# Honors Chemistry Hour\_\_\_\_\_ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Dr. Wexler Interpreting and Drawing Graphs Date assigned:

# Chemistry: *Graphs*

## Reading Graphs

Being able to read a graph is a very important skill. Many fields of endeavor, including science, politics, and economics often use graphs to quickly and effectively relate a large amount of information.

*Look at the graph on the right and answer the questions.*

1. What is the label on the x-axis?
2. What is the label on the y-axis?
3. What **unit is** used to describe the label on the x-axis?
4. What unit is used to describe the label on the y-axis?

5. What substance was the experimenter analyzing to  
 get the data for this graph.

100

Temperature (o Celcius)

50

1. Over what time interval(s) does the temperature

remain constant? Include units.

1. Over what time interval(s) is the temperature

rising? Include units.

0

1. What is the temperature of the water after four

minutes of heating? Include units.

0 1 2 3 4 5 6 7 8 9 10 11 12

1. At what time is the temperature 10oC? Include units.

Time (minutes)

**Creating Graphs**

All good graphs have several items in common. All good graphs…

1. have a title at the top.
2. have axes that are labeled, with proper units.
3. are neat, and easy to read.
4. use most of the available space.

|  |  |
| --- | --- |
| Time | Total Distance Bicycled (km) |
| 8:00 a.m. | 0 |
| 9:00 a.m. | 12 |
| 10:00 a.m. | 23 |
| 11:00 a.m. | 33 |
| noon | 42 |
| 1:00 p.m. | 50 |
| 2:00 p.m. | 57 |
| 3:00 p.m. | 63 |
| 4:00 p.m. | 68 |

Prepare a graph using the data in the table above

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

1. Use your graph to estimate the total distance traveled by 10:30 a.m. Can you be absolutely certain of this value? Why or why not?
2. Compare the distance traveled during the first hour of the trip with the distance traveled during the last hour of the trip. Suggest a possible explanation for the difference. How is this difference illustrated on the graph?