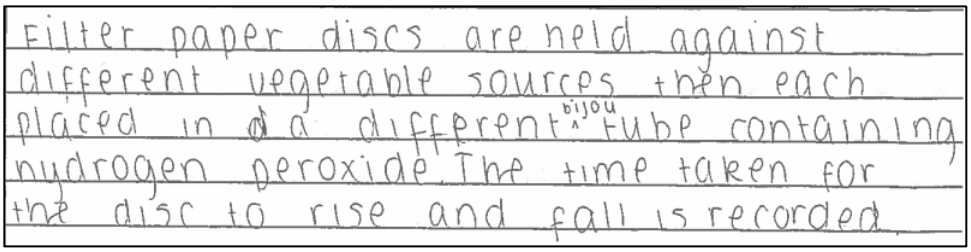
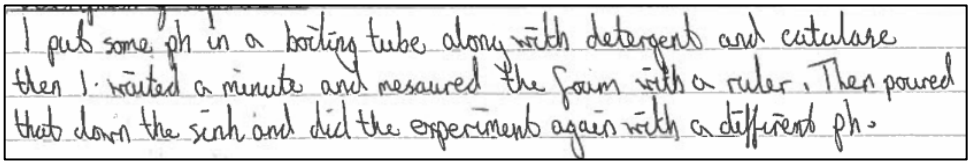
3 Data collection and handling

3(a) A brief description of the approach used to collect experimental/fieldwork data.

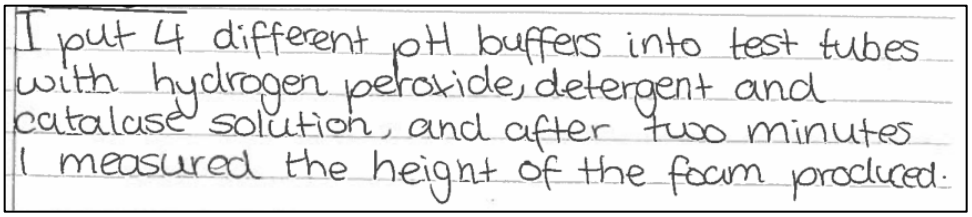
Example 1


Filter paper discs are held against different vegetable sources then each placed in a different bijou tube containing hydrogen peroxide. The time taken for the disc to rise and fall is recorded.

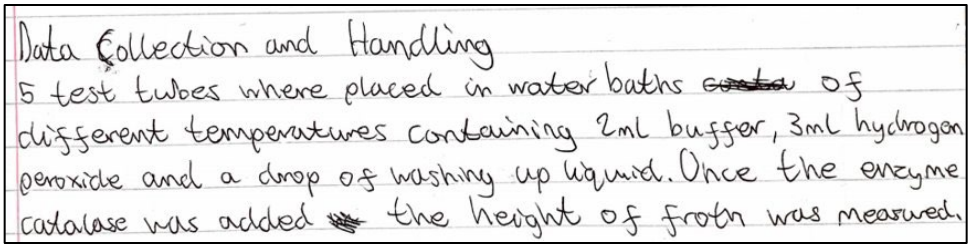
Example 2


I put some ph in a boiling tube along with detergent and catalase then I waited a minute and measured the foam with a ruler. Then poured that down the sink and did the experiment again with a different ph.

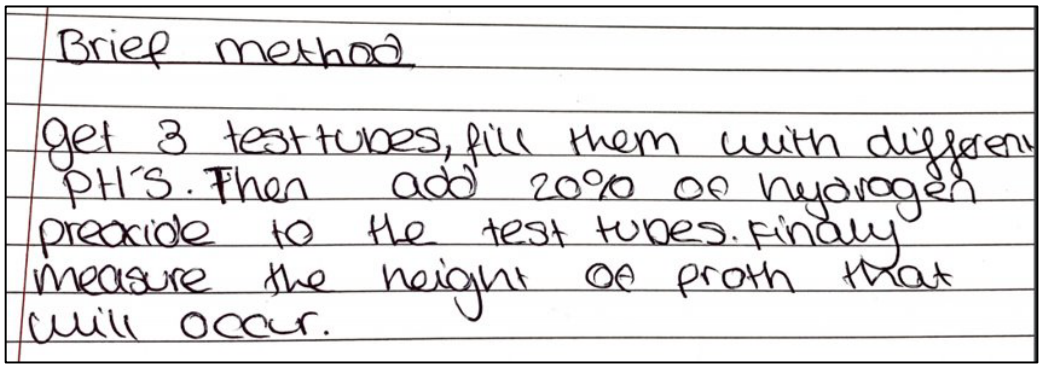
Example 3


I put 4 different pH buffers into test tubes with hydrogen peroxide, detergent and catalase solution, and after two minutes I measured the height of the foam produced.

Example 4

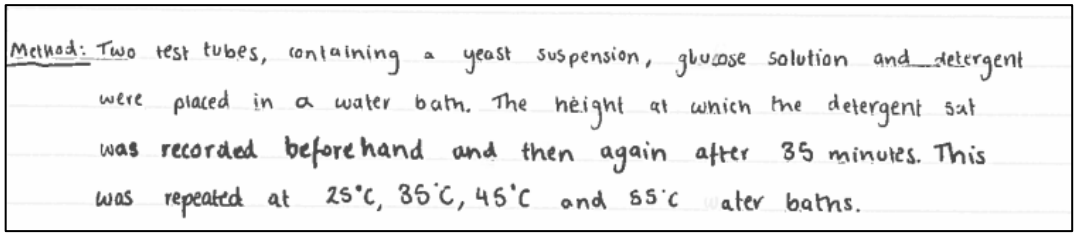

Data Collection and Handling
5 test tubes where placed in water baths ~~of~~ of different temperatures containing 2ml buffer, 3ml hydrogen peroxide and a drop of washing up liquid. Once the enzyme catalase was added the height of froth was measured.

Example 5

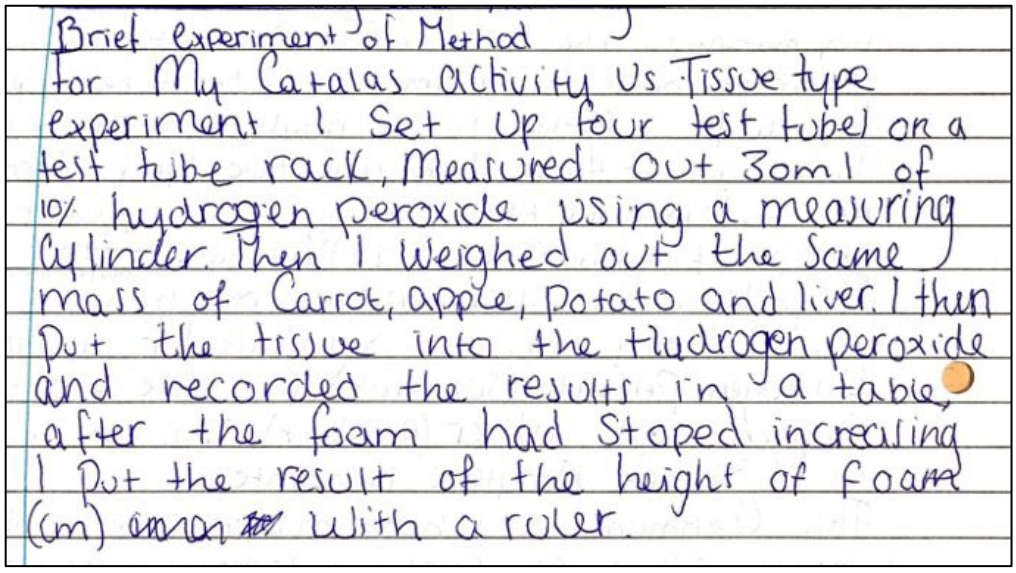

Brief method

get 3 test tubes, fill them with different PH'S. Then add 20% of hydrogen preoxide to the test tubes. Finaly measure the height of froth that will occur.

Example 6


Method: Two test tubes, containing a yeast suspension, glucose solution and detergent were placed in a water bath. The height at which the detergent sat was recorded beforehand and then again after 35 minutes. This was repeated at 25°C, 35°C, 45°C and 55°C ater baths.

Example 7



Brief experiment of Method for My Catalas activity Vs Tissue type experiment I Set up four test tubel on a test tube rack, Measured out 3oml of 10% hydrogen peroxide using a measuring Cylinder. Then I weighed out the same mass of Carrot, apple, Potato and liver. I then Put the tissue into the thydrogen peroxide and recorded the results in a table, after the foam had Staped increasing I Put the result of the height of foam (cm) with a ruler.

3(b) Sufficient raw data from the candidate's experimental work.

3(c) Data presented in a correctly produced table.

3(d) Data presented in a correctly produced table.

Example 1

vegetable sources	time taken for disc to fall and rise (seconds)			
	tube 1	tube 2	tube 3	average
carrot	10	7·6	7·4	8·5
cucumber	7·3	6·4	8·3	7·5
potato	5·7	5·6	5·7	5·7

Example 2

	Time Taken (s)		
Source of catalase	Attempt 1	Attempt 2	Attempt 3
Potato	10	7	9
Mushroom	2	1	1
Rocket	4	4	4
Carrot	11	9	10

Example 3

pH	Height of foam (mm)	
	Trial 1	Trial 2
5	6	4
7	110	112
9	80	86
11	31	45

Averages

pH 5 $\frac{6+4}{2} = 5$ mm

pH 7 $\frac{110+112}{2} = 111$ mm

pH 9 $\frac{80+86}{2} = 83$ mm

pH 11 $\frac{31+45}{2} = 38$ mm

Example 4

Temperature	2°c	40°c	80°c
hight of bubbles(mm) ①	0 mm	1.5 mm	0.5 mm
hight of bubbles(mm) ②	1.7 mm	7 mm	0.1 mm
average hight of bubbles (mm)	0.85 mm	4 mm	0.55 mm
rounded average hight of bubbles (mm)	1 mm	4 mm	1 mm

Example 5

Height of foam (cm)

Temperature (c°)	Experiment 1 (cm)	Experiment 2 (cm)	Experiement 3 (cm)	Averages (cm)
0	7	12	11	10
20	11	12.5	12.9	12.1
30	11.5	13.5	14.6	13.2
80	9	13	10	10.6

3(e) Data/information relevant to the aim from an internet/literature source.

3(f) A reference for the source of the internet/literature data or information.

Example 1

Aim: to investigate which vegetable sources contain the most catalase.

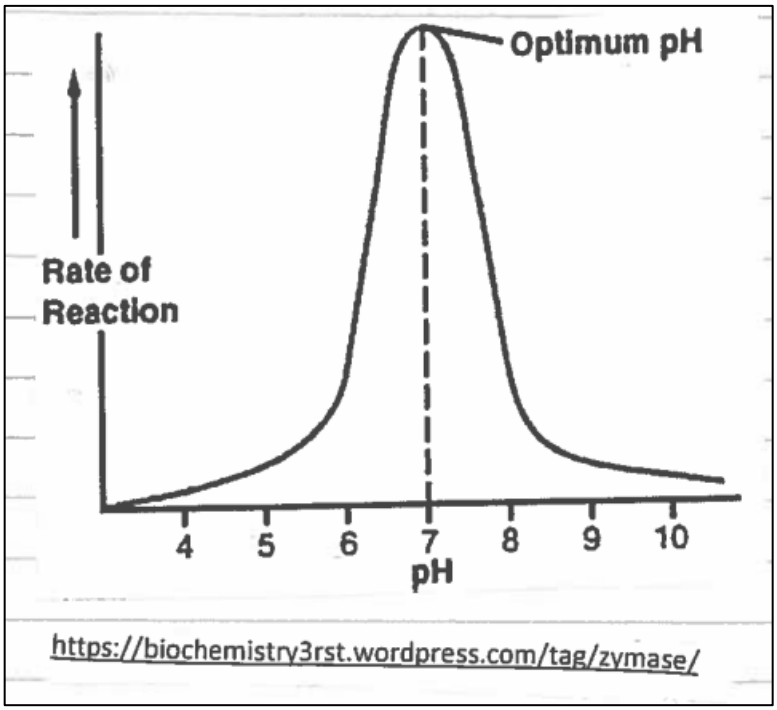
source: https://www.sserc.org.uk/wp-content/uploads/Publications/Wider-SSERC-Publications/SSR_June_2019_013-016_Andrews.pdf

Fruit/vegetable	Time/s
Potato	75
Banana	175
Cucumber	75
Blueberry	>180
Peas (frozen)	>180

Table 2 Time taken (mean of five measurements, rounded to the nearest 5 seconds) for immobilised balls of extracts from fruit/vegetables to fall and rise to the surface in a measuring cylinder (25 cm^3) containing 1 vol. (25 cm^3) H_2O_2 at room temperature

Example 2

Aim - To investigate the effect of pH on enzyme action

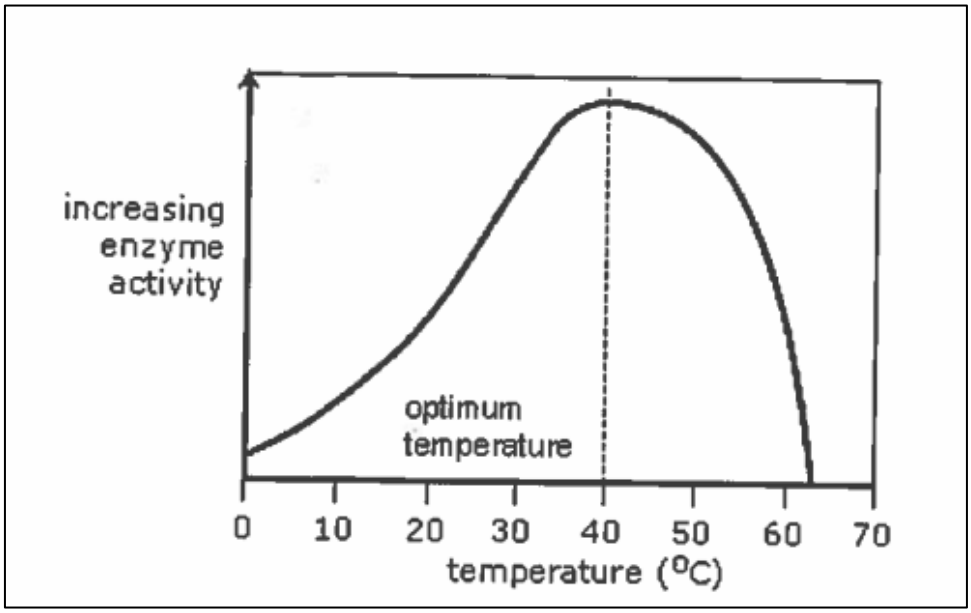


https://biochemistry3rst.wordpress.com/tag/zymase/

Example 3

Aim:
To investigate the effect of temperature on the enzyme Catalase's activity.

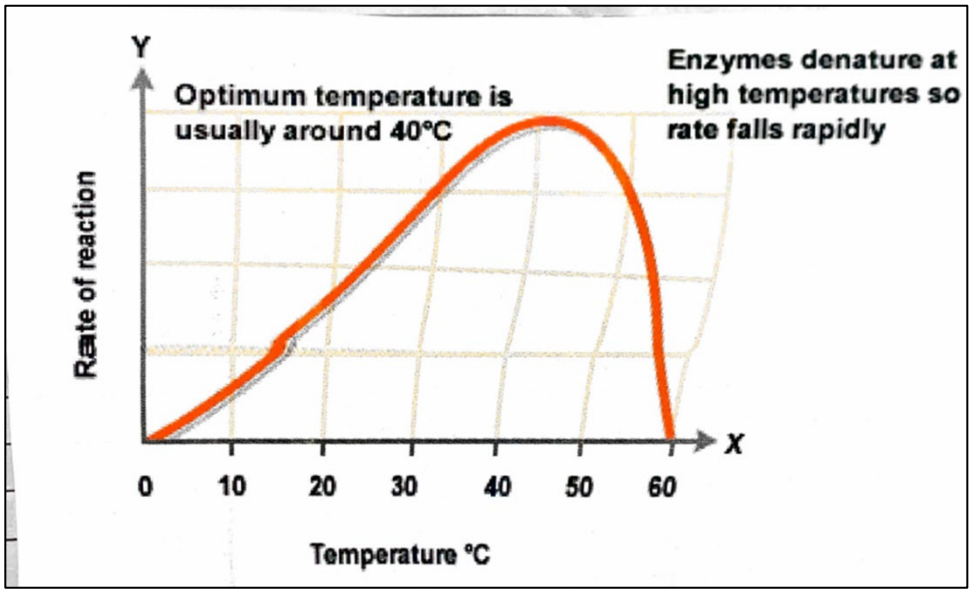
www.bbc.co.uk/schools/gcsebitesize/science/add-aqa/proteins/proteinsrev3.shtml



Example 4

The aim

Is to investigate the effect of temperature on the activity of the enzyme lipase.

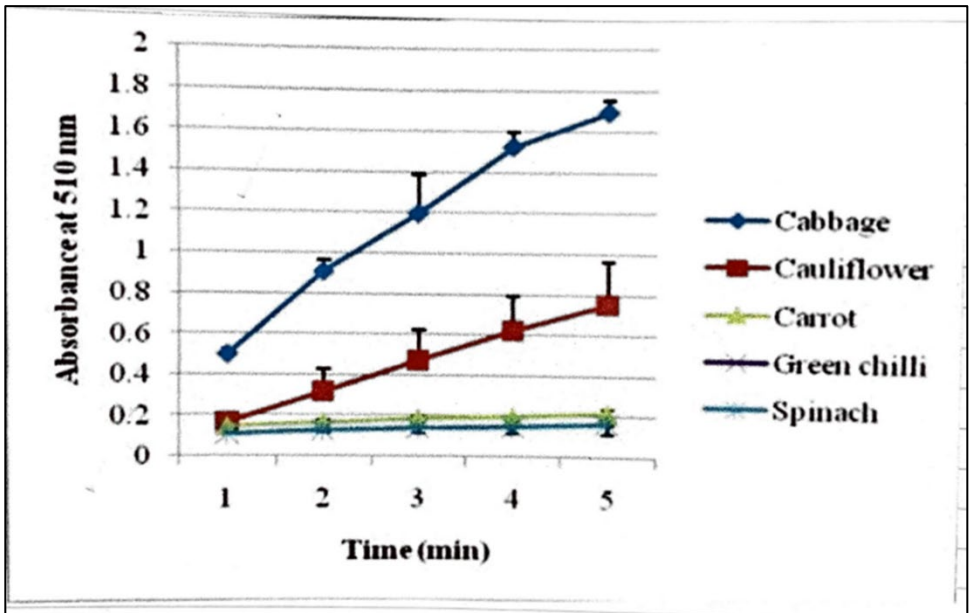


Source

Intermediate 2 Biology Success guide, Andrew Morton, ISBN 9781843723813

Example 5

Aim: To investigate the activity of catalase in different tissues



http://www.ijcrbp.com/4-8-2017/Pradeep%20Kumar%20Jha,%20et%20al.pdf