

Solutions

Each answer shows the steps, then the **result**.

2.1

- It denatures (the active site loses its shape)

2.2

- The pH at which the enzyme works fastest

2.3

- All the active sites are occupied (saturated), so more substrate cannot be processed faster

3.1 B

- denatures

3.2

(a)

- pH 7

(b)

- At pH 2 and 11 the active site's shape is disrupted (or the enzyme denatures), so the substrate no longer fits and the rate falls

3.3

- Rate rises steeply with substrate at first (more collisions with active sites), then levels off once all active sites are saturated, so adding more substrate has no further effect