

# AQA Biology GCSE

## RP10 - Decay

### Flashcards

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Describe how you would investigate the effect of temperature on the rate of decay of milk



## Describe how you would investigate the effect of temperature on the rate of decay of milk

- Place full-fat milk and cresol red indicator in a test tube, and lipase solution in another. Place both test tubes in a water bath and allow the temperature to equilibrate.
- Transfer drops of lipase into the other test tube and start stopwatch. Stir until solution turns yellow and record the time taken.
- Repeat at different temperatures and plot graph of temperature (x) against time taken (y)



Why does the addition of lipase  
accelerate the decay of milk?



# Why does the addition of lipase accelerate the decay of milk?

Lipase is an enzyme which catalyses the breakdown of lipid to fatty acids and glycerol. It provides an alternative reaction route with a lower activation energy



Why does the pH of the solution change during this reaction?



Why does the pH of the solution change during this reaction?

Fat in milk is broken down into fatty acids by the enzyme lipase, lowering the pH



What colour is cresol red in alkaline and acidic solutions?





What colour is cresol red in alkaline and acidic solutions?

Alkaline: purple

Acidic: yellow



Why does an increase in temperature increase the rate of this reaction?



Why does an increase in temperature increase the rate of this reaction?

Enzyme and reacting particles have a higher kinetic energy and collide more frequently, leading to a faster rate of reaction



Why might the rate of reaction decrease if the temperature is very high?



Why might the rate of reaction decrease if the temperature is very high?

Enzymes become denatured as active site changes shape - cannot catalyse reaction

