

Edexcel Biology IGCSE

2.14B - Enzymes and pH

Flashcards



How is pH controlled?



How is pH controlled?

By adding buffer solutions with different pH values.



How is the rate of enzyme activity measured?



How is the rate of enzyme activity measured?

By testing the enzyme-substrate solution for the presence of starch at fixed intervals, to find the time taken for all the starch to be digested.

Rate = $1/\text{time}$



How is the presence of starch tested?



How is the presence of starch tested?

Using iodine solution.

If starch is present, the solution turns from brown to blue-black.



How can the reliability of the results be improved?



How can the reliability of the results be improved?

By repeating the practical at each pH at least 3 times and take a mean of the time taken to find the rate.



How can the accuracy of the estimate of the optimum pH be improved?



How can the accuracy of the estimate of the optimum pH be improved?

By repeating the practical at smaller pH intervals around the estimated optimum pH.



State a source of error in this practical.



State a source of error in this practical.

The time intervals between testing may be too long to accurately find the time taken for all the starch to be broken down.



State a hazard and safety precaution in this practical.



State a hazard and safety precaution in this practical.

Iodine solution is an irritant. Avoid contact with skin and eyes.

