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POWERING THE FUTURE

Tea Testing

GLASGOW SCIENCE CENTRE

Registered Scottish charity SC030809

Teacher Instructions

Note: This lesson needs to be set up and left for at least 2 weeks before the worksheet can be used.

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Setup Instructions

Resources per set of soil pots

2 x medium pots or jars
(e.g. empty jam jars)

Soil

Spoon or scoop

2 x green tea bags

Water

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Setup Instructions

In each jar or pot, scoop enough soil to create a layer about 5 centimetres deep.

Place a tea bag flat on top of the soil.

Cover the tea bag with another 5 centimetre layer of soil.

Pot 1

Into one pot, add a small amount of water.

This should be enough to make the soil slightly damp, but not soaking wet.

This is the **damp soil**.

Pot 2

In the other pot, you're going to make **waterlogged soil**.

Add a small amount of water, and wait for it to soak into the soil.

Pot 2

Keep adding small amounts of water, letting it soak into the soil.

Stop adding water once the soil is completely soaked.

Don't add too much water, because this will cause the tea bag to float.

If that happens, drain away some water and bury the tea bag into the soil.

During the investigation, you're going to keep both pots at the correct water level.

If either pot looks like it's drying out, add a small amount of water

On most days, they won't need extra water.

Don't stir the soil during the investigation.

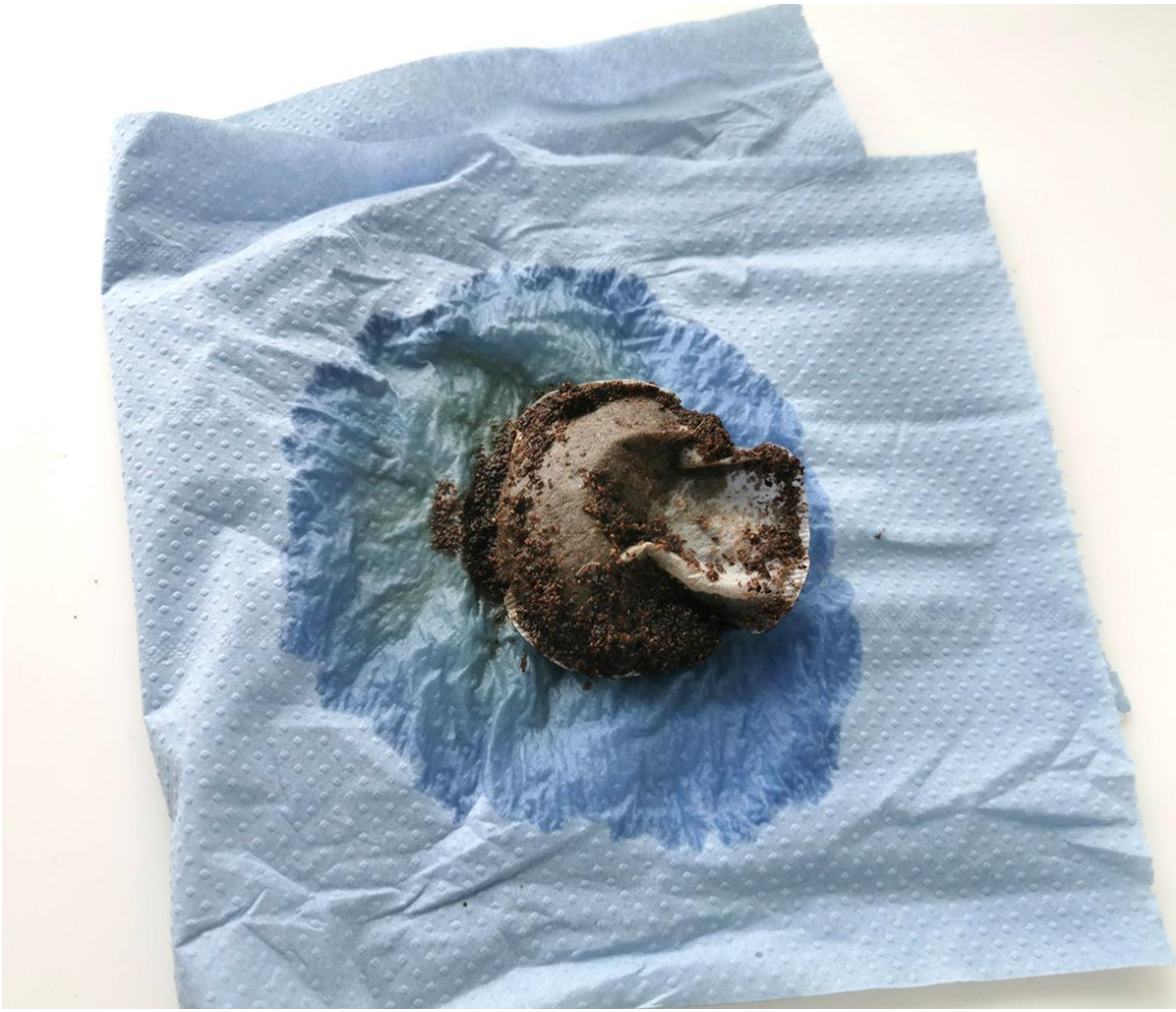
If too much water is added to the waterlogged soil once the investigation has started, the tea bag could float.

If this happens, let it float and don't bury it.

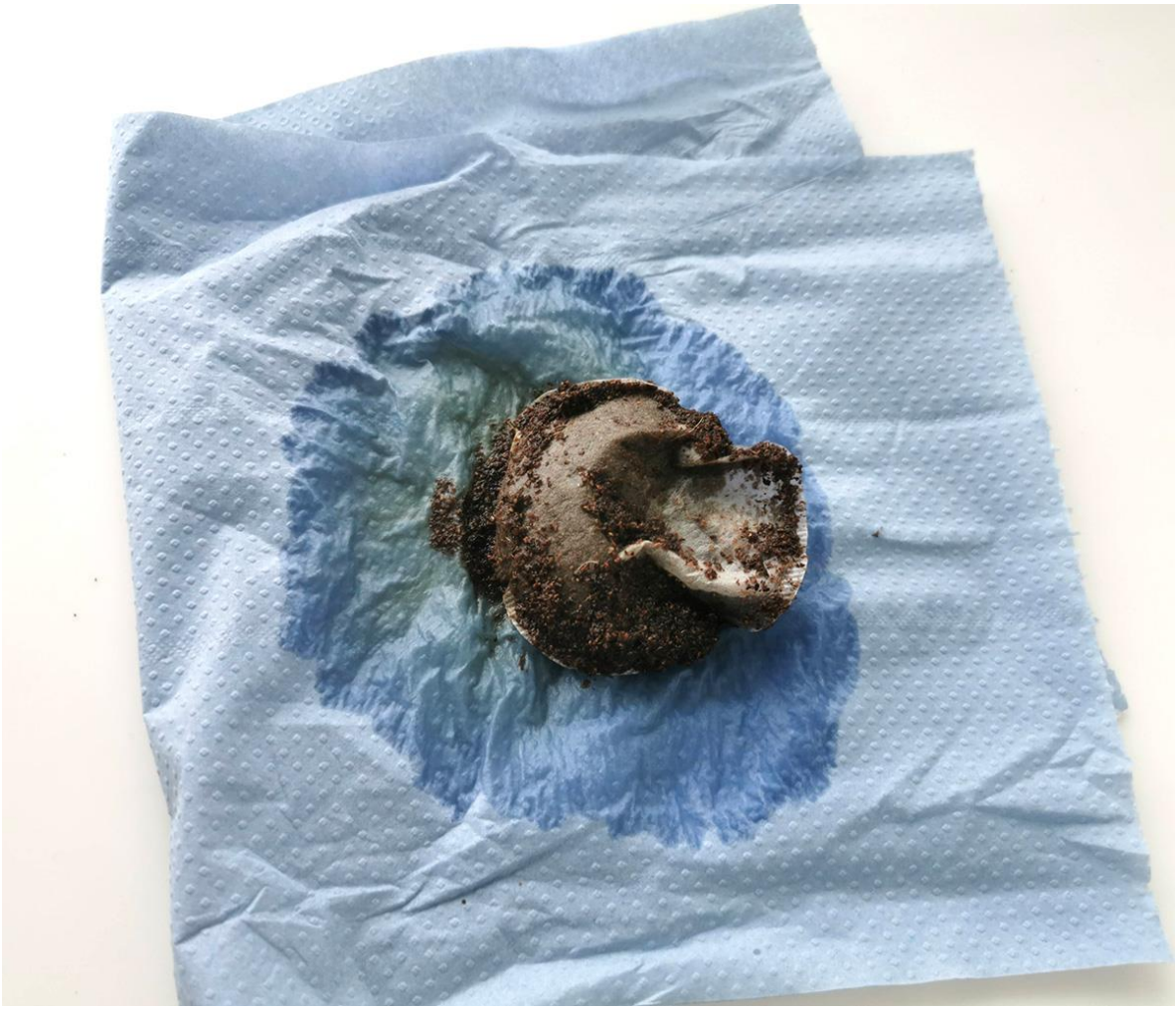
After at least 2 weeks, the tea bags will be ready to look at.

Carefully dig out both tea bags. You may wish to very gently rinse any soil away.

Lay them on a paper towel.



Using the information on the following slide, complete **Worksheet 1 – Tea Testing.**



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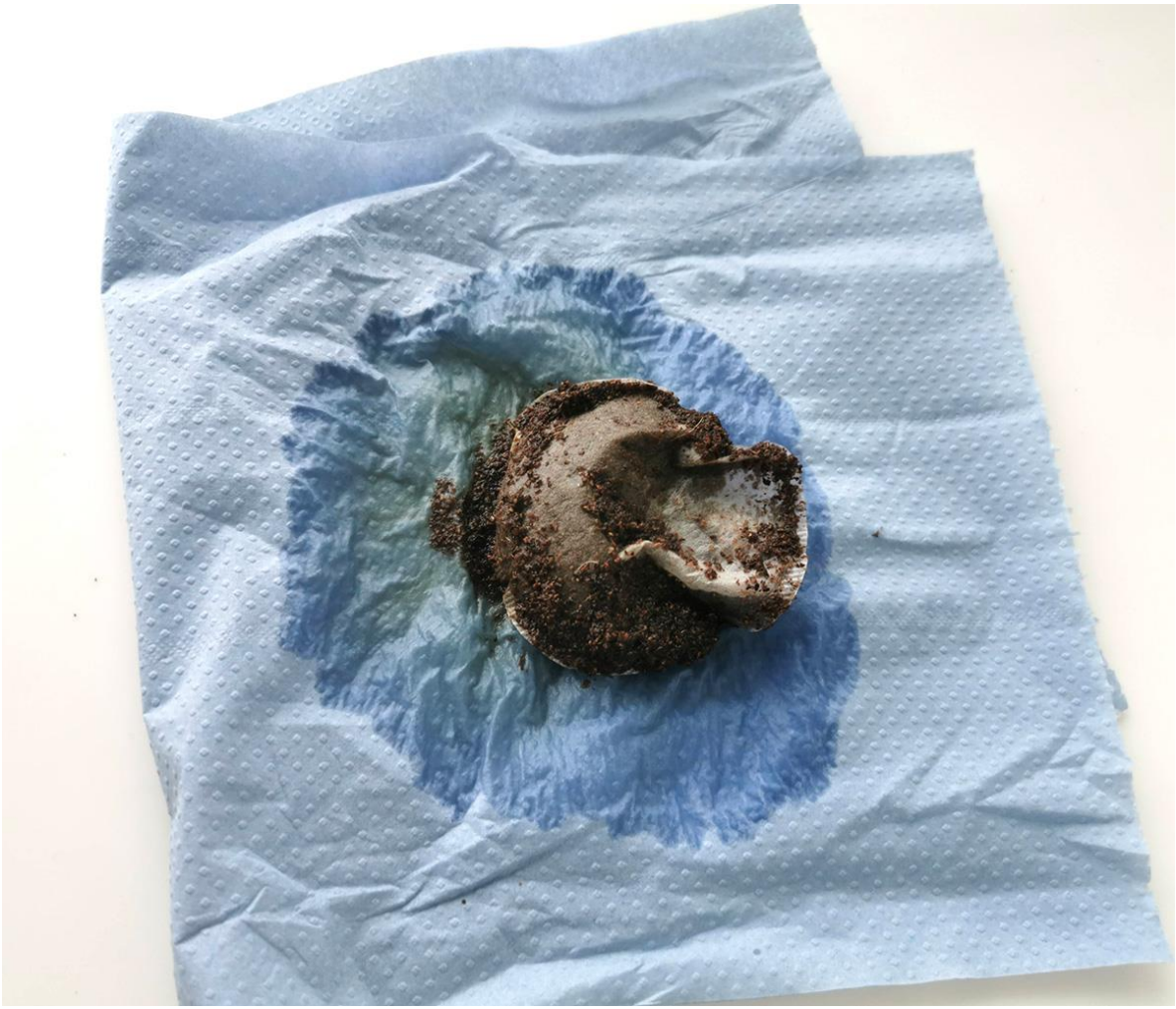
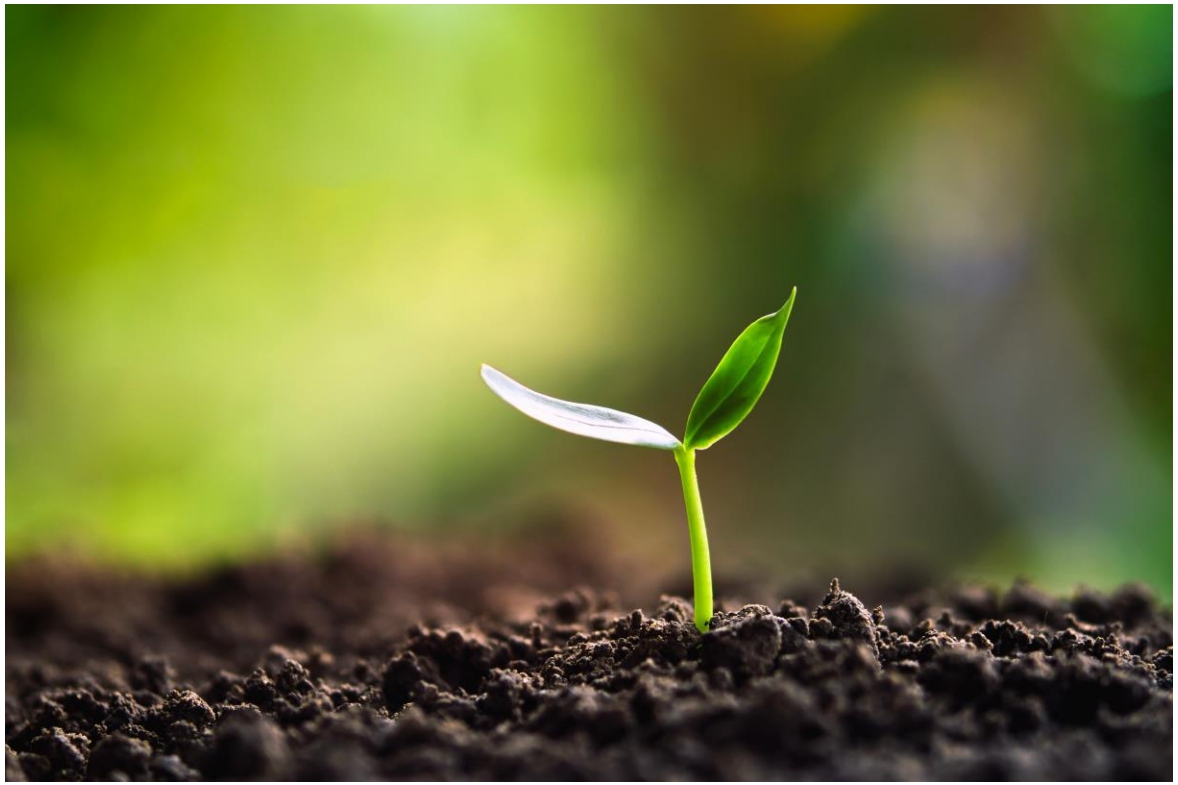
Complete the table on your worksheet to describe each tea bag.



Fertilisers can be used to help new plants grow.

This is because they release important nutrients into the soil. These nutrients are taken in by the plant.

Answer question 1 on your worksheet.



When dead plants fall on soil, they start to break down, or decay. This happens because of bugs and bacteria, which need oxygen to breathe.

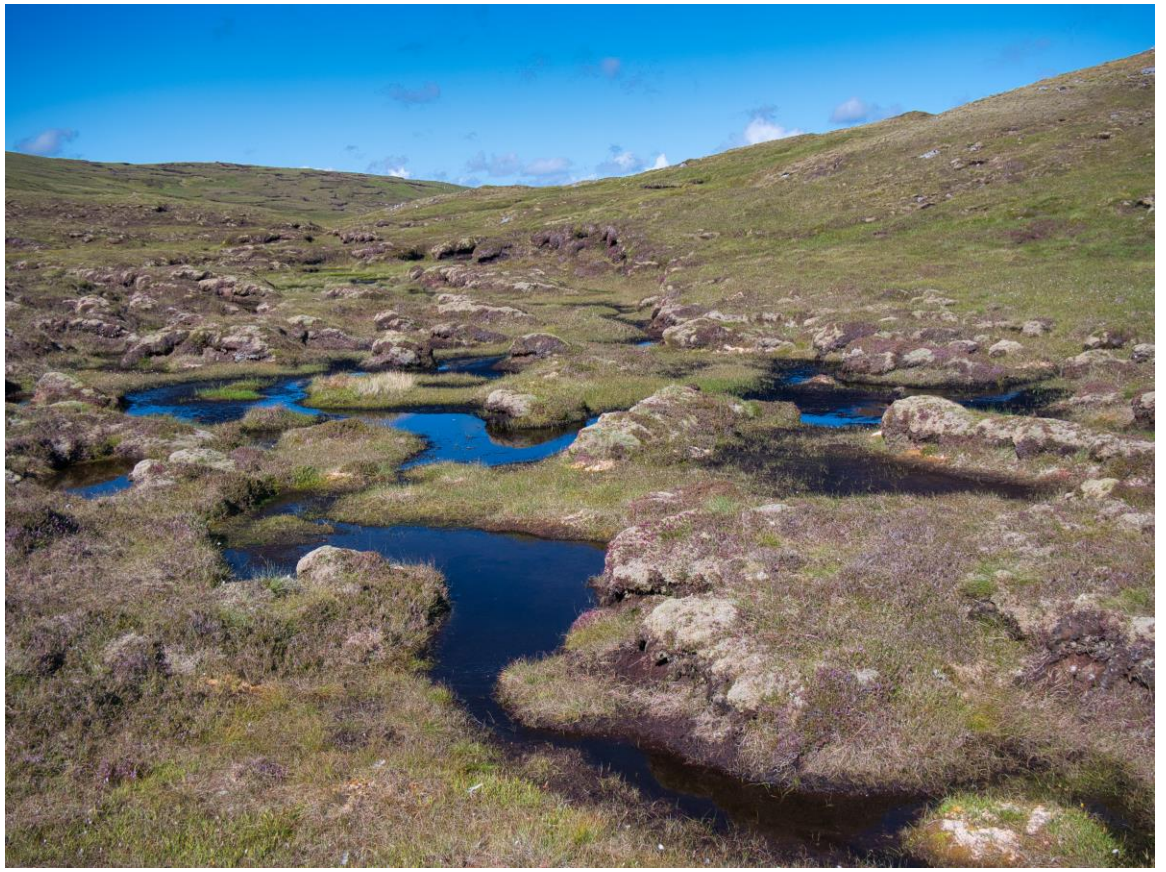
When plants die on **waterlogged soil**, this stops them from fully decaying.

Answer question 2 on your worksheet.

When plants don't fully decay, some carbon dioxide is trapped in the plant.

When this happens over thousands of years, the dead plants build up in layers. This creates peatlands.

Answer question 3 on your worksheet.



Tidying up

Place the tea bags in a food waste bin.

Soil can be reused for potting plants, after excess water has been drained and the soil has been stirred.

Rinse the pots, and reuse or recycle.

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