



Name: _____

Class: _____

Student worksheet

1.5 Tables and graphs are used to represent data

Pages 12–13

Graphing and interpretation

1 What are the four features that all graphs have in common?

2 What is the most common type of graph used to represent data in science?

3 What do the following graph shapes mean in terms of the dependant and independent variables?

a Positive slope upwards

b Horizontal line

c Negative slope downwards

4 What is the name of the relationship when the data experiences

a a positive slope upwards?

b a negative slope downwards?



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- 5 A student reacted two chemicals together and recorded the temperature of the reaction for 8 minutes.

TIME (MINS)	TEMPERATURE (°C)
0	20
1	30
2	40
3	50
4	60
5	65
6	68
7	69
8	70

- a Create a line graph of the set of data that was obtained.



- b What is the shape of the graph?

- c What is the relationship between the independent variable and the dependant variable?



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Extend your understanding

Mathematics can often be used to determine the relationship between variables on a graph. For most graphs you

can calculate the slope of the graph as $\text{slope} = \frac{\text{rise}}{\text{run}}$.

- 6 A student wishes to test two methods of heating water. In the first method he uses a Bunsen burner, and in the second method he uses a hotplate.

- a Graph the results of the two methods below.

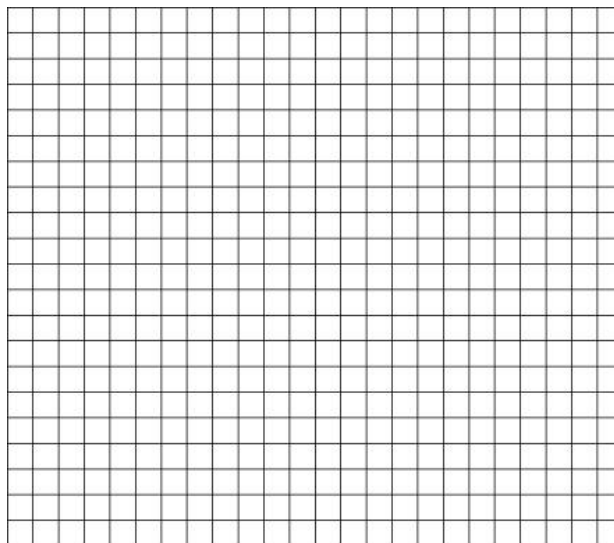
Bunsen burner

TIME (MIN)	TEMP (°C)
0	18
1	34
2	50
3	66
4	82
5	98



Hotplate

TIME (MIN)	TEMP (°C)
0	18
1	26
2	34
3	42
4	50
5	58



- b Using the graphs drawn in part a, calculate the slope of each graph.

- c Which heating method is more effective? Use your answers in part b to support your answer.
