Stonelaw High School

Faculty of Science

Reading and Describing Graphs

Reading graphs

When a question asks you to select a value from a graph, you should

- Work out the scale by dividing the difference by the number of boxes
- Use a ruler to read along the x axis then go up the y axis

Example

State the estimated size of the grey seal pup population in 2014.

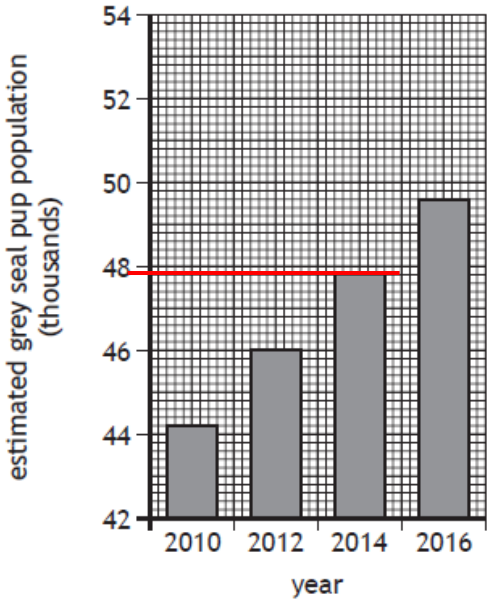
To work out the scale

- Find the difference between two values
- Divide by 10 as there are ten boxes between the values

44 – 42 = 2

2 ÷ 10 = 0.2

Each little box is worth 0.2



Place a ruler on the graph making sure it is in line with the 2014 bar and read across to the y axis

The bar is one box below 48 = 47.8 (thousand)

Describing relationships

When a question asks you to describe a relationship, you should use the terms increase, decrease or stays the same to describe the shape of the graph.

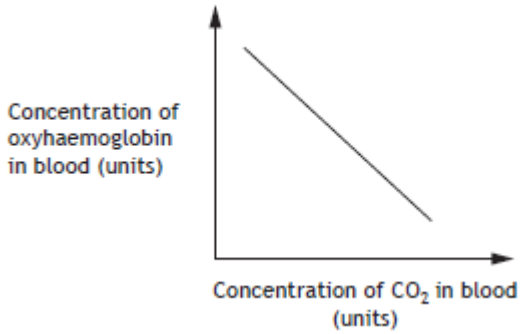
HINT: if the question is worth one mark, you only have to say one of the terms

You should discuss the x axis then the y axis for example:

As the (x-axis label) increases, the (y-axis label) increases.

Example

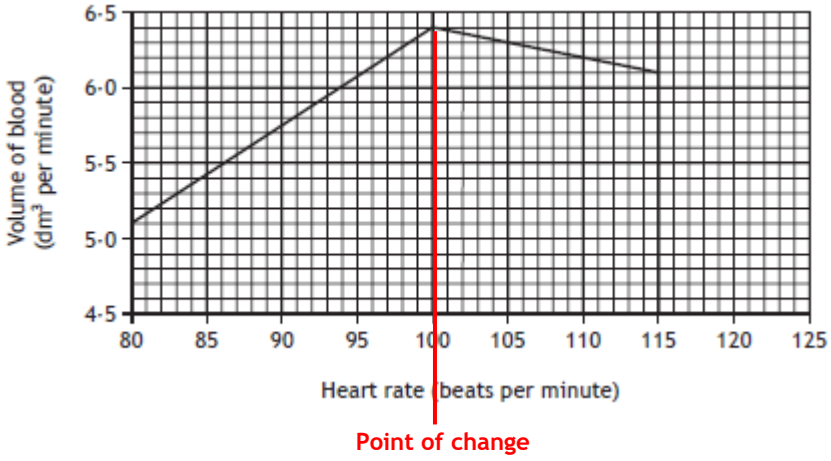
Describe the relationship between the concentration of CO_2 in the blood and the concentration of oxyhaemoglobin in the blood. (1)



As the concentration of CO_2 increases the concentration of oxyhaemoglobin decreases

HINT: if the question is worth two marks, you have to use two of the terms and identify the point of change on the x-axis
You should discuss the x axis then the y axis. You should then identify the point of change then describe the changes to the y axis after the point of change. For example:
As the (x-axis label) increase, the (y-axis label) decreases until (point of change on x-axis) then the (y-axis label) stays the same.

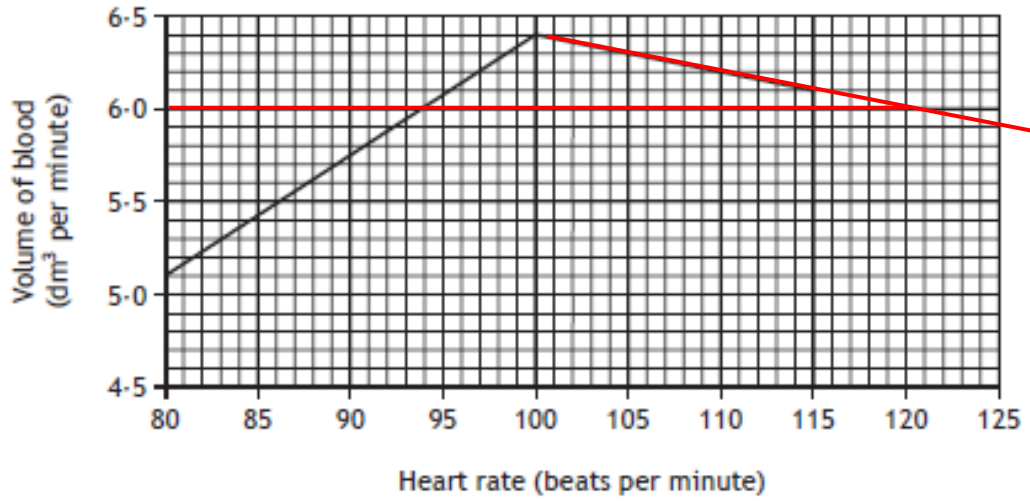
Example
Describe the relationship between heart rate and volume of blood pumped by the left ventricle. (2)



As the heart rate increases the volume of blood increases until the heart rate is 100bpm then the volume of blood decreases

Predicting
When a question asks you to predict from a graph you should extend the line using a ruler.

Example
Predict the volume of blood pumped by the left ventricle at 120 beats per minute.



When the extended line cross 120 beats per minute the volume of blood is 6.0 dm^3 per minute