Candidate 2 evidence

Yeast

Aim

to investigate the effect of temperature on the production of ~~oxygen~~ Carbon dioxide in fermenting yeast

Underlying Biology

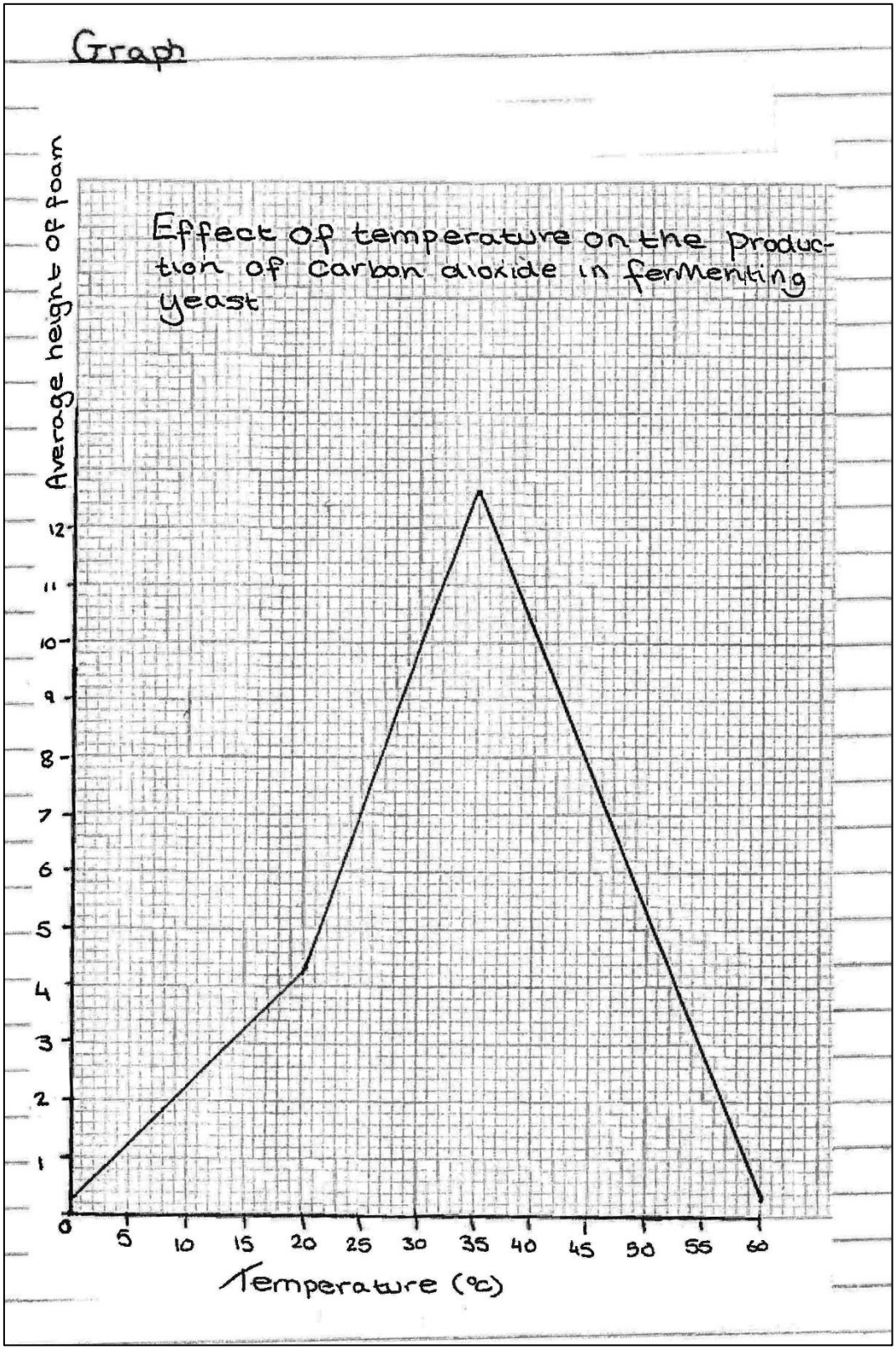
- Fermentation occurs in the cytoplasm. It is when glucose is broken down into 2 x pyruvate and ethanol and Carbon dioxide are the waste products
- The reaction ~~which~~ is controlled by enzymes. Enzymes are biological catalysts which speed up Chemical reactions without themselves being Changed.
- Enzymes could affect the reaction as they become denatured at high temperatures.
- Yeast is a fungal cell
- The detergent is used to trap the Carbon dioxide.

Summary

We added yeast, glucose and detergent to several test tubes and left them in ice and water baths for a certain period of time.

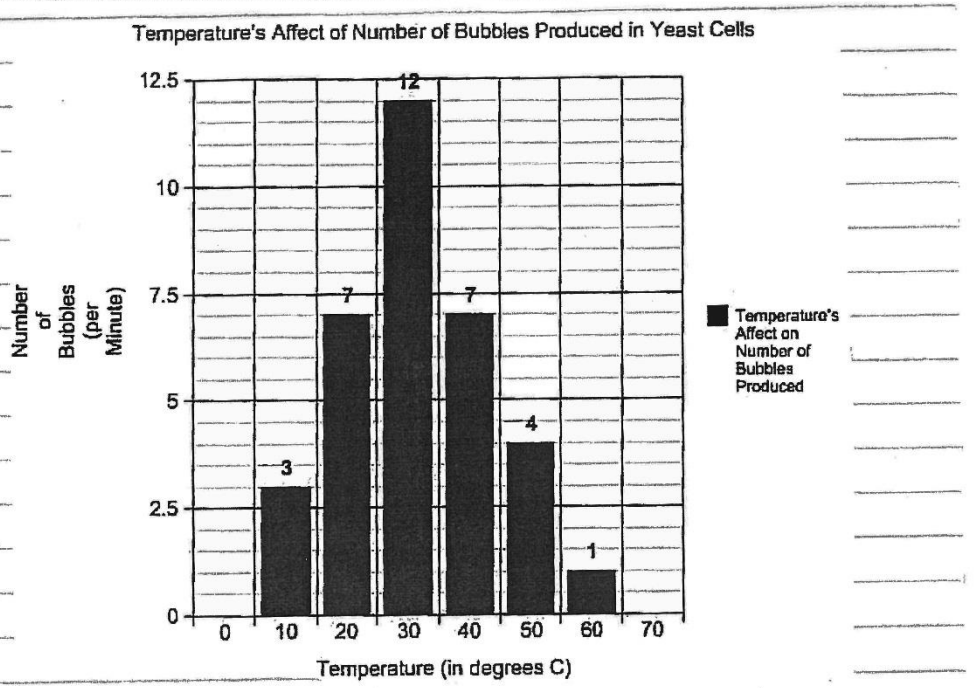
Results Table

Temperature (°C)	Height of foam (mm)			Height of foam Average (mm)
0	0	0	1	0.3
20	3	2	8	4.3
35	8	10	20	12.6
60	0	0	1	0.3


Graph
Effect of temperature on the production of carbon dioxide in fermenting yeast
Average height of foam
0
1
2
3
4
5
6
7
8
9
10
11
12
5
10
15
20
25
30
35
40
45
50
55
60
Temperature (°C)

Source and Reference

Temperature (degrees C)	0	10	20	30	40	50	60	70
Number of bubbles (per minute)	0	3	7	12	7	4	1	0



Reference - https://sites.google.com/

Summary of What the ~~graph~~ Source Shows

These two sources show the results of when someone did a similar experiment to me and recorded their results and then produced a bar graph which should of been a line graph.

Analysis

In the source shown above compared with my results they we show that as temperature increases the height of foam also increases. As temperatures increase more the height of foam decreases.

The graph that the source drew should of been a line graph so I can't compare them exactly. However both graphs show that the highest height of foam is the optimum where the enzyme is most active.

Conclusion

To conclude, as temperature increases to 35°C the height of foam also increases.* At 60°C the height of foam begins to decrease as the enzyme has become denatured.

Evaluation

One factor that could of affected my results was using a dropper to put the detergent into the test tubes. This could of affected it as one test tube could of had more detergent in it depending on how hard you squeezed the dropper. You could minimise this by using a syringe as you can measure how much you need in each one accurately as a syringe has a scale and the dropper doesn't.

*this is where the enzyme is at its optimum