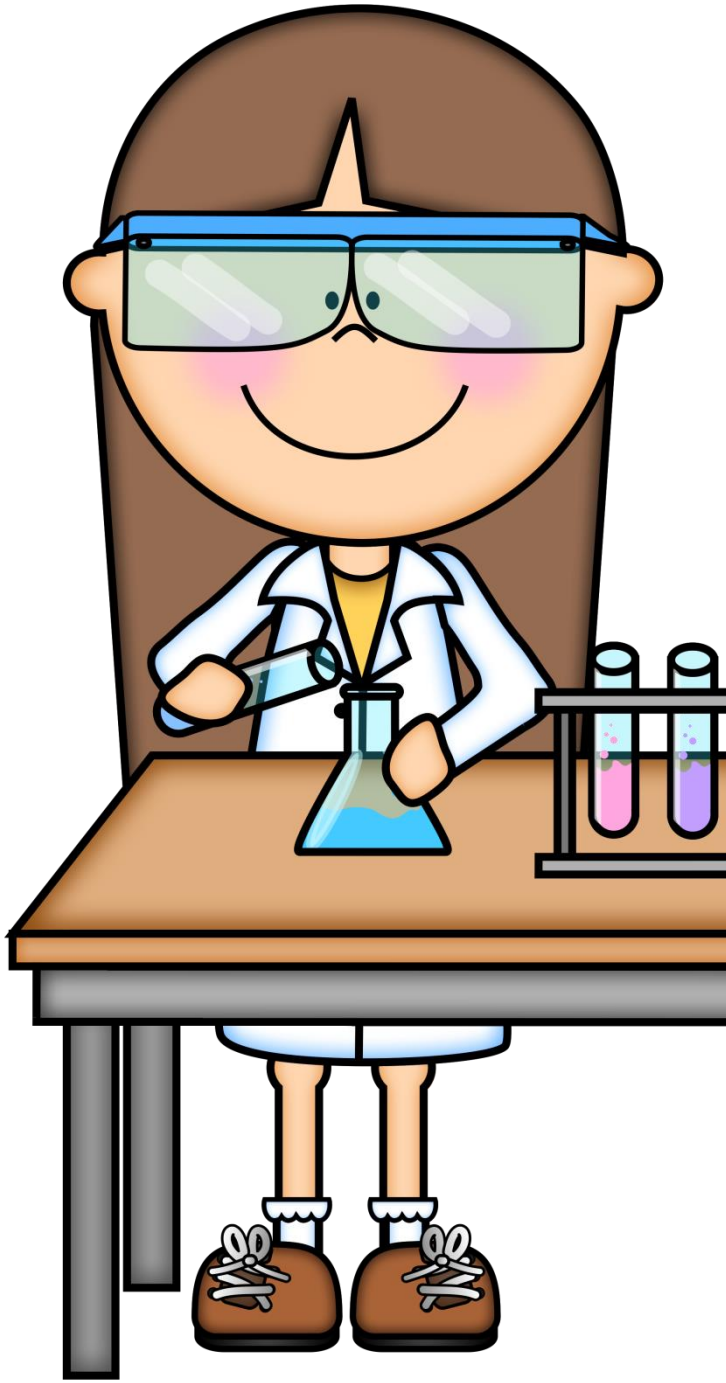
Separating Mixtures

Fabulous Fun in 5th

Many of the substances we use everyday were actually once part of a mixture. Someone somewhere separated that substance from the mixture so we could use it.

Separating substances from mixtures is an important part of chemistry and modern industry.



Sieving

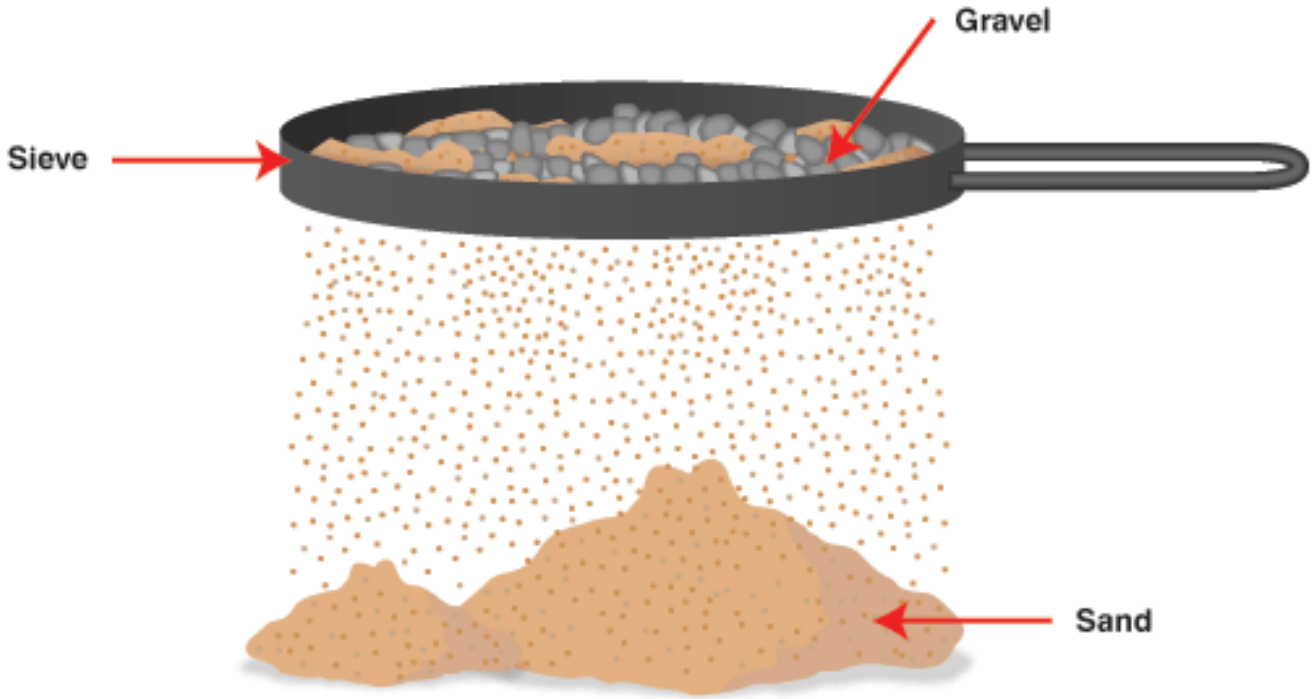
A mixture made of solid particles of different sizes, for example sand and gravel, can be separated by sieving.

What is a sieve?

An instrument with a meshed or perforated bottom, used for separating coarse from fine parts of loose matter, and for straining liquids.

Sieving

Here, a sieve is used to separate a mixture of sand and gravel.



The sieve has very small holes. Coarse particles of sand are separated or broken up by grinding against one-another and the screen openings.

Filtering

A mixture of water and an insoluble (cannot be dissolved) substance like sand can be separated by filtering.

What is a filter?

Any substance, as cloth, paper, through which liquid or gas is passed to remove solids.

Filtering

Here, filtering is used to separate sand and water.

The mixture of sand and water is poured into the filter funnel, which is lined with filter paper. The water can pass through the paper to collect in the beaker. The sand particles cannot pass through the filter paper and collect in the filter funnel.

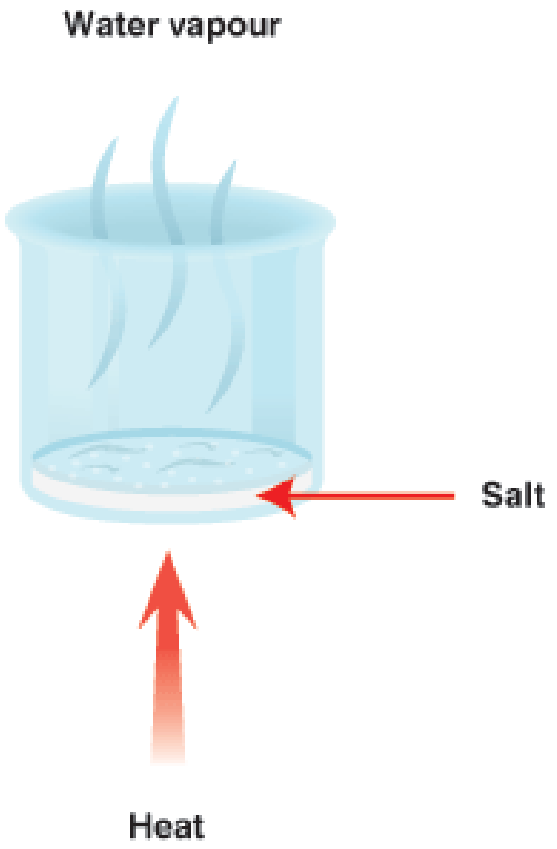
Evaporating

By dissolving salt in water we make a solution. The salt disappears into the water.

Evaporating

We can separate the salt from the water by boiling the solution.

The water will evaporate until it is all gone. The salt will be left behind.



If we collect the water vapor that evaporates we can cool it to form water again.