

Remember  
in Year 4,  
we learned:

How  
materials  
changed  
under  
different  
conditions

Year 5

## Properties and changes of materials

Later, in  
KS3, you  
will learn:

Chemical  
reactions  
caused  
within atoms

### Knowledge

By the end of this unit of study, pupils will be able to:

One	Compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.	
Two	Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.	
Three	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.	
Four	Give reasons, with evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.	
Five	Know some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.	
Six	Demonstrate that dissolving, mixing and changes of state are reversible changes.	



### Key Learning

Materials have different uses depending on their properties and state (liquid, solid, gas). Properties include hardness, transparency, electrical and thermal conductivity and attraction to magnets. Some materials will dissolve in a liquid and form a solution while others are insoluble and form sediment.

Mixtures can be separated by filtering, sieving and evaporation.

Some changes to materials such as dissolving, mixing and changes of state are reversible, but some changes such as burning wood, rusting and mixing vinegar with bicarbonate of soda result in the formation of new materials and these are not reversible.

### Key Vocabulary

Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material