

Read

What is a filter?

What would you do if your paddling pool was full of stones, leaves and bugs? You could empty it out and start again or you could filter out the debris. Filters are used to separate mixtures. For example a fishing net is a type of filter, it traps the fish, but lets the water out as water is small enough to pass through the holes, but the fish is too big. When you boil vegetables and then sieve them to remove the water, that is also filtration. The sieve filters out the vegetables separating them from the water.

Soluble or insoluble

Filtration only works when the solid you want to separate is insoluble, which means it doesn't dissolve in water. Imagine a cup of tea with sugar added, the sugar dissolves in the hot tea, it is no longer a solid particle. If you pass the tea through a filter, the sugar would not be left behind, but if you added sand to your tea, which is insoluble (doesn't dissolve) this would be left behind in the filter. We can filter sand.

Why does this happen?

The insoluble sand is too big to pass through the holes in the filter paper so remains on the surface, the dissolved sugar has become a liquid so can pass through the filter into the beaker below.

What is a filter?



Filters are used to
separate mixtures such as
sand and water.

What does soluble and insoluble mean?

we
do

Soluble means the particles are small enough to dissolve.
Insoluble is when the particles won't dissolve.

What is a filter?

you
do

What does soluble and insoluble mean?