

Today we are looking at decomposing.

What do you
think that is?



Decomposition is the process by which organic substances **are** broken down into simpler organic matter.

The process **is** a part of the nutrient cycle and **is** essential for recycling the finite matter that occupies physical space in the biosphere. Bodies of living organisms begin to **decompose** shortly after death.



Why is decomposing important?



What part does it play in the nutrient cycle?



Biodegradable-

Capable of being broken down (decomposed) rapidly by the action of microorganisms.

Biodegradable substances include food scraps, cotton, wool, wood, human and animal waste, manufactured products based on natural materials (such as paper, and vegetable-oil based soaps).

So what do you think would happen if something couldn't decompose?





Non-biodegradable-

Not capable of being broken down (decomposed) rapidly by the action of microorganisms.

Can you think of anything that is non-biodegradable?

HOW LONG DOES IT TAKE TO DECOMPOSE

Paper Towel

Banana Peel

Paper Bag

Newspaper

Apple Core

Cardboard

Cotton Glove

Orange peels

Plywood

Wool Sock

Milk Cartons

Cigarette Butts

Leather shoes

Tinned Steel Can

Foamed Plastic Cups

Rubber-Boot Sole

Plastic containers

Aluminum Can

Plastic Bottles

Disposable Diapers

Monofilament Fishing Line

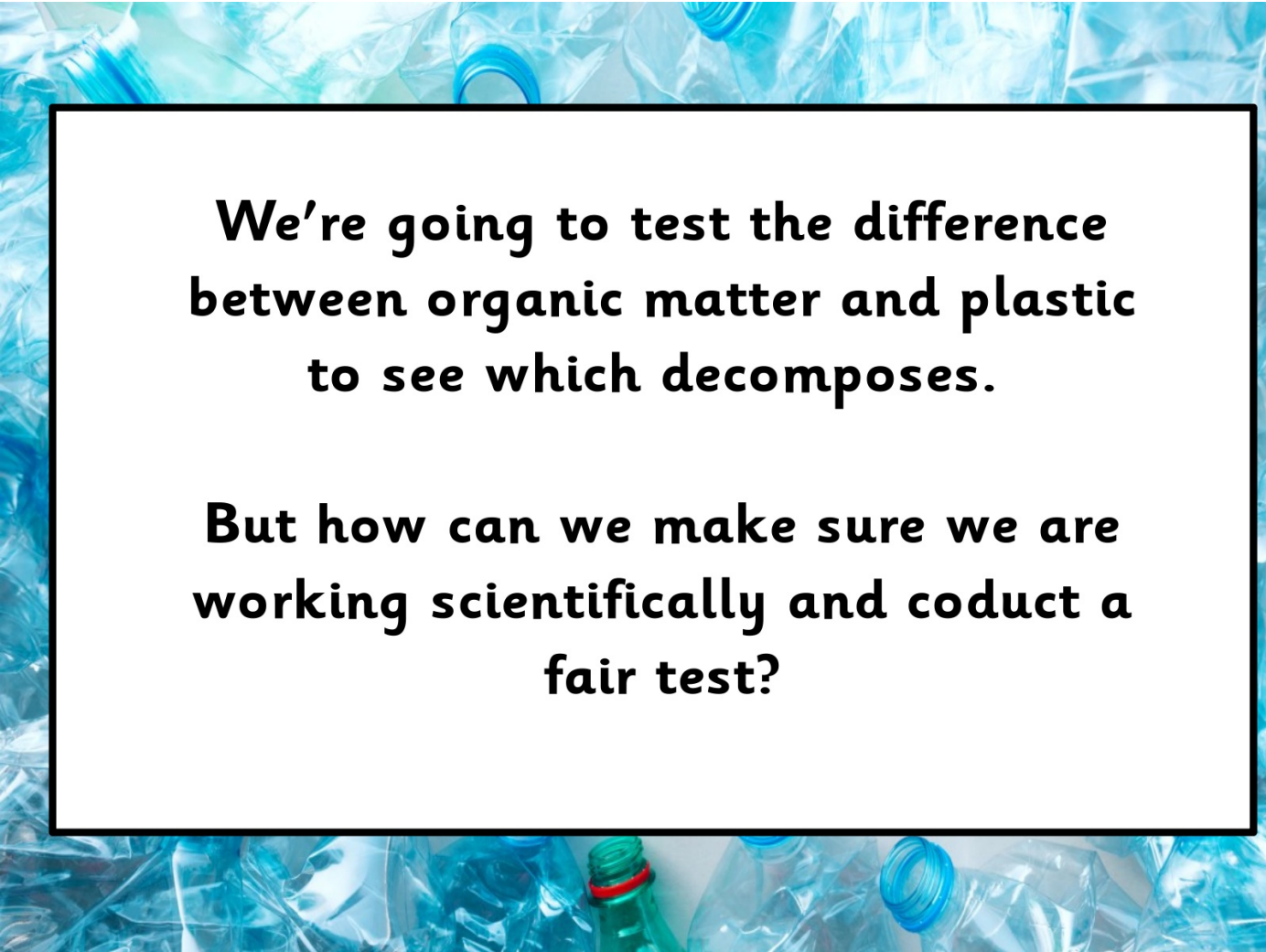
Plastic Bags

HOW LONG DOES IT TAKE TO DECOMPOSE

Paper Towel	- 2-4 weeks
Banana Peel	- 3-4 weeks
Paper Bag	- 1 month
Newspaper	- 1.5 months
Apple Core	- 2 months
Cardboard	- 2 months
Cotton Glove	- 3 months
Orange peels	- 6 months
Plywood	- 1-3 years
Wool Sock	- 1-5 years
Milk Cartons	- 5 years

Cigarette Butts	- 10-12 years
Leather shoes	- 25-40 years
Tinned Steel Can	- 50 years
Foamed Plastic Cups	- 50 years
Rubber-Boot Sole	- 50-80 years
Plastic containers	- 50-80 years
Aluminum Can	- 200-500 yrs
Plastic Bottles	- 450 years
Disposable Diapers	- 550 years
Monofilament Fishing Line	- 600 years
Plastic Bags	- 200-1000 yrs





We're going to test the difference between organic matter and plastic to see which decomposes.

But how can we make sure we are working scientifically and conduct a fair test?



When you are testing something, you need to make sure it is a fair test. To do this everything should be the same except the thing you are testing.



ROTTING RUBBISH

You will need:

- Two jam jars of the same size
- Two pieces of old fabric
- Two elastic bands
- Compost or soil
- Finely chopped banana or other fruit
- Small pieces of plastic or polystyrene

What you do:

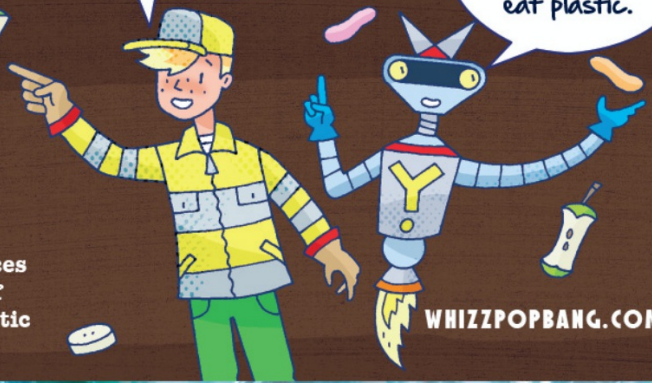
1. Set up the experiment as shown. Each jar should contain the same depth of compost. Sprinkle a few drops of water over the fruit and plastic.
2. Leave the experiment for at least five days, noting any changes in the jars.



Food waste and garden waste can be rotted to make fertiliser.

Bacteria and fungi eat food waste, helping it to rot.

But they don't usually eat plastic.



We are investigating...

What are hoping to find out?

We could change...

The soil

The material in the jar

The size of the jar

select the correct one.

We will change ...

We could measure/ observe ...

How wet the material gets

How long it takes to decompose

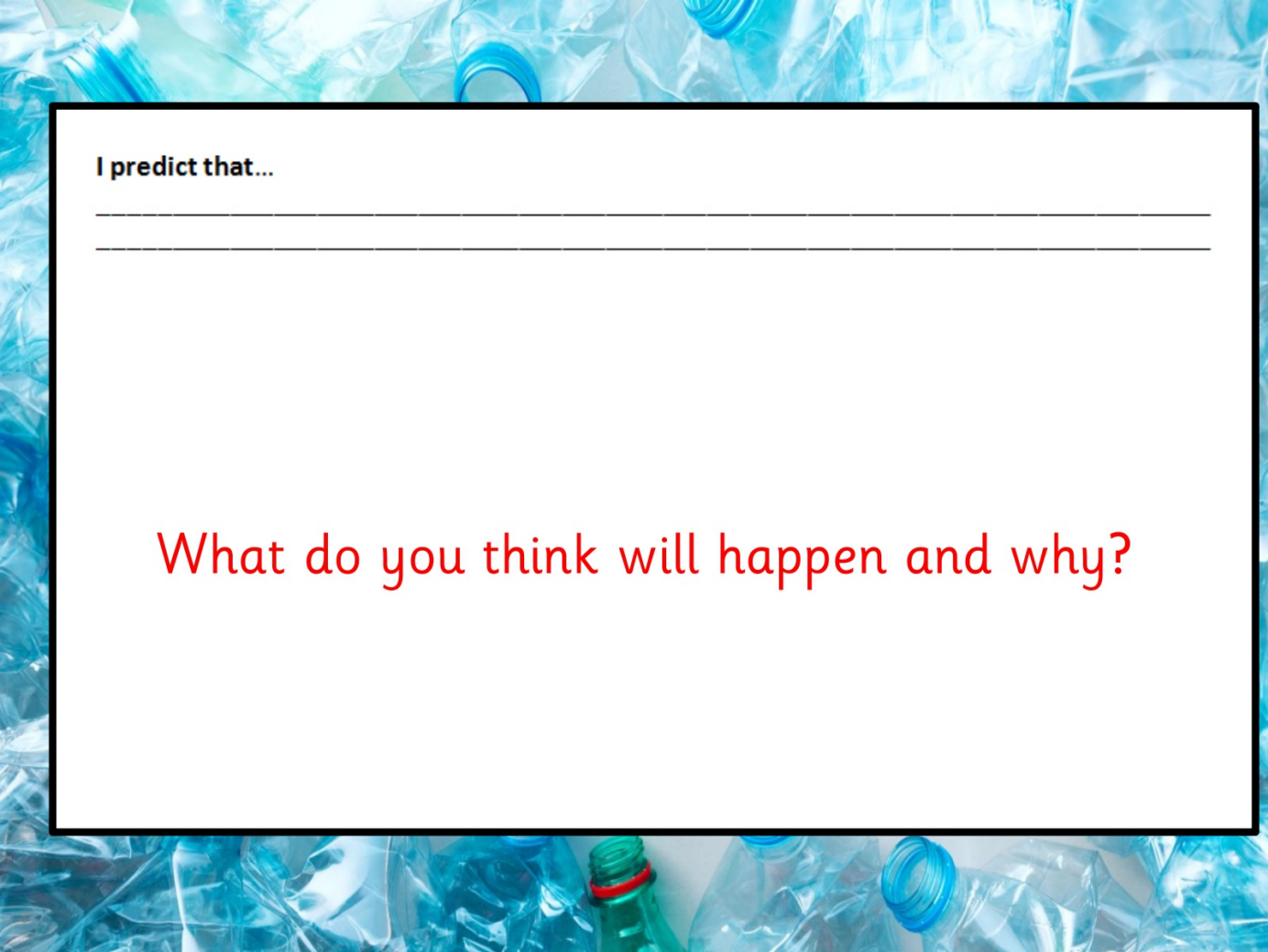
How much soil is in the jar

select the

We will measure/ observe .correct one.

We will keep these the same...

Tell me what things we will need to keep the same to make it a fair test.



I predict that...

What do you think will happen and why?



Method – how are you going to carry out this investigation?

First, we will _____

_____ Then we will

_____ Finally we will



Equipment...

We will need _____



TRY THIS

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Discussion-

What do you think will happen over time?



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What you do:

1. Set up the experiment as shown. Each jar should contain the same depth of compost. Sprinkle a few drops of water over the fruit and plastic.
2. Leave the experiment for at least five days, noting any changes in the jars.



You should find:

The fruit will have started to rot but the plastic will be unaltered. In fact, the plastic won't start to rot for another 450 years, so don't wait around!

After the experiment, you can reuse the jars and recycle the plastic.



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