As the air temperature increases, its density \_\_\_\_\_, and the air pressure \_\_\_\_\_.

16. *Standard air pressure* at sea level is \_\_\_\_\_ inches of mercury or \_\_\_\_\_ millibars (Mb), otherwise known as one \_\_\_\_\_.

17. According to the ESRT (p.14), 30.0 inches of mercury equals \_\_\_\_\_ millibars.

18. Which is heavier – MOIST AIR / DRY AIR ?

19. The more moisture in the air, the \_\_\_\_\_ the air pressure.

20. When moist air moves into a region, the barometer RISES / FALLS.

21. Explain your answer to #18: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

22. A rising barometer indicates \_\_\_\_\_  
\_\_\_\_\_

23. As altitude increases, air density and pressure \_\_\_\_\_.

