

Graphing Phase Change

- Sometimes the easiest way to see what is going on with data is to draw a graph
- The data in the tables represents a sample of water or mercury that were heated at a constant rate
- Graph the data on the sheet provided and then answer the analysis questions

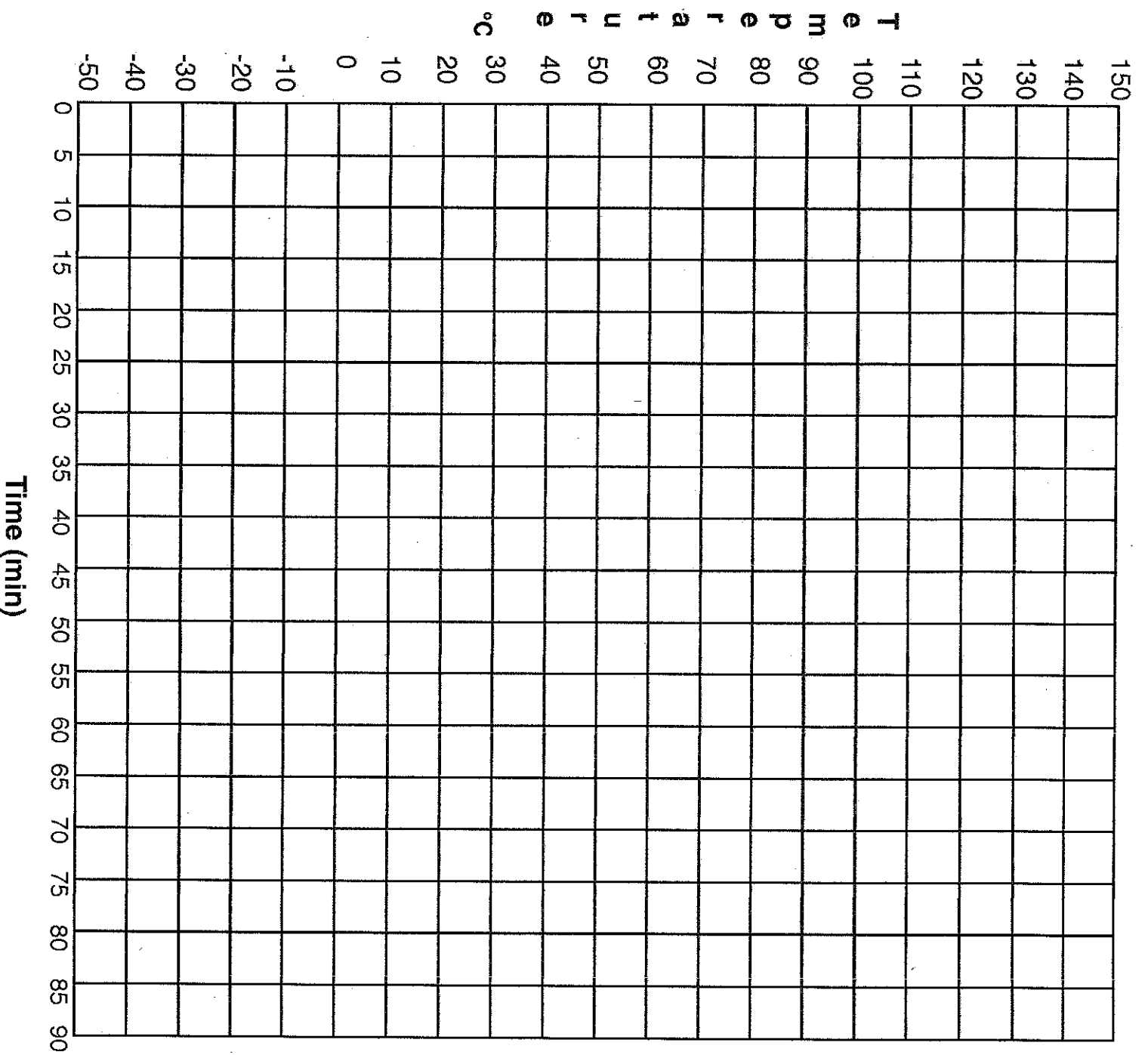
Analysis Questions

- 1) What state was the water in at the beginning of the experiment?
- 2) How did you know?
- 3) What happened to the water temperature between 10 and 20 minutes?
- 4) What state was the water in at 40 minutes?
- 5) How did you know?
- 6) What happened to the water temperature between 55 and 70 minutes?
- 7) What state was the water in at 80 minutes?
- 8) How did you know?

- 9) The same amount of energy was being added to the sample throughout the experiment. Why do you think the temperature did not change at those points?
- 10) What was the energy doing if it was not increasing the temperature of the water?
- 11) Look at the graph of the Mercury. How does the graph compare to the graph of the water?
- 12) At what temperature does Mercury freeze?
- 13) At what temperature does Mercury evaporate?
- 14) How did you find these numbers?
- 15) Which substance was a liquid for a longer period of time?

Phase Change of Water

Time (min)	Temperature °C
0	-20
5	-10
10	0
15	0
20	0
25	15
30	30
35	45
40	60
45	75
50	90
55	100
60	100
65	100
70	100
75	120
80	140



Phase Change of Mercury

Time (min)	Temperature °C
0	-100
5	-60
10	-39
15	-39
20	-39
25	30
30	90
35	160
40	230
45	280
50	340
55	357
60	357
65	357
70	357
75	400
80	440

