



## Scientists Find Bacteria that Can Eat Some Plastics!

### What have scientists discovered?

- Scientists have found bacteria that can eat a type of plastic called polyurethane (PUR).
- This type of plastic is hard to recycle because it does not melt.

Plastic waste which can't be recycled is a growing problem for the world. But, scientists may have made progress towards fixing this big problem.

A team of scientists, from Germany, have found bacteria that could actually eat some plastics. This might be a step towards finding a way of getting rid of the huge amount of plastic waste that ends up in the landfill.

The scientists discovered **bacteria** called *Pseudomonas* sp.TDA1. It was in the soil at a waste site. They noticed that it was able to eat through a type of plastic.

Polyurethane (sometimes called PUR) is a type of plastic. It is in everything, from sponges to fridges and, in 2015 alone, it was responsible for 3.5 million tonnes of rubbish across Europe.

This type of plastic is hard to recycle because, unlike other plastics, it does not melt. It also releases toxic waste when it is in the landfill. This has made it hard for the **microbes** that break it down to survive.

However, the team found the bacteria could break down small parts of PUR. It also can survive the toxic waste given off by this type of plastic.

Scientists are doing further tests to see if they can replicate the findings on a larger scale. PUR is not the only type of plastic either. The team is part of an organisation called P4Sb.

According to their website, they want to make



Photo: Plastic waste.

all plastics 'fully **biodegradable**.' They hope to find bacteria that can break down PET. This is another type of plastic that is common in many everyday items, such as water bottles.

Governments and groups want us to reduce the amount of plastic we use. Last month, **legislation** went through the UK parliament which will ban plastic straws, cotton buds and stirrers in England.

### Glossary

<b>microbe</b>	Microscopic living things.
<b>bacteria</b>	A type of microbe.
<b>biodegradable</b>	When a material can be broken down naturally.
<b>legislation</b>	A law or set of laws that is being created

# Questions

1. Find and copy the two types of plastic mentioned in the article.

1. \_\_\_\_\_

2. \_\_\_\_\_

2. 'Scientists are doing further tests...'

This suggests that...

- ☐ the scientists made up their first discovery.
- ☐ more work is needed to know if the bacteria can be used to help solve plastic waste.
- ☐ the experiment went wrong.
- ☐ scientists love wasting time.

3. Governments want us to use less plastic. Find and copy one piece of evidence that shows this.

\_\_\_\_\_  
\_\_\_\_\_

4. How do you think scientists felt when they found the bacteria? Explain your answer.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. 'It also releases toxic waste.'

Which word is closest in meaning to toxic?

- ☐ the scientists made up their first discovery.
- ☐ more work is needed to know if the bacteria can eat plastic.
- ☐ the experiment went wrong.
- ☐ scientists love wasting time.

6. Summarise of the story in 15 words or fewer.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Answers

1. Find and copy the two types of plastic mentioned in the article.

**Polyurethane (PUR) and PET**

2. 'Scientists are doing further tests...'

This suggests that...

- ☐ the scientists made up their first discovery.
- ☒ **more work is needed to know if the bacteria can be used to help solve plastic waste.**
- ☐ the experiment went wrong.
- ☐ scientists love wasting time.

3. Governments want us to use less plastic. Find and copy one piece of evidence that shows this.

**Accept any answer referring to the banning of plastic straws, cotton buds and stirrers.**

4. How do you think scientists felt when they found the bacteria? Explain your answer.

**Accept any reasonable answer that explains why the scientists felt a certain way, e.g. I think the scientists would have felt thrilled because it could be the answer to reducing the amount of plastic waste in landfill.**

5. 'It also releases toxic waste.'

Which word is closest in meaning to toxic?

- ☒ **dangerous**
- ☐ nuclear
- ☐ smelly
- ☐ unpleasant

6. Summarise of the story in 15 words or fewer.

**Accept any suitable summary that explains the key message of the story in 15 words or fewer in length, e.g. Scientists found bacteria in a landfill which can eat through some plastics.**