

Investigate! – mixing materials with water

Learning outcomes

Science 3

2a to describe changes that occur when materials are mixed with water

3b know that some solids dissolve in water to give solutions but some do not.

Materials needed

Clear glass containers, eg. test tubes

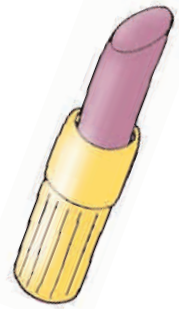
Warm and cold water

Plastic gloves

Measuring jug

Straws or sticks to mix with

Products to test – bath salts, nail polish, liquid soap, food dye, talcum powder, lipstick, coloured bath oil.



Aim

To see which materials dissolve to form solutions when mixed with water.

Questions

What if we put the different products into water?

Will stirring it make any difference?

Does the temperature of the water make any difference?

Will any products look like they have disappeared?

How will each material affect the appearance of the water?

If any material doesn't mix, can you say why?



Vocabulary

Solution, dissolve, settle, separate, solid particles

Investigation

Start by asking the children to make a prediction about each material based on the questions above. The children could record their ideas in a table as follows:

Material	Predictions		
	Will it appear to disappear?	Will it change the appearance of the water?	Will it dissolve to form a solution?

The children carry out the investigation by following these steps.

- 1. Put a sample of each material into a test tube.**
- 2. Measure out some water and pour the same amount over each material.**
- 3. Use the straw to stir each one and then leave them for a minute or two.**
- 4. Observe what has happened.**
- 5. Record what they can see and what they think has happened to the material.**

This is a fair test if all the variables are the same except the material in each test tube.

Conclusion

Refer back to the aim of the investigation i.e. which materials dissolve in water to form a solution? Ask the children to answer this question using the results from their investigation.

To extend the conclusion ask the children to make comparisons between the materials that dissolved. Were their properties the same? Did they behave in a similar way? Did they affect the appearance of the water?