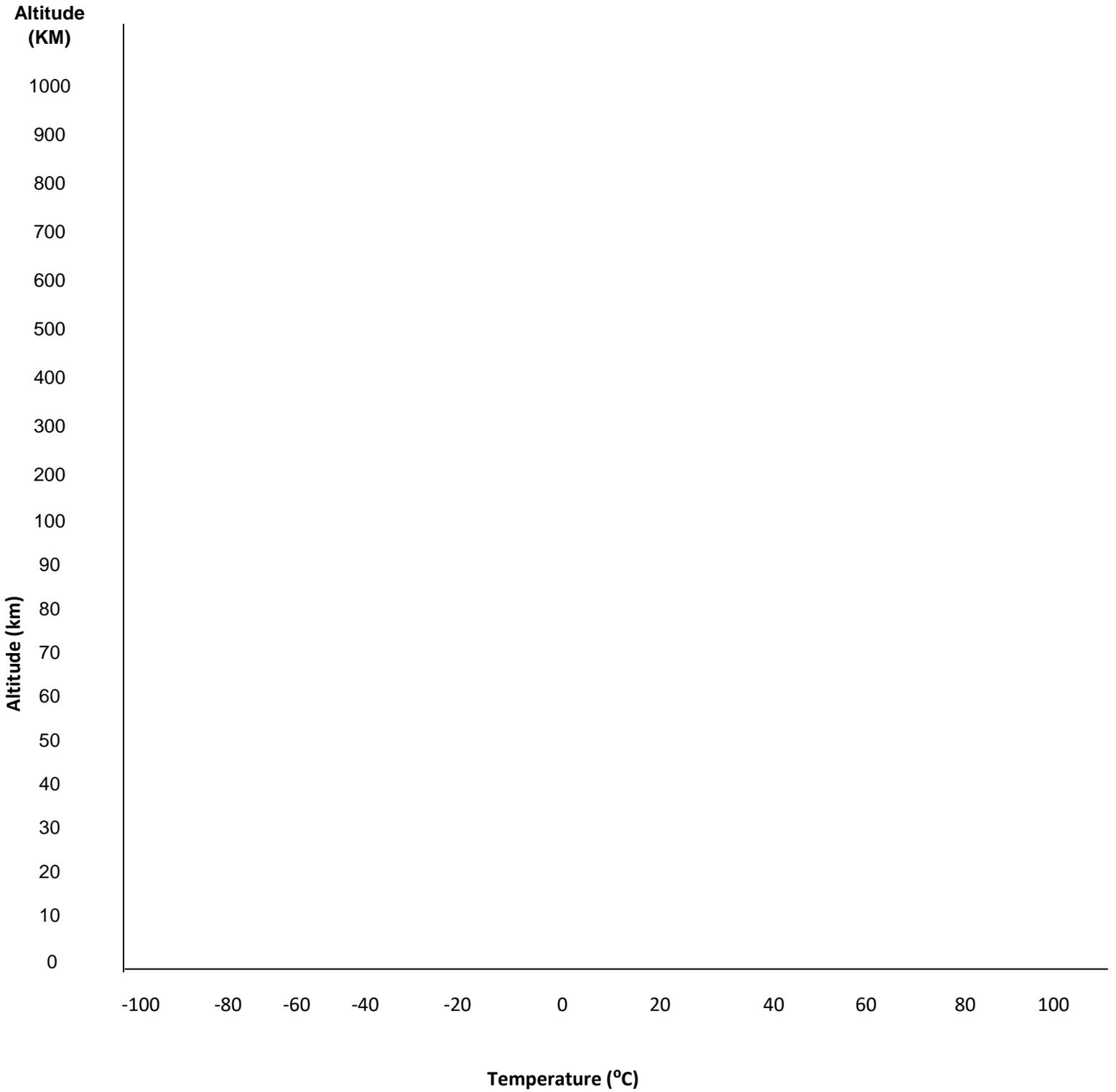


Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

# INTRODUCTION TO THE ATMOSPHERE



## Layers of the Atmosphere Diagram Directions

- 1) Draw a straight horizontal (-)line all the way across the diagram at 12 km
- 2) The troposphere is located between 0 and 12 km, label this area on the left side of the diagram by writing the word "Troposphere"
- 3) Draw a straight horizontal line all the way across the diagram at 50 km
- 4) The stratosphere is located between 12 and 50 km, label this area on the left side of the diagram by writing the word "Stratosphere"
- 5) Draw a straight horizontal line all the way across the diagram at 80 km
- 6) The mesosphere is located between 50 and 80km, label this area on the left side of the diagram by writing the word "Mesosphere"
- 7) The thermosphere is located between 80 km and eventually blends into space, label this area on the left side of the diagram by writing the word "thermosphere"
- 8) Draw a straight horizontal line all the way across the diagram at 550 km.
- 9) The exosphere **is part of the thermosphere** and starts at 550 km, label this area on the right side of the diagram by writing the word "Exosphere"
- 10) Draw 2 meteors burning up in the atmosphere between 60 – 80 km
- 11) Draw a mountain in the center of the diagram that starts at 0 km and goes all the way to 8 ½ km
- 12) Draw an airplane flying between 18 – 30 km
- 13) The ozone is located between 25 to about 40 km, please label this area by using the symbol 
- 14) There is no clear boundary between the exosphere and space, above 1000 km write the word "space" with an arrow pointing up
- 15) Draw a man-made satellite between 300 – 800 km on the left side of the diagram. This is where satellites orbit the Earth
- 16) Using a yellow colored pencil, underline the word troposphere and heavily shade in the area from 0 to 12 km across the whole diagram.
- 17) Using an orange colored pencil, underline the word stratosphere and shade the area from 12 to 50 km across the whole diagram a little less than the thermosphere as there are fewer gas molecules
- 18) Using a light green colored pencil underline the word mesosphere and lightly shade the area from 50 to 80 km across the whole diagram
- 19) Using a light blue colored pencil underline the word thermosphere and very lightly shade the area from 80km on up across the whole diagram
- 20) To show the temperature differences in each layer, place a dot using the following coordinates:
  - a. 0 km and 0° C
  - b. 12 km and -40° C
  - c. 20 km and -40° C
  - d. 50 km and -2° C
  - e. 53 km and -2° C
  - f. 80 km and -95° C
  - g. 100 km and -85° C
  - h. 120 km and 0° C
  - i. 140 km and 60° C
- 21) Connect each of the dots together in order starting with "a" and ending with "i" to show temperature changes in each layer of the atmosphere.

### Analysis Questions

Directions – use the diagram you created on the front page to answer the following analysis questions

1. How many main layers are in the atmosphere?
2. What atmosphere layer do we live in?
3. What layers of the atmosphere can planes fly in?
4. Which layer of the atmosphere burns meteors?
5. Which layers is the coldest layer?
6. Which layer is the warmest layer?
7. Explain what happens to the temperatures of each layer. What do you think (hypothesis) might be causing this?
8. Which layer can have man made satellites orbiting in it?