

Scientific discoveries...

Say hello to plastic-eating bacteria!

European researchers identified a new bacterium that feeds on polyurethane, a kind of plastic that is difficult to recycle or destroy.

- Many polyurethane-based products can release dangerous chemicals into the environment. Researchers found a bacterium can produce enzymes to break down the material!
- The study offers hope in ridding the planet of the growing quantities of discarded plastic products that threaten human and animal life. It will help reduce a flood of hard-to-recycle plastics filling up the world's landfills and polluting oceans.
- A similar discovery was also made in 2020, by a team at the University of Portsmouth. Initially this team, in 2018, engineered an enzyme which could digest some of our most commonly polluting plastics.
- Since then, these scientists have created an enzyme 'cocktail' which can digest plastic up to six times faster now.
- By combining a second enzyme with 'PETase', it breaks down polyethylene terephthalate (PET) (which is the most common thermoplastic, used to make single-use drinks bottles, clothing and carpets) and it takes hundreds of years to break down in the environment. PETase can shorten this time to *days!*



*Why not expand on this discovery topic and take a look at our 'CC1 States of Matter/ CC2 Methods of Separating and Purifying Substance free sample, in Pearson Edexcel GCSE (9-1) Combined Chemistry? Millions of tonnes of tiny bits of plastic are floating in the oceans, and they harm wildlife. In this unit, we learn how to use information to predict the state of a substance and how the arrangement, movement and energy of particles change during changes of state. You can explore this free sample and many more in our **Pearson Edexcel GCSE Science page here:** [👉](#)*

