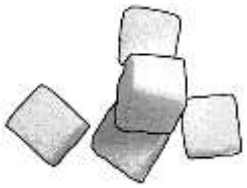
Sweet tooth

Task 1: Dissolving sugar (Levels 3–4)

We know that sugar is still there when it has dissolved in tea because we can taste it – can we use that as a test for all solids in all liquids?



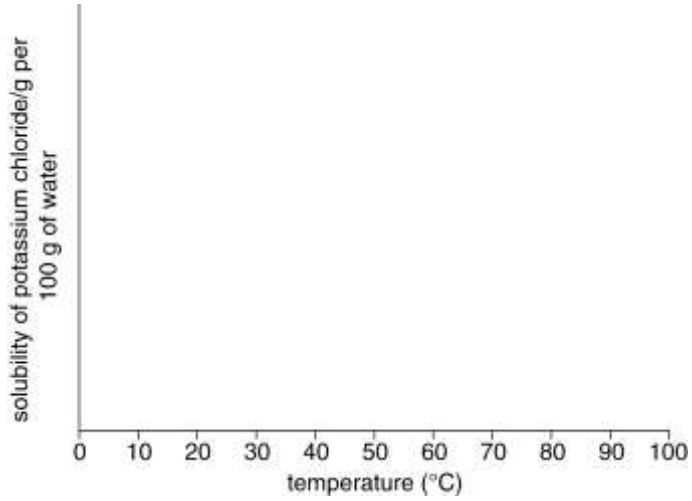
If not, can you think of some measurements you could make that would prove that the solid was still in the solution without having to taste it?

Task 2: Dissolving and temperature (Levels 4–5)

This table shows the mass of potassium chloride that dissolves in 100 g of water at different temperatures.

Temperature (°C)	**Mass of potassium chloride that dissolves in 100 g of water**
0	27
10	32
20	35
30	38
40	41
50	44
60	47
70	50
80	52
90	54
100	56

Use the information in the table to complete the graph using the axes below.



Can you explain what happens to the particles of potassium chloride when they dissolve in the water?

Task 3: Saving energy on wash day (Levels 5–6)

To save energy many people now try to run their washing machines at lower temperatures. A lot of detergents claim to be effective at temperatures as low as 30 °C.

Plan an investigation to decide which of these detergents is really effective at low water temperatures.