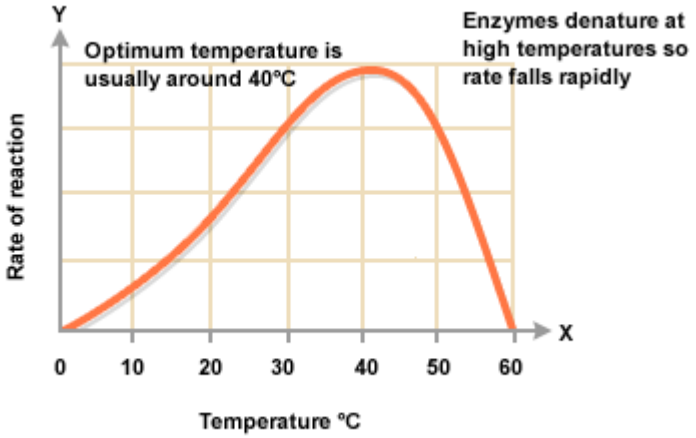
Enzymes do not ever recover from being denatured.



In a similar manner to temperature,enzymes vary in their optimal Ph range from pH2 to Ph9.

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Speeding Up Digestion

Digestion begins by chewing up food with your teeth. This produces a larger surface area for the action of enzymes. Chewing works for carbohydrate and proetins because theya re soluble in water but not for lipids. The surface area of lipids is increased by something made by the liver and stored in the gall bladder.

Your body temperature is 37°C. your enzymes have evolved to work fastest at this temperature. Your stomach has thousands of cells that secrete hydrochloric acid. The pH of your stomach is between pH 2 and 3. The acid is there to kill bacteria enetering your body in your food. This means that the enzymes in your stomach have evolved to work best at low pH values and your stomach has a thick layer of mucus to prevent it being damaged by the acid.

Enzymes are not acids!

The trouble is that your small intestine absorbs food best at ph values close to neutral (pH 7-8, alkaline), and cannot be covered in mucus.

This means that your body has to neutralise the acidic food leaving your stomach. It does this by adding bile. Bile is made in the liver and stored in a ‘sack’ called the gall bladder. Bile neutralises stomach acid.