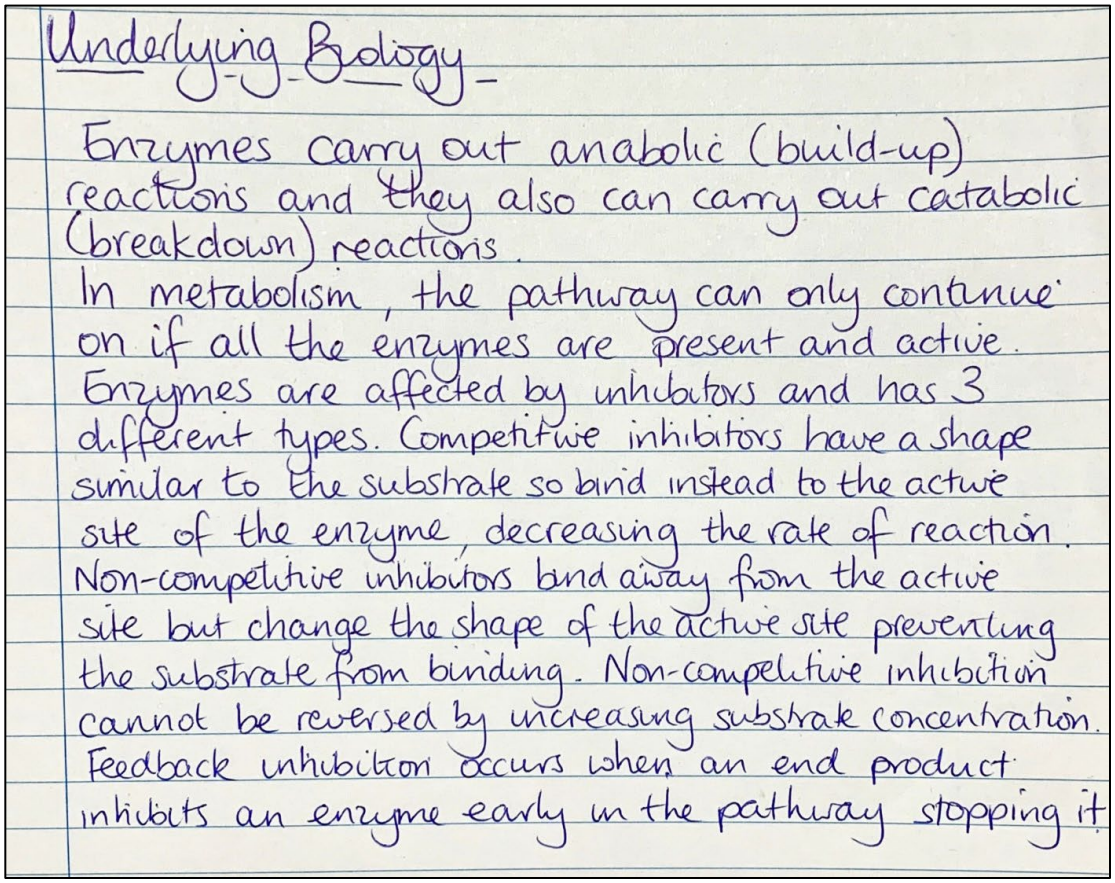
Candidate evidence

2 Underlying biology

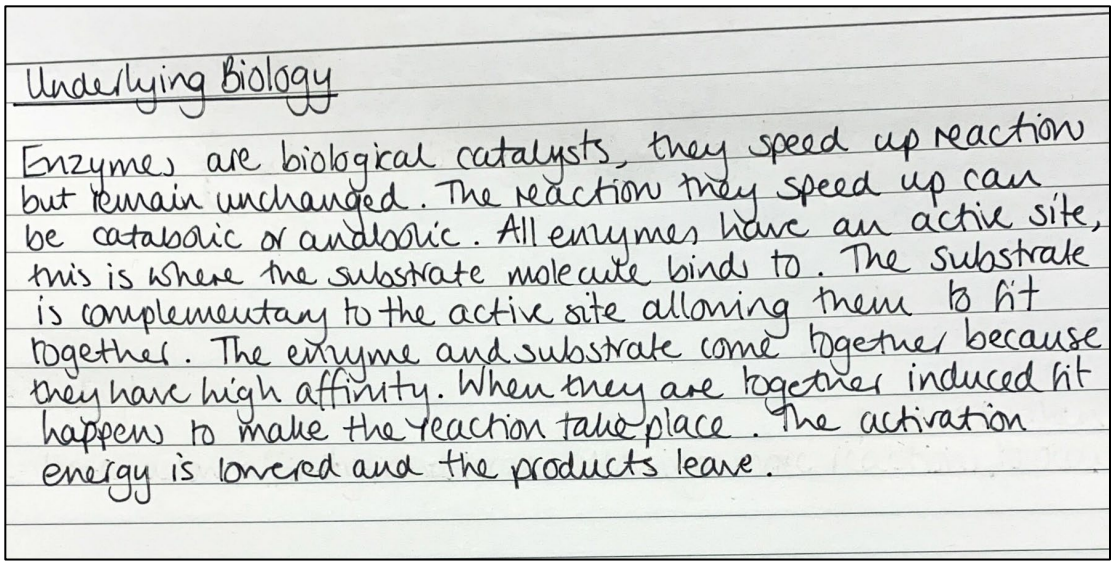
Example 1



Underlying Biology -

Enzymes carry out anabolic (build-up) reactions and they also can carry out catabolic (breakdown) reactions.
In metabolism, the pathway can only continue on if all the enzymes are present and active.
Enzymes are affected by inhibitors and has 3 different types. Competitive inhibitors have a shape similar to the substrate so bind instead to the active site of the enzyme, decreasing the rate of reaction.
Non-competitive inhibitors bind away from the active site but change the shape of the active site preventing the substrate from binding. Non-competitive inhibition cannot be reversed by increasing substrate concentration.
Feedback inhibition occurs when an end product inhibits an enzyme early in the pathway stopping it

Example 2



Underlying Biology

Enzymes are biological catalysts, they speed up reaction but remain unchanged. The reaction they speed up can be catabolic or anabolic. All enzymes have an active site, this is where the substrate molecule binds to. The substrate is complementary to the active site allowing them to fit together. The enzyme and substrate come together because they have high affinity. When they are together induced fit happens to make the reaction take place. The activation energy is lowered and the products leave.