

Name: _____

Hour: _____

Science "Mini-Weather-Text" Book Test

WEATHER



1. Name the three main "ingredients" (factors) that interact to cause our weather:

2. If I put my hand under a heat lamp and feel heat on my skin, the energy is being transferred by:

- A. Convection
- B. Radiation
- C. Solar occurrence
- D. Conduction

3. Explain the greenhouse effect in your own words (3 pts):

4. What type of weather instrument do we use to measure wind speed? _____

5. A barometer measures _____.

6. What are the **U.S.** units of measurement that can be read from a 1) thermometer and 2) a barometer? BONUS: what are the **metric** units of measurement for a thermometer and barometer (circle 2 pairs of answers)?

- A. Isobarometric pressure and isotherms
- B. Degrees Celsius and Millibars
- C. Degrees Fahrenheit and Inches of mercury
- D. Inches and Milliliters

7. Which is more dense, warm air or cool air? _____

8. How do dark colored surfaces on the earth affect temperature (3 points)?

9. What is the name of the direct transferring of heat through a (usually solid) material?

10. What occurs on or around June 21st every year that gives us more hours of sunlight than any other day of the year?

11. What is the vocabulary term for a large body of air with similar temperature and moisture content throughout?

12. In North America, the jet streams cause weather patterns to move mostly in which direction?

A. North to south

B. East to west

C. West to east

D. It changes all the time

13. When is cloud cover *most likely* to help keep outside air temperatures from falling rapidly?

A. During the day

B. When tides occur

C. Only on leap years

D. At night

14. What type of low cloud can bring rain? _____

15. What middle cloud appears puffy—resembling cotton or another fluffy material?

16. What high cloud is a white milky ice-crystal cloud?

A. Altostratus

B. Cirrus

C. Nimbostratus

D. Cirrostratus

17. What are the three major steps of the water cycle (*list a fourth for a bonus point*)?

18. What are isobars (2 pts)?

19. How can isobars help indicate the direction and strength of wind (be complete for 2 points)?

20. List the three main types of fronts and briefly explain their characteristics (12 points):

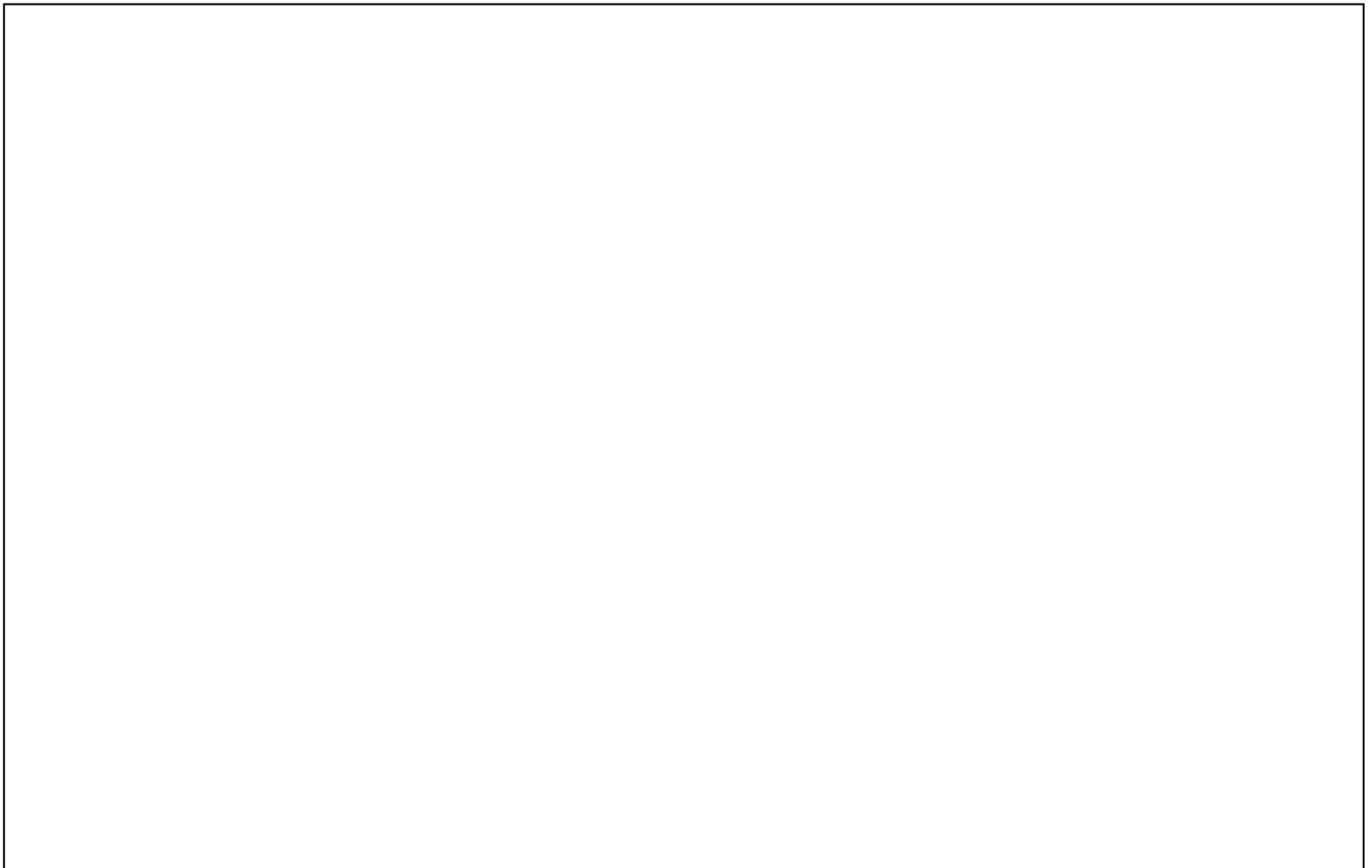
21. Are clear skies usually brought on by high or low pressure systems?

22. Winds always blow from:

- A. Higher to lower pressure areas
- C. Lower to higher pressure areas

- B. Cold to maritime pressure centers
- D. One low pressure area to another low pressure area

23. Draw and label the water cycle (6 points):



24. What type of cloud is often accompanied by thunder and lightning?

25. A whirling, *funnel shaped cloud* that develops in low, heavy cumulonimbus clouds and touches the ground is a:

26. Cold water sinking to the bottom of an aquarium and pushing up warm water is an example of:

- A. Convection
- B. Radiation
- C. Solar occurrence
- D. Conduction

27. If a spoon is left in a pot of soup on the stove, the handle of the spoon will become too hot to handle. The metal in the spoon transfers heat from the pot because of:

- A. Convection
- B. Radiation
- C. Solar occurrence
- D. Conduction

28-35. Draw in the following symbols on the map below for full credit, use correct colors:

28. High pressure center over Idaho, Washington, and Oregon in the Northwest U.S.

29. Low pressure center over Texas

30. Low pressure center over Eastern Minnesota and Northwest Wisconsin

31. High pressure area in Canada north of New York and the Northeast U.S.

32. Draw a stationary front between the two low pressure weather systems

27. Draw a warm front line moving across Michigan to the east

34. Draw a cold front line between the high pressure system in the Northwest (#28 above) and the low pressure system in the Midwest (#30 above) moving east

35. Draw **3 Isobars around the High pressure system in the Northwest that are spread out on the left and closely spaced on the right**

