

Marvellous Materials

Reversible or Irreversible?

Which of these changes are reversible and which are irreversible?

Change	Reversible	Irreversible
paper burning		
chocolate melting		
metal rusting		
sand and pasta mixing		
water evaporating		
water freezing		
vinegar and bicarbonate of soda fizzing		

What is the difference between a reversible and an irreversible change?

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Separating Mixtures

Select the best method to separate each mixture from the word bank below.

pasta and sand	
sand and iron filings	
sand and water	
sugar and water	

Word Bank

sieving

filtering

evaporation

magnetism

I have a mixture of sand, sugar, pasta and water. How could I separate this?



Write your answer in the box below.



I think water can dissolve more sugar than it can salt.

How could Cally find out if her prediction is correct?

Materials Properties and Definition

Put the correct definitions with the property words in this table.

magnetic	
reflective	
absorbent	
permeable	
translucent	
flexible	
hard	
flammable	
insulating	
transparent	

Is attracted to magnets.	Easy to bend.
Will bounce light off its surface.	Will easily catch fire and burn quickly.
Is able to soak up liquid easily.	Solid, firm and rigid, not easily broken, scratched or pierced.
Will allow liquids and gasses to pass through it.	Will stop energy such as electricity or heat from transferring through.
Will let some light pass through them but not enough to see detailed shapes.	Light passes through easily and objects are seen clearly.

Spencer Silver

Milky
Way

Introduction:



Mind map of
different uses
for sticky notes.

Early life:

Material Masterminds

Super scientists and ingenious inventors work to create brand new materials that solve problems that naturally occurring substances cannot. Some of these inventions are used in our daily lives to make things easier, better or safer.

Choose a scientist or inventor to research and create a fact file about their life. Can you find out about:

- their childhood?
- their education?
- their inspiration?
- whether their invention was created by accident or on purpose?
- who their inventions have helped?



Stephanie Kwolek
– the inventor of Kevlar™



Garrett Morgan – an
inventor who created lots
of innovations



Patsy Sherman – the
inventor of Scotchgard™



Spencer Silver – the
inventor of sticky notes



Patricia Billings – the
inventor of Geobond®