

What really happens to the plastic you throw away

Vocabulary – match each word to the left with the correct definition on the right.

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| 1. fate | to dispose of, throw out. |
| 2. molecules | disposal of waste material by burying it under layers of earth |
| 3. resilient | a system formed by a community of living things, their environment, and the relationship between them. |
| 4. discard | the power by which events are thought to be decided, destiny. |
| 5. landfill | having resilience, flexible, buoyant. |
| 6. absorb | the smallest physical unit of an element or compound, made up of one or more atoms in an element and two or more different atoms in a compound. |
| 7. ecosystems | to soak up |
| 8. decompose | a liquid food made by simmering vegetables, seasonings. |
| 9. trash | to cause to become liquid, to dissolve. |
| 10. soup | to rot, become decayed |
| 11. biodegrade | rubbish, garbage. |
| 12. eternally | to press or squeeze together. |
| 13. compress | to decay and become absorbed by the environment |
| 14. melt | in an ever-lasting way |

What really happens to the plastic you throw away? Emma Bryce – TED talk

Listening - Listen to the TED talk and complete the gaps in the transcript below with the words from the vocabulary exercise.

This is the story of three plastic bottles, empty and discarded. Their journeys are about to diverge with outcomes that impact nothing less than the of the planet. But they weren't always this way. To understand where these bottles end up, we must first explore their origins.

The heroes of our story were conceived in this oil refinery. The plastic in their bodies was formed by chemically bonding oil and gas together to make monomers. In turn, these monomers were bonded into long polymer chains to make plastic in the form of millions of pellets. Those were melted at manufacturing plants and reformed in molds to create the material that makes up the triplets' bodies. Machines filled the bottles with sweet bubbly liquid and they were then wrapped, shipped, bought, opened, consumed and unceremoniously And now here they lie, poised at the edge of the unknown.

Bottle one, like hundreds of millions of tons of his plastic brethren, ends up in a This huge dump expands each day as more trash comes in and continues to take up space. As plastics sit there being compressed amongst layers of other junk, rainwater flows through the waste and the water-soluble compounds it contains, and some of those are highly toxic. Together, they create a harmful stew called leachate, which can move into groundwater, soil and streams, poisoning and harming wildlife. It can take bottle one an agonizing 1,000 years to

Bottle two's journey is stranger but, unfortunately, no happier. He floats on a trickle that reaches a stream, a stream that flows into a river, and a river that reaches the ocean. After months lost at sea, he's slowly drawn into a massive vortex, where accumulates, a place known as the Great Pacific Garbage Patch. Here the ocean's currents have trapped millions of pieces of plastic debris. This is one of five plastic-filled gyres in the world's seas. Places where the pollutants turn the water into a cloudy plastic Some animals, like seabirds, get entangled in the mess. They, and others, mistake the brightly colored plastic bits for food. Plastic makes them feel full when they're not, so they starve to death and pass the toxins from the plastic up the food chain. For example, it's eaten by lanternfish, the lanternfish are eaten by squid, the squid are eaten by tuna, and the tuna are eaten by us. And most plastics don't, which means they're destined to break down into smaller and smaller pieces called micro plastics, which might rotate in the sea

But bottle three is spared the cruel purgatories of his brothers. A truck brings him to a plant where he and his companions are squeezed flat and into a block. Okay, this sounds pretty bad, too, but hang in there. It gets better. The blocks are shredded into tiny pieces, which are washed and, so they become the raw materials that can be used again. As if by magic, bottle three is now ready to be reborn as something completely new.

For this bit of plastic with such humble origins, suddenly the sky is the limit.