

Plastic eating enzymes!

What is an enzyme? Enzymes are proteins that are made in living cells.

What does an enzyme do? Enzymes work to speed up processes or reactions that are happening in the cell, and help to convert one substance into another. For example, enzymes help in digestion of food – they help to break the food up into smaller pieces. Check this out:

The 'substrate' is the piece of food here.

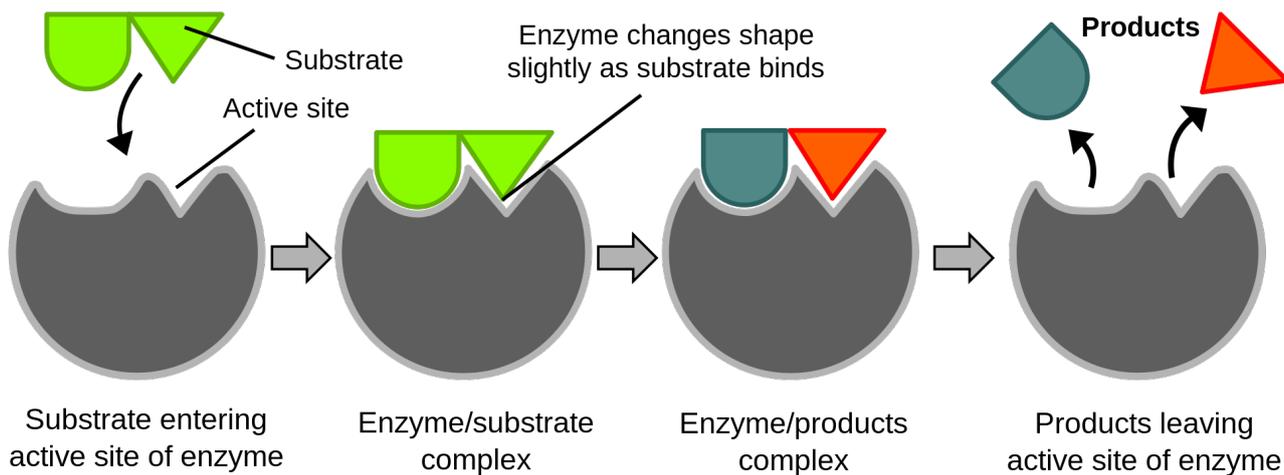


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Why are we talking about enzymes today? Well there is very exciting news! We have been talking a lot about the [problems that plastic is causing in the world](#). Plastic is not biodegradable, which means that it can't be broken down into pieces that the earth can absorb. So the plastic is collecting in the sea and on islands. It is also making life difficult for sea creatures and is ending up in our food supply.

OK, so what do enzymes have to do with plastic? In 2016, it was discovered that some bacteria in a waste dump in Japan were making an enzyme that could break up the plastic. Scientists at the University of Portsmouth in the UK took that enzyme and tried to test if the enzyme could actually do this. While testing it, they accidentally did something that ended up turbo-charging its ability to 'eat' plastic!

What's its name? They have called it PETase, as PET is the type of plastic it can break up, and 'ase' is something that is added to the name of any enzyme so we know it is an enzyme.

Hooray! Does this mean our plastic problem is over? As of now, the enzyme can 'digest' plastic – it can break up larger pieces of plastic into smaller ones. But it can't get rid of the plastic, or turn it into something that the earth can absorb. But this is a great starting point. Perhaps further research will get us closer to a cure and save our planet from plastic pollution!

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