

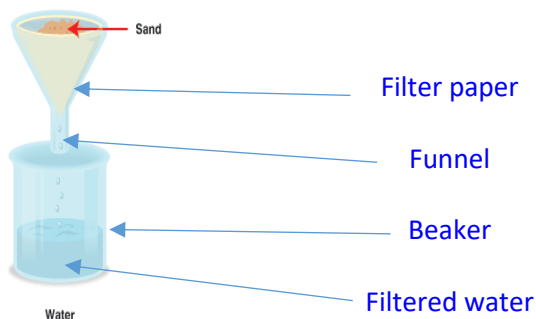
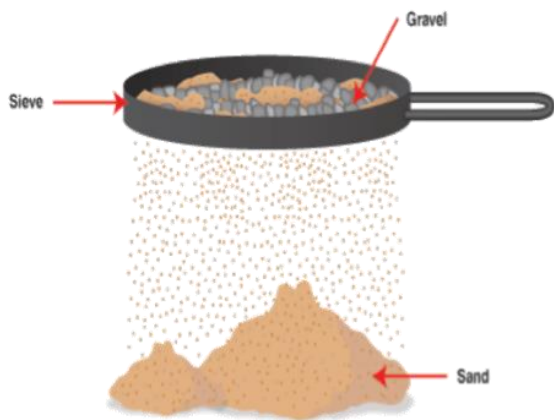


Topic- Properties and changes of materials

What Should I Already Know?

Differences between solids, liquids and gases.
 Melting, evaporation, condensation, freezing
 Melting points, freezing points
 Water cycle and vocabulary associated with the main stages.

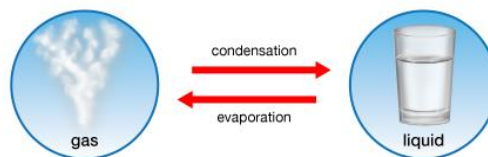
Diagrams



Year:5

Main Information

Comparing and grouping materials according to their properties, hardness, magnetic etc.
 Mixtures and solutions – what are the differences? Experimenting with mixing solids and liquids.
 Separating a mixture by sieving, sorting particle sizes
 Separating a mixture by filtering e.g. muddy water.
 Separating a solution by evaporating
 Reversible and irreversible changes – freezing, melting, dissolving, burning, rusting



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Possible experiments

- Experiments to find properties of materials, e.g. does it attract to a magnet, can heat pass through it...
- Design an everyday item (oven glove, pan stand... based on the properties it would need.
- Experiment separating mixtures using graded sieves and filters
- What affects the bounciness of balls – own question and experiment to answer
- Experiment with creating solutions and saturated solutions
- Experiment with irreversible changes, e.g. vinegar and bicarbonate of soda.
- Experiment with burning and rusting – production of new materials.

Strand:Chemistry

Vocabulary

Hard	Difficult to scratch like hammer head
soft	Easy to shape like fabric
solution	Can be dissolved in liquid e.g. coffee granules
insoluble	Cannot be dissolved
Transparent	See through – like glass
Opaque	Not see through – like wood
Conductor	A material that will allow heat (thermal) or electricity through
Insulator	A material that will not allow heat or electricity through
magnetic	Attracted to a magnet
mixture	Substance are mixed together with no dissolving taking place
solution	When a substance dissolves into a liquid
Separate	To divide into individual parts
Filter	Used to separate solid from liquids e.g. sand from water.
Evaporate	Liquid turns to gas when heated
Freeze	Liquid becomes a solid due to cooling
melt	Solid becomes liquid due to heating
condensation	Gas becomes liquid due to cooling
Reversible	A change that can be returned to original form
Irreversible	A permanent change
Chemical reaction	When substances combine and react to cause a new material to form
New material	Created due to a change e.g. burning
Dissolve	Become incorporated into a liquid to form a solution
Properties	A specific quality of something

Question 1 – solids will always -	Start	End
Flow		
Take up the shape of their container		
Have tightly packed molecules		
Expand in water		

Question 2 - Thermal insulators will:	Start	End
Keep things dry		
Keep things warm		
Heat up water		
Let out heat		

Question 3 - Absorb means :	Start	End
Heat up		
Cool down		
Let through		
Soak up		

Question 4 - What would you use to separate solids?	Start	End
Sieves		
Drills		
Filters		
Presses		

Question 5 - Filter paper contains:	Start	End
Absorbent fibres		
Water proofing		
Microscopic holes		
Cotton wool		

Question 6 - When a substance dissolves it creates:	Start	End
A mixture		
A combination		
A concoction		
A solution		

Question 7 – What type of change is burning?	Start	End
Reversible		
Colourful		
Warm		
Irreversible		

Question 8 – Which 2 changes are reversible?	Start	End
Rusting		
Melting		
Freezing		
Burning		

Question 9 – Which will create a chemical reaction?	Start	End
Mixing sand and water		
Mixing flour and bicarb		
Mixing water and ketchup		
Mixing vinegar and bicarb		