Part I: Layers of the Atmosphere

A. List the layers in order from closest to the ground to farthest from the ground.

<table>
<thead>
<tr>
<th>Layers</th>
<th>Outer Space</th>
<th>Unique Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Earth’s Surface

6. List the layers in which the temperature increases as elevation increases.
   _____________________________________________________
   _____________________________________________________

7. List the layers in which the temperature decreases as elevation increases.
   _____________________________________________________

8. ___________________________________ We live in this layer of the atmosphere.

9. ___________________________________ Weather is formed in this layer.

10. ___________________________________ Shooting stars are seen and burn up in this layer.

11. ___________________________________ This layer is the largest layer.

12. ___________________________________ This layer is where the space shuttle orbits.

13. ___________________________________ This is found within the thermosphere. It is where charged particles are located which reflects or absorbs radio waves.

14. Where is there the greatest amount of atmospheric pressure? Why?
Part II: Composition of the Atmosphere - Fill in the Blank

15. The gas that is most abundant in the atmosphere is __________________________.

16. What absorbs ultraviolet rays in the stratosphere? __________________________.

17. Air pressure __________________________ as elevation increases.

18. The gas that is second in abundance in the atmosphere is __________________________.

19. What is the formula for ozone? __________________________

20. Our atmosphere is only made up of gases, no solids or liquids. ______________(true or false)

Part III: Atmospheric Pressure - Fill in the Blank

21. What is the definition for Air Pressure? __________________________.

22. What tool is used to measure Air Pressure? What unit is air pressure measured in? ______________

23. What type of weather is associated with High Pressure? ______________

24. When the pressure falls (Low), the weather generally gets ______________.

25. Warm air is __________dense and tends to __________ in the atmosphere.  Heat rises!

26. Cold air is __________dense and tends to __________ in the atmosphere.

27. Explain which heat transfer process is driven by the concepts in #25 & #26.

Part IV: Heat:

28. What is the source of heat for the Earth? __________________________

29. Most of the heat from the sun is ______________ to space.

30. The heat from the sun that enters the earth’s atmosphere is divided in three ways:

<table>
<thead>
<tr>
<th>3 Division of heat as it enter earth’s atmosphere:</th>
<th>Absorbed or Reflected</th>
<th>% absorbed or reflected</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
31. Heat from the earth’s surfaces heats up the atmosphere. What transfer process is this?
___________________________________________________________________________

32. Explain how the Earth acts like a greenhouse which traps radiation (heat) from the sun?
___________________________________________________________________________

33. Which region of the earth gets the most direct rays? Which region of the earth does not get direct sunlight? Why?

34. Dark colors absorb sunlight, while light colors reflect them. Fill in the blanks below....

Sunlight  (_________)

Sunlight  (_________)

35. How do clouds help cool the earth?
___________________________________________________________________________

36. How do clouds keep nights warmer?
___________________________________________________________________________

37. What are 3 ways in which energy is transferred?

<table>
<thead>
<tr>
<th>Way which heat is transferred?</th>
<th>Transferred through.....</th>
<th>Example:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

38. Draw 1 picture that has all 3 ways of energy transfer.....label each one..
Part V: Data / Graph Analysis:
- Be familiar with the concepts in chart.
- Explain...
  - Why does the line zig zags.
  - What is the relationship between altitude & pressure (mb).

Part VI: Wind

1. Define the Coriolis Effect and explain how it causes movement of air in the Northern Hemisphere.

2. What causes wind in the atmosphere and how does wind move? Be sure to include the terms high pressure and low pressure in your description.

3. How do meteorologists report wind direction (what tool is used)?

4. How do meteorologists measure wind speed (what tool is used)?