Robot Elephant Made from Gelatin

What is gelatin?

- **Gelatin is a common ingredient in many chewy sweets as well as some beauty products and shampoos.**
- **It is a useful material for a robot because it is so flexible.**

You wait for an animal-inspired robot story for ages and then two come along at once! Last week, it was SlothBots and now it's edible Robo-elephants!

Scientists in Austria have created a robot in the shape of an elephant's head, which contains edible parts.

Although you wouldn't want to eat the electronics or bits made from wood, parts of the robot are constructed from gelatin.

Gelatin is an ingredient found in many chewy sweets. But, the robot (named Percy the Gellyphant) isn't designed to be a snack for humans.

He was designed by robotic engineers to show off the uses of the technology and then to be a snack for bacteria.

The trunk can curve and bend like a real elephant's trunk more than 330 000 times before cracking. However, when the 'biogel' is exposed to the bacteria in waste water, it begins to biodegrade.

As well as being potentially better for the environment, the engineers suggest that biogel could serve other uses too.

The sensors on the end of its trunk allow it to pick up different objects. The softness of the biogel might lead to the technology being used to pick fruits or other delicate objects.

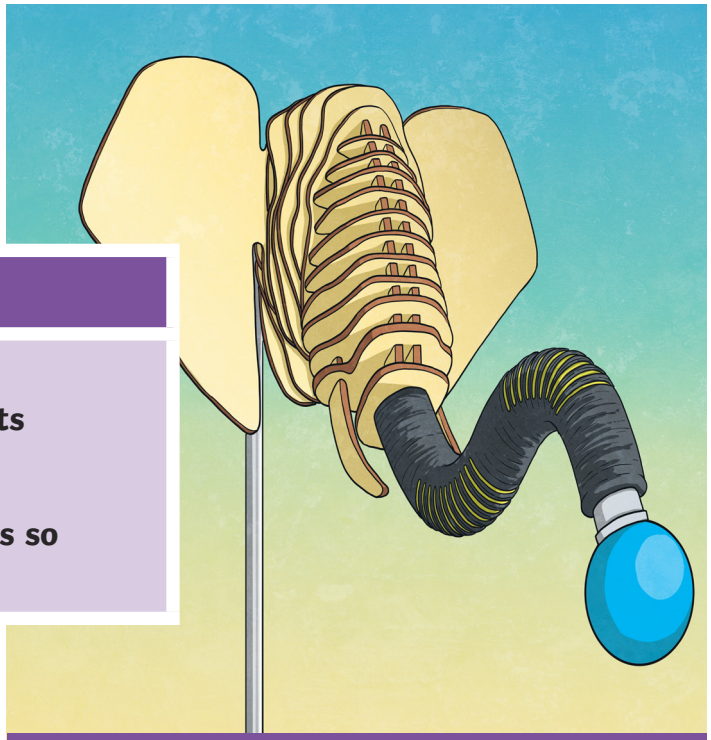

Illustration: A Gellyphant.

They also suggest that it could help in caring for animals. Edible robots which look like prey or food could be used to get medicines into animals when eaten.

If a young child's toy were constructed of biogel, it also wouldn't matter as much if they nibbled on bits of it.

Although, that might not be such a good idea at the moment as the sensors and electronics are definitely not edible!

So, Percy the Gellyphant might be a step towards more environmentally friendly robotics — if not food.

Glossary

edible	Something that can be eaten.
exposed	Introduced to or allowed to come into contact with.
biodegrade	Naturally broken down or decomposed by bacteria.
potentially	Possibly capable of doing something in the future.

Questions

1. What happens to the biogel when it encounters the bacteria in waste water?

_____

2. "If a child's toy were constructed of biogel, it also wouldn't matter as much if they nibbled on bits of it."
   Which word is closest in meaning to 'constructed' in this sentence?

   ○ imagined
   ○ made
   ○ building
   ○ used

3. Tick to show whether each statement is true or false.

	True	False
It would be safe to eat all of Percy the Gellyphant		
The Gellyphant's trunk can bend similar to a real elephant's trunk.		
Percy the Gellyphant is a child's toy		
Gelatin is not flexible.		

4. What do you think the engineers might create next?

_____

_____

5. Using information from the text, give two examples of how the scientists think this technology might be helpful in future.

   1. _____

   2. _____

6. Summarise the key information from the story in 15 words or fewer.

_____

_____

_____

Answers

1. What happens to the biogel when it encounters the bacteria in waste water?
   It begins to biodegrade.

2. "If a child's toy were constructed of biogel, it also wouldn't matter as much if they nibbled on bits of it."
   Which word is closest in meaning to 'constructed' in this sentence?

   ○ imagined
   ⊘ **made**
   ○ building
   ○ used

3. Tick to show whether each statement is true or false.

	True	False
It would be safe to eat all of Percy the Gellyphant.		✓
The Gellyphant's trunk can bend similar to a real elephant's trunk.	✓	
Percy the Gellyphant is a child's toy.		✓
Gelatin is not flexible.		✓

4. What do you think the engineers might create next?
   Accept any sensible answer which references facts from the text, such as robots becoming more environmentally friendly, experimenting with other designs, making safer children's toys, designing an edible robot containing medicine, e.g. I think they might try and make a safe, edible children's toy.

5. Using information from the text, give two examples of how the scientists think this technology might be helpful in future.
   Accept two answers which reference the information in the text about it being more environmentally friendly; helping animals; making safer children's toys; being used to pick fruits or other delicate objects, e.g. They hope it might help make safer children's toys.

6. Summarise the key information from the story in 15 words or fewer.
   Accept any sensible summary which includes the key information from the article, e.g. Engineers have built an edible elephant robot head which can biodegrade.