



What is dissolving?

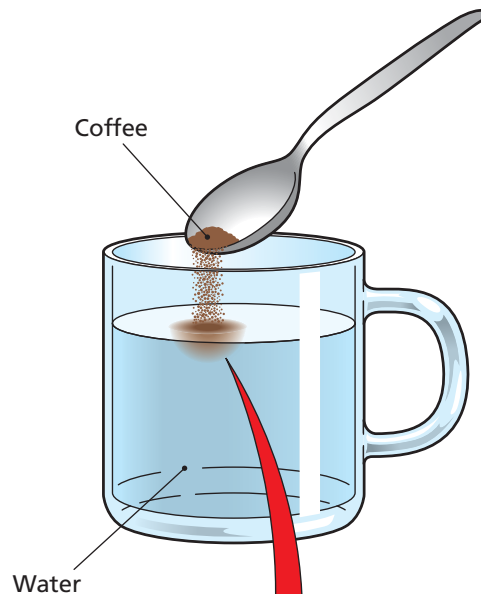
When something **DISSOLVES**, it breaks up into tiny pieces that scatter evenly in a **LIQUID**.

Have you ever stirred a spoonful of sugar into a cup of hot water and wondered where the sugar went? The sugar seems to just disappear, but we know that it hasn't vanished because the water tastes sugary. So what has happened to the sugar?

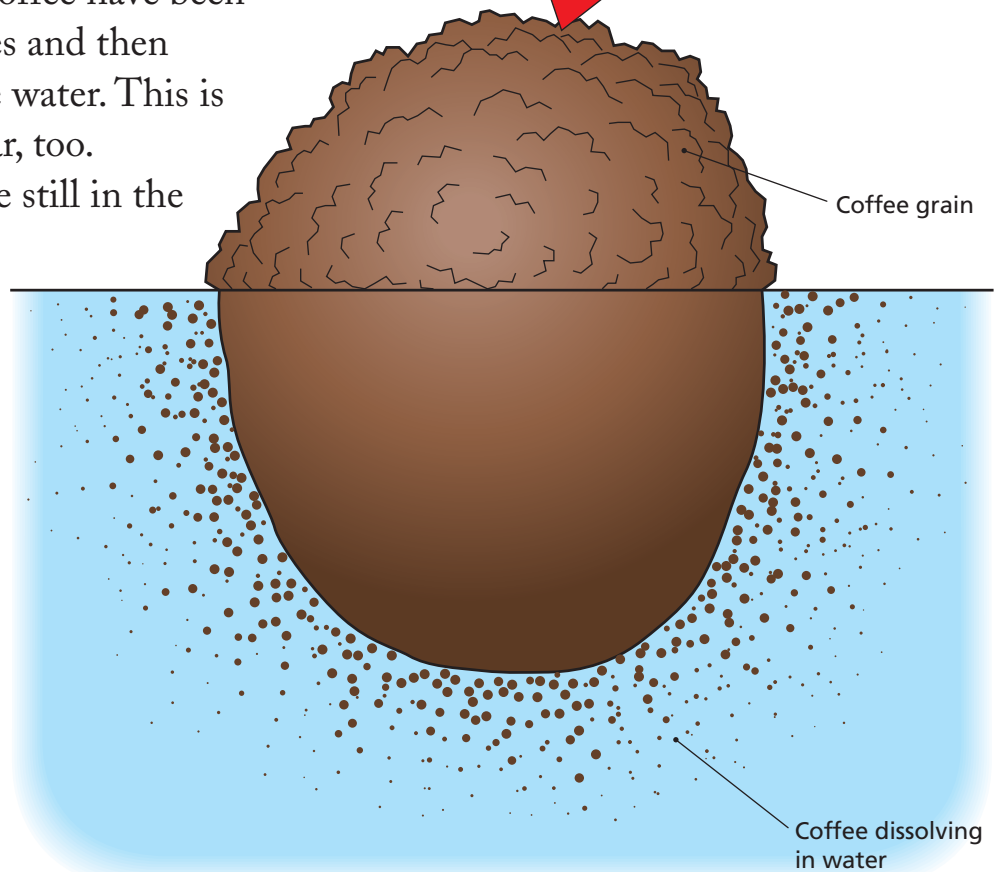
It is similar to when you put a spoonful of instant coffee in a cup of clear, hot water – the coffee dissolves, and the water turns brown (Picture 1).

The brown colour is a clue as to what has happened. The coffee powder, or granules, were brown and now the water is brown. Large pieces of coffee have been pulled apart into tiny pieces and then scattered evenly within the water. This is what happened to the sugar, too.

The sugar and coffee are still in the water but now they are all mixed together with the water. In the case of the coffee, the brown colour shows you so. If you tasted the water, you would be able to taste both the coffee and the sugar. The coffee, the sugar and the water are still separate from one another, the sugar and the coffee only *seem* to



◀ (Picture 1)
A solution is made when one substance dissolves in another.



► (Picture 2) In a solution, the **PARTICLES** of one substance are evenly scattered through the other.

have become part of the water (Picture 2). The coffee and the sugar have dissolved in the water.

When a **SUBSTANCE** seems to disappear into a liquid we say it has dissolved. The **MIXTURE** it forms with the liquid is called a **SOLUTION**. The substance has become part of the liquid.

What will dissolve?

SOLIDS, liquids and **GASES** all dissolve in liquids. When you put coffee powder into water you are dissolving a solid into a liquid. When you put a few drops of food colouring into water you are dissolving one liquid in another. The only reason that fish can breathe in water is that air (which is an invisible gas) is dissolved in the water.



SAFETY Never go near boiling water. Always get an adult to help.

Summary

- When a substance dissolves in a liquid it breaks up into tiny particles that scatter evenly in the liquid.
- A solution is a mixture of two or more substances.
- When a substance dissolves in water it forms a solution.

