

INQUIRY SKILL FOCUS Practice

Create Line Graphs

Use a sheet of graph paper to make a graph of the data given below. Then answer the questions that follow on a separate sheet of paper.

Time vs. Temperature for Unknown Substance		
Time (min)	Temperature (°C)	Solid, Liquid or Gas
0	-20	Solid
5	0	Solid (melting)
10	0	Solid (melting)
15	52	Liquid
20	100	Liquid (boiling)
25	100	Liquid (boiling)
30	100	Liquid (boiling)
35	100	Liquid (boiling)
40	100	Liquid (boiling)
45	100	Liquid (boiling)
50	100	Liquid (boiling)
55	100	Liquid (boiling)
60	100	Liquid (boiling)
65	100	Liquid (boiling)
70	100	Liquid (boiling)
75	110	Gas
80	120	Gas

A group of researchers were investigating the properties of an unknown substance. They decided to heat the material to study its melting and boiling behavior. They heated a 1-kg sample of the solid material at a steady rate. They measured and recorded the temperature of the sample every 5 minutes.

1. On a sheet of graph paper, make a line graph of the data the group collected.
2. What does the graph tell you about the temperature of the substance at different times during the investigation?
3. **Think It Over** Use the information from the third column of the data table to explain what is happening during the various sections of your graph.