

Core Practical 1 – Teachers' Guide

1. Investigate a factor affecting the initial rate of an enzyme controlled reaction

Some really important points have been made in the progression section earlier in this guide concerning enzyme reactions and their investigation and these are very relevant here.

The effect of a protease on powdered casein (milk) is a cheap and easy way to measure initial rates using a colorimeter to measure increased transmission. (colorimeters are very useful to measure initial rates and can easily be coupled to data-loggers to plot graphs etc.)

Note for this and other suggestions colorimeters are extremely useful. Where budget restrictions might mean these are not readily available consider building simple examples costing a few pounds each. All that is required is a light emitting diode (LED) or a simple bulb, but an LED is much better, a light-dependent resistor (LDR), a suitable resistor and an ammeter. There are several very simple designs available on the internet. To make them a little more reliable and to hold a test tube or cuvette, simply make a cardboard box-like cover with suitably sized holes to cover the basic circuit.