

STUFF AND SUBSTANCE: RECOGNISING DISSOLVING

When some substances are added to water they are said to dissolve. How do we decide when something dissolves?

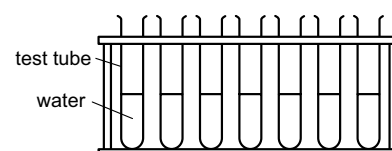
You are going to investigate which substances can dissolve in water.



Substance C is harmful. Wear eye protection. Wash hands after the experiment.

Task A Which substances dissolve?

1. You need 7 samples of substances (labelled A - G) and 7 test tubes. Half-fill each test-tube with water and place them in a test tube rack.
2. Choose one of the substances. Add a small amount to a test tube:
 - for a sample in the *solid state*, add a quarter of a spatula
 - for a sample in the *liquid state*, add three drops using a dropping pipette.
3. Use a glass rod to stir the mixture. What do you observe?
4. Does the substance dissolve? What did you see that made you decide? Record your results in a table like the one shown.
5. Repeat for the other 6 substances.



Sample	Observations	Does it dissolve
A		
B		
C		
D		
E		
F		
G		

Task B Filtering

6. Pour the mixture of water with B through filter paper. What do you observe?
7. Pour the mixture of water with D through filter paper. What do you observe?

Task C Particles and dissolving

8. Use the ideas of the *particle model* to explain what happens when a substance dissolves in water. Also explain why a dissolved substance cannot be filtered out. Make a cartoon to show your ideas.