



Name _____ Class _____ Date _____

Your teacher may watch to see if you can:

- take measurements efficiently.

Aim

To find out how breathing rate is affected by exercise.

Hypothesis

Your breathing rate depends on how much effort you put into some exercise.

Prediction

1 a What do you think will happen to your breathing rate if you put more and more effort into some exercise?

b Why do you think this? _____

Method

- A Sit still and count how many times you breathe out in 15 seconds.
- B Work out your breathing rate (how many breaths you would take in a minute). Write this value in the results table.
- C Repeat steps A and B twice more.
- D Do some light exercise, such as walking, for 2 minutes.
- E Sit down and work out your breathing rate again. Write the value in the results table.
- F Repeat steps D and E twice more.
- G Do some hard exercise, such as running on the spot or step-ups, for 2 minutes.
- H Sit down and work out your breathing rate again. Write the value in the results table.
- I Repeat steps G and H twice more.

Apparatus

- stop clock or stopwatch

Recording your results

2 Record your results in this table and calculate the means and ranges.

	Effort of exercise		
	None	Light	Hard
Breathing rate – 1st try (breaths/min)			
Breathing rate – 2nd try (breaths/min)			
Breathing rate – 3rd try (breaths/min)			
Range			
Mean			

Considering your results/conclusions

3 Plot a bar chart of your results.

4 a Do your results agree with your prediction?

b If not, explain how they are different. _____

5 Why do you think the breathing rate changed in the way it did? _____

Evaluation

6 a Which set of your results are you most sure of? Which set of results was the most precise?

b How do you know? _____

7 Why is it useful to calculate a mean? _____

I can...

- draw a bar chart
- calculate means and ranges and explain their uses
- describe and explain effects of exercise on breathing rates.