

Why Soap Works Experiment

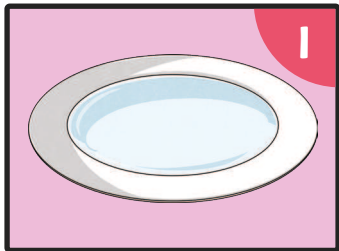
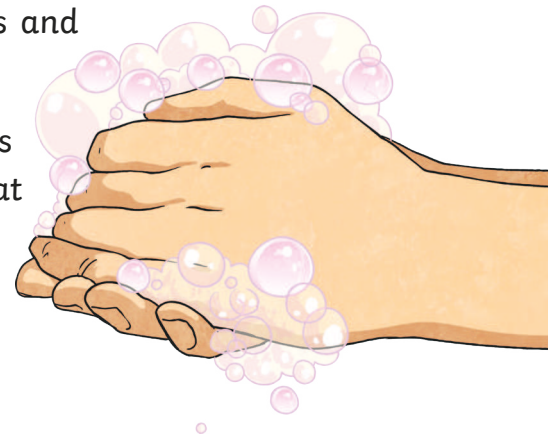
You will need:

- A bowl
- Some water
- A sprinkle of black pepper (or another spice)
- Liquid hand soap
- A hand towel
- A camera (optional)

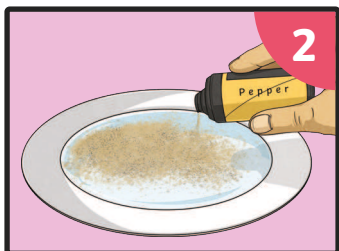
In this experiment, you are going to find out why soap works and why it is better than using just water to wash your hands.

In the experiment, the surface of the water in the bowl represents your hands. The pepper represents harmful dirt and germs that need to be washed away.

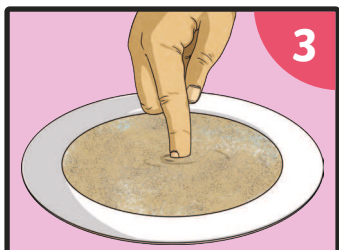
There are two tests in this experiment. They will show you what happens when you wash your hands with and without soap.



Fill the bowl with water, but not all the way to the top.

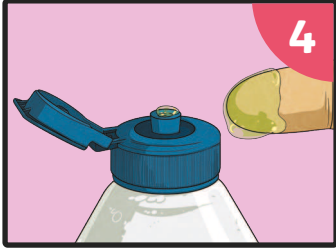


Sprinkle some black pepper on to the surface of the water. You should see the black pepper floating.

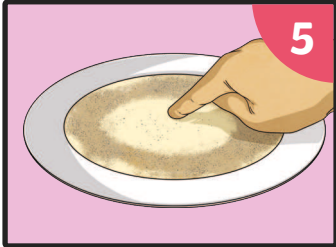


Test 1: Dip your finger into the centre of the bowl of water. Watch what happens to the pepper and record this.

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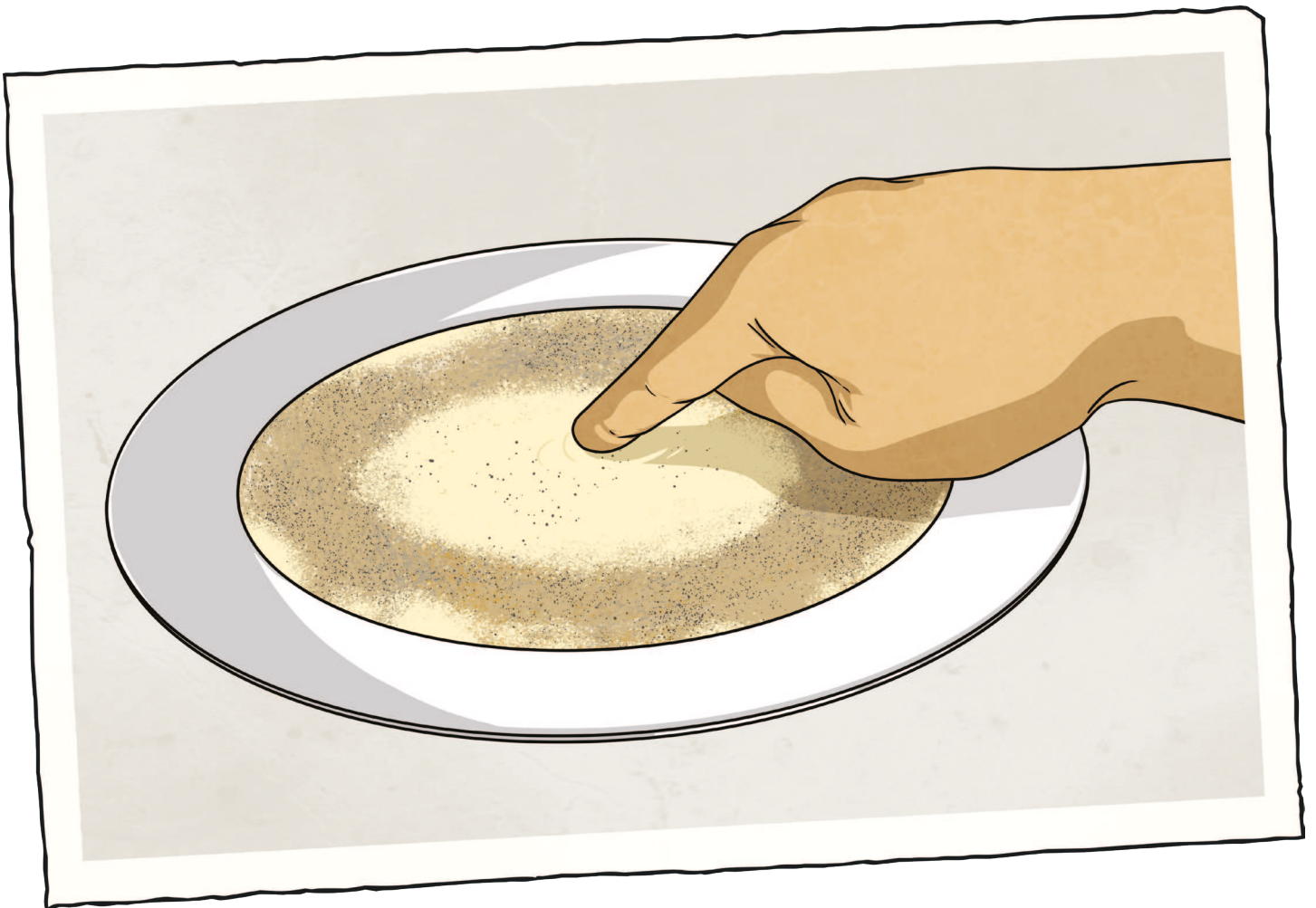
Dry your hand, then dip your finger into the liquid hand soap.

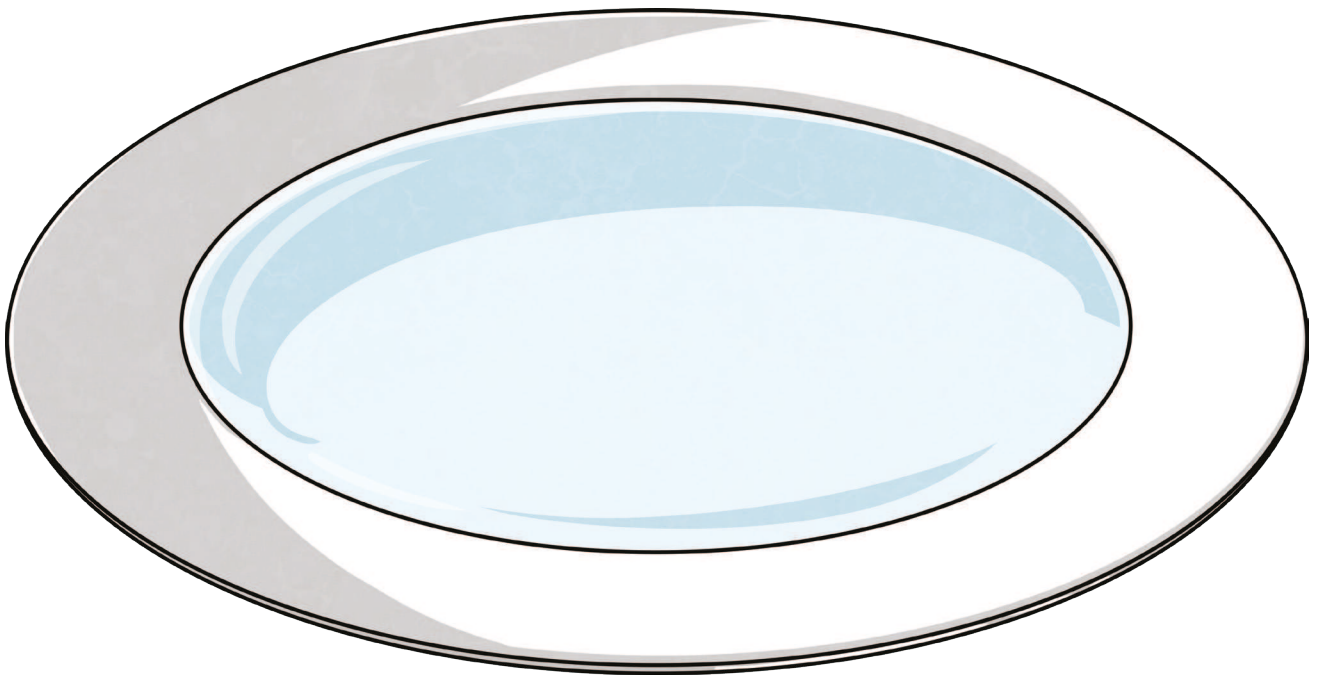


Test 2: Dip your soapy finger in to the centre of the bowl of water. Watch what happens to the pepper and record this.

Top Tip

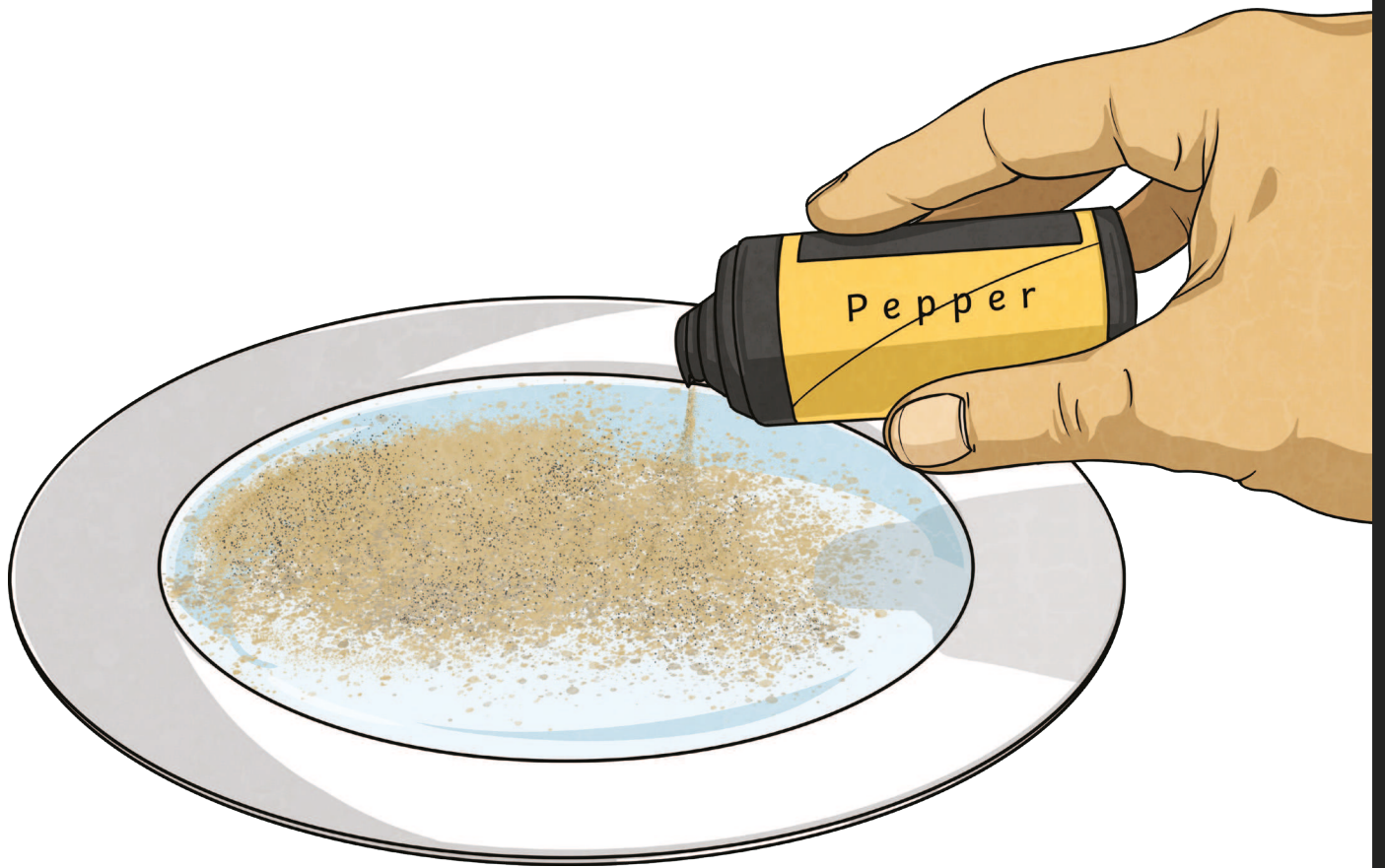
Use a camera to take photos to record what happens to the pepper each time you put your finger into the bowl.





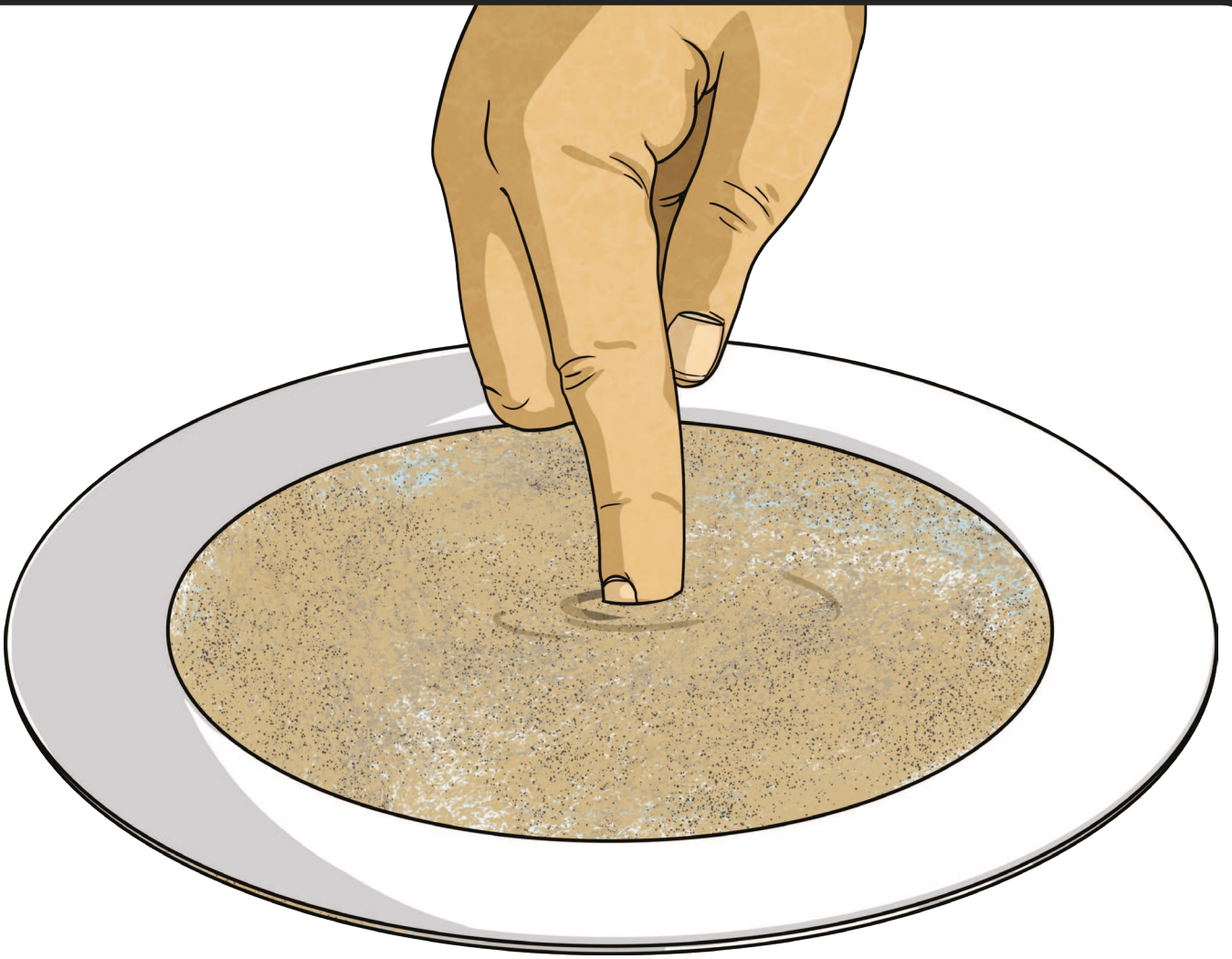
Step 1

Fill the bowl with water, but not all the way to the top.



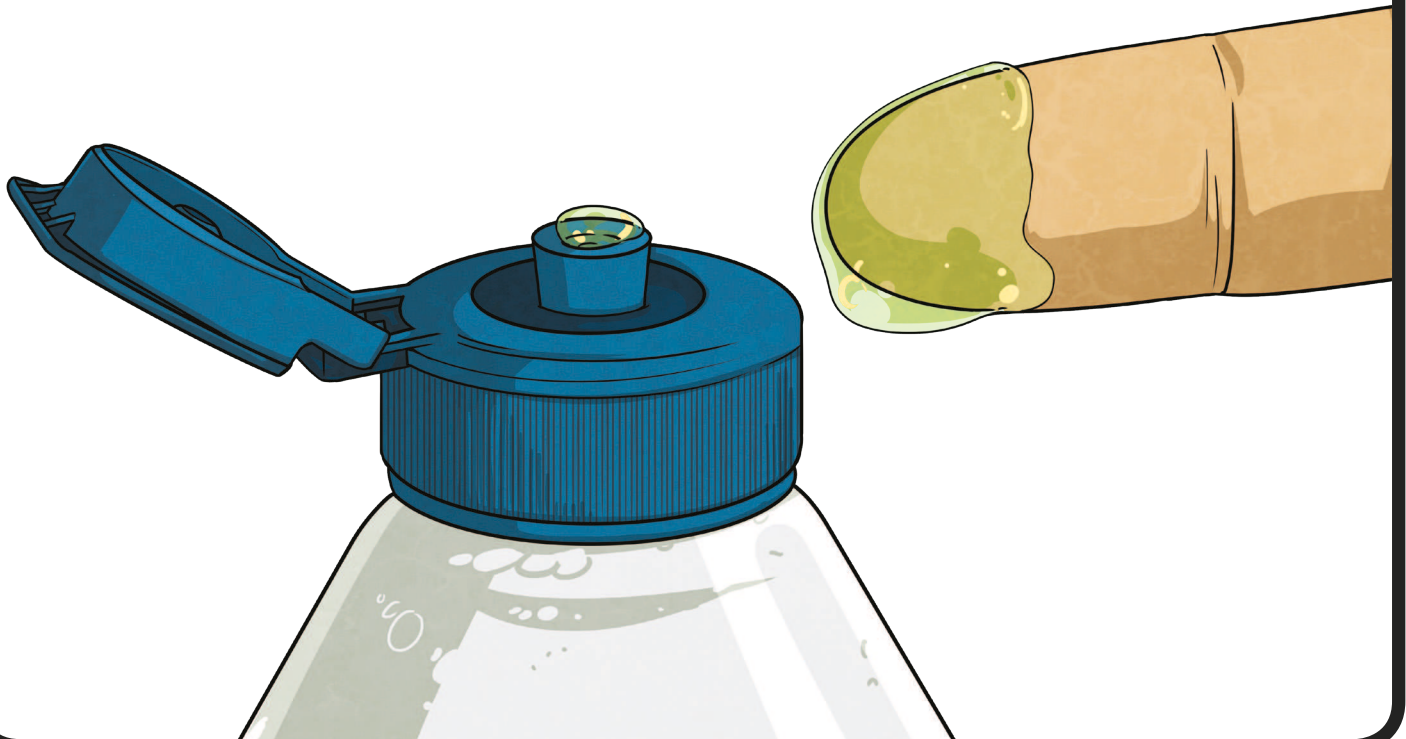
Step 2

Sprinkle some black pepper on to the surface of the water. You should see the black pepper floating.



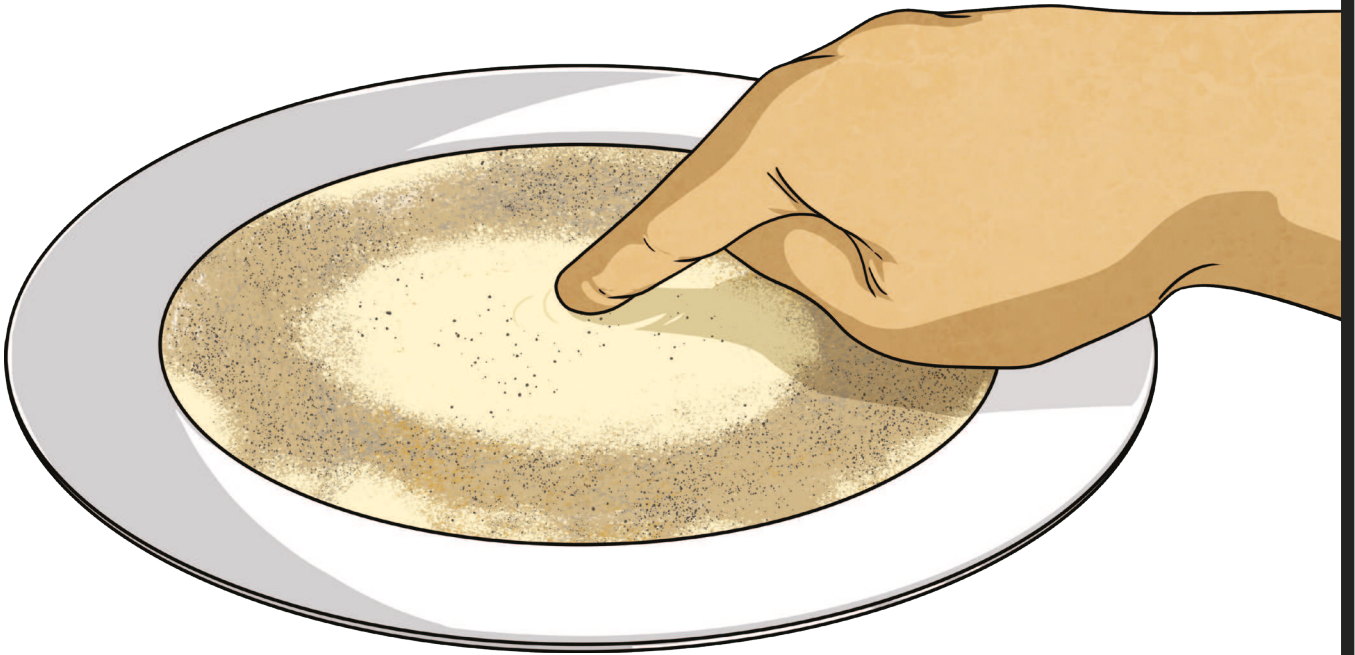
Step 3

Test 1: Dip your finger into the centre of the bowl of water. Watch what happens to the pepper and record this.



Step 4

Dry your hand, then dip your finger into the liquid hand soap.



Step 5

Test 2: Dip your soapy finger in to the centre of the bowl of water. Watch what happens to the pepper and record this.

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Medical Advice Resource Disclaimer

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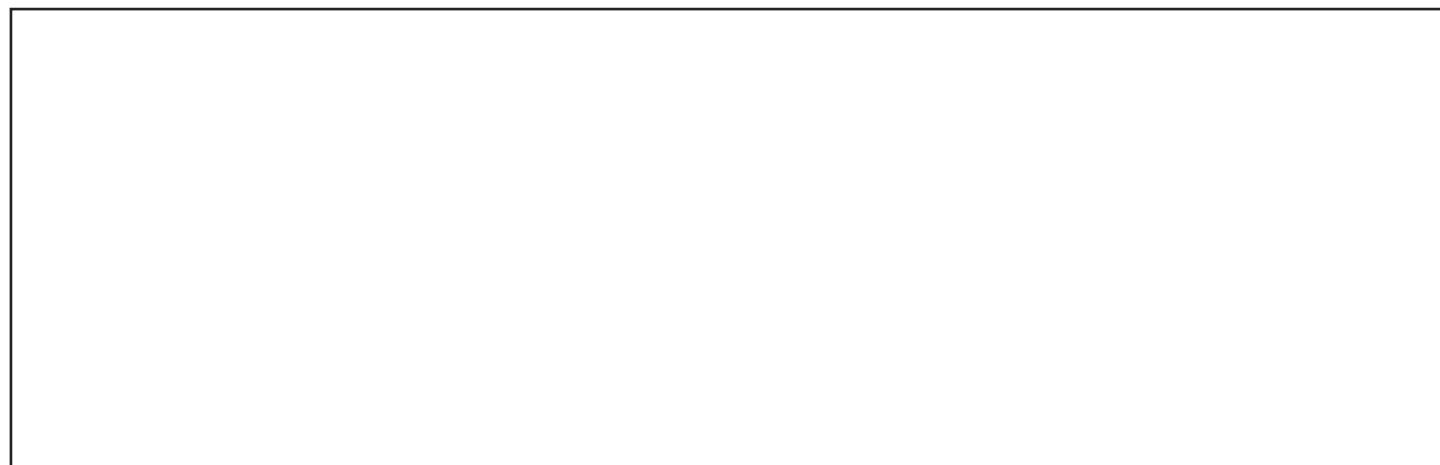
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Record Sheet

Test 1: What I predict will happen when I put my finger into the bowl the first time.

What actually happened?

You may wish to draw a picture or add a photograph.



Test 2: What I predict will happen when I put soap on my finger and put it into the bowl.

What actually happened?

You may wish to draw a picture or add a photograph.



Why Soap Works Experiment Record Sheet

Why was there a difference in how the pepper behaved when the soap was added?

Think of the surface of the water as the skin on your hands and the pepper as microbes on your hand.

Write a sentence to explain what happens when soap meets the microbes on your skin.

Why should we use soap when we wash our hands?

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Explanation

In the experiment, the surface of the water represents the skin on our hands. The pepper represents harmful dirt and germs (microbes) that need to be washed away to keep us healthy and clean.

In the first test, the pepper shouldn't have moved much. A little may become stuck to the finger but it will have remained on the surface and represented the germs remaining on a hand.

In the second test, the pepper should have moved away from the soapy finger to the edges of the bowl. This shows that soap moves dirt and germs away. This is because soap removes oils found on your hands.

The natural oils on our hands trap dirt so we need soap to remove them. Without soap, the oils stay on our hands and the microbes will stay trapped in them.

