

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Per.: \_\_\_\_\_

### The Layers of the Atmosphere

Task: Plot the data on the graph. Answer the questions below.

| Altitude (Miles) | Temperature (°C) | Altitude (Miles) | Pressure (Atm)                                |
|------------------|------------------|------------------|---|
| 0                | 15°              | 0                | 1.0   |
| 1                | 0°               | 5                | 0.5   |
| 5                | -40°             | 7                | 0.25  |
| 7                | -55°             | 20               | 0.1   |
| 25               | -20°             | 75               | 0.01  |
| 31               | 0°               | Altitude (Miles) | Water Vapor Concentration (g/m <sup>3</sup> ) |
| 40               | -55°             | 0                | 40  |
| 50               | -90°             | 1                | 20  |
| 60               | 0°               | 7                | 2   |
| 75               | 100°             |                  |   |

1. What is the altitude where the temperature stops decreasing and starts increasing? \_\_\_\_\_ Draw a horizontal line through this point all the way across the graphs. Label this line "Tropopause". The layer beneath this line is called the "Troposphere." Label this layer and write in "Layer in which all weather occurs."
  
2. What is the altitude where the temperature stops increasing and begins decreasing? \_\_\_\_\_ Draw a horizontal line through this point all the way across the graphs. Label this line "Stratopause". The layer beneath this line and above the tropopause is called the "Stratosphere." Label this layer and write in "Where the ozone layer is."
  
3. What is the altitude where the temperature stops decreasing and begins increasing? \_\_\_\_\_ Draw a horizontal line through this point all the way across the graphs. Label this line "Mesopause". The layer beneath this line and above the Stratopause is called the "Mesosphere."
  
4. What happens to temperature when you get higher than the mesopause? \_\_\_\_\_ This layer is called the thermosphere (because it's so hot). Label this layer on the graph.
  
5. What factor determined the location of the "pauses" between the layers?  
 \_\_\_\_\_
  
6. What is the relationship between altitude and air pressure? \_\_\_\_\_
  
7. Why do you think all weather occurs in the troposphere (Hint: look at the water vapor concentration)?  
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# Properties of the Earth's Atmosphere

