



# Properties and Changes of Materials – Year 5 Chemistry

## Key vocabulary

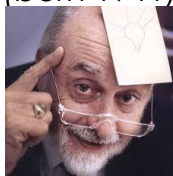
<b>thermal insulator</b>	Does not allow heat to pass through it easily.
<b>thermal conductor</b>	Allows heat to pass through it easily.
<b>dissolve</b>	A solid that completely mixes in with a liquid and cannot be seen.
<b>solution</b>	A mixture of a liquid with a dissolved solid or gas.
<b>soluble</b>	Solids and gases that dissolve in liquids.
<b>insoluble</b>	Solids that do not dissolve in a liquid.
<b>sieve</b>	Separates solids of different sizes.
<b>filter</b>	Separates an insoluble solid that is mixed in a liquid.
<b>evaporation</b>	Change of state from a liquid to a gas which can be used to separate a soluble solid and a liquid.
<b>reversible change</b>	Changes that can be switched back and are not permanent. E.g. dissolving, melting, freezing
<b>non-reversible change</b>	Changes that can not be reversed back to their original state. E.g. burning, rusting

## Materials can be grouped together based on their properties. For example:

- hardness
- solubility
- transparency
- thermal conductivity
- electrical conductivity
- response to magnets

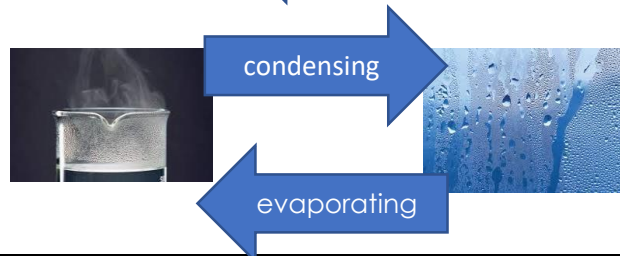
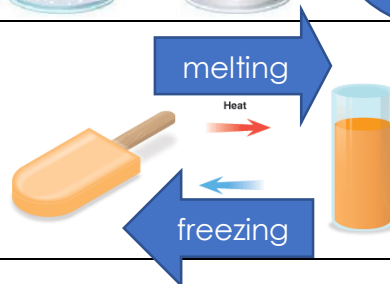
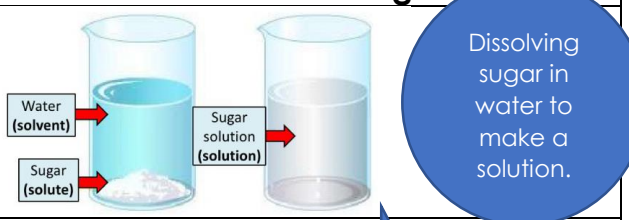
## Significant scientists

### Spencer Silver (born 1941)



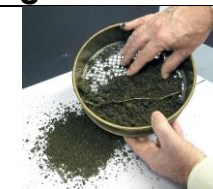
Spencer Silver is an American scientist who together with Arthur Fry was the inventor of Post-it notes in 1974. At the time, he was working to develop new classes of adhesives.

## Reversible changes

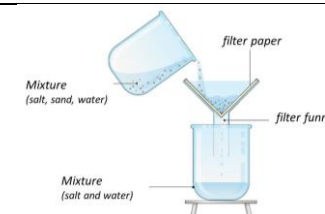


## Separating materials

**Sieving**  
separates the stones and twigs from the soil.



**Filtering**  
separates the sand from the mixture.



**Evaporating**  
separates the dissolved salt from the water.



## Non-reversible changes - these result in the formation of new materials

**Burning**



**Mixing vinegar and bicarbonate of soda**





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**Rusting**

