

Year 5: How do chemists create new materials?

Subject Specific Vocabulary		Interesting Books		Sticky Knowledge about Reversible and Irreversible changes
solubility	Is a chemical property referring to the ability for a given substance, the solute, to dissolve in a solvent.	 		☐ Irreversible changes, like burning, cannot be undone. Reversible changes, like melting and dissolving, can be changed back again.
conductivity	Conductivity defines a material's ability to conduct electricity.			
transparency	In general, transparency is the quality of being easily seen through.	A Scientist just like me		☐ Mixtures can be separated out by methods like filtering and evaporating. A change is called irreversible if it cannot be changed back again. ☐ Examples of reversible changes: Melting is when a solid converts into a liquid after heating. An example of melting is turning ice into water. Freezing is when a liquid converts into a solid. ☐ A cooked egg cannot be changed back to a raw egg again. Mixing substances can cause an irreversible change. For example, when vinegar and bicarbonate of soda are mixed, the mixture changes and lots of bubbles of carbon dioxide are made. Burning is an example of an irreversible change.
thermal evaporation	Something that is thermal is hot, retains heat, or has a warming effect. Evaporation is the process of a substance in a liquid state changing to a gaseous state due to an increase in temperature and/or pressure.			
dissolve	To dissolve is defined as to become broken up or absorbed by something or to disappear into something else.	Dr Susannah Worster		
bicarbonate of soda	A white water-soluble powder, used chiefly as an antacid, a fire extinguisher, and a leavening agent in baking.	Important facts to know by the end of the reversible and irreversible changes topic:		
thermal	Something that is thermal is hot, retains heat, or has a warming effect.	• Know what a reversible change means. • Know what an irreversible change means. • Give examples of reversible and irreversible changes. • Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. • Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.		
filtering	To filter a substance means to pass it through a device which is designed to remove certain particles contained within.			
melting	Melting is a physical process that results in the transition of a substance from a solid to a liquid.			
separate	Separate, part, and divide mean to break into parts or to keep apart.			
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