Changes of materials

Fair testing | research | Observation over time

Pattern seeking | Identify and classify | Problem solving

Year 5 Autumn 2

What is a mixture?

Lesson 1 Investigate the solubility of materials.

What is a pure substance?

Pure substance, solvent, solution, solute, evaporate.

Lesson 2 recognise and describe reversible changes. TAPS

Describe a reversible change.

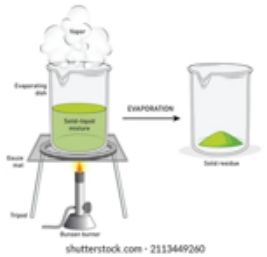
Melting, mixture, evaporate, reversible, physical change.

Lesson 3 observe chemical reactions and describe how we know new materials are formed.

Describe an irreversible change

Irreversible, compare, product, effervescent, chemical change.

Evaporation



If a solid has **dissolved** in water (for example in a salt solution), **heating** it causes the water to **EVAPORATE**, leaving the solid (salt) behind.

Changes of State

Solids, liquids and gases can change state by being **heated** or **cooled**.

Irreversible Changes

These are **CHEMICAL** changes – they **cannot** be reversed as a new material has been made.

Reversible Changes

liquid chocolate
– cool –
solid cholate

solid lolly
– heat –
liquid lolly

mixture of rice and flour
– sieve –
both separated

dissolved sugar
– evaporation (heat) –
solid sugar

These are **PHYSICAL** changes – they **can** be reversed as no permanent change has been made.

Careers connected this topic laboratory technicians, technical associates, chemistry teacher, research analysist.

Lesson 4 investigate rusting reactions

What is an independent variable?

Fair test, corrosion, variable, control variable, rusting.

Lesson 5 Investigate burning reactions.

Is burning a reversible or irreversible reaction?

Combustion, fuel, smother, oxygen, extinguish.

Lesson 6

Can you explain all you have learned from this topic?

Vocab-all words from previous lessons.

Reasoning Card: Properties and Changes of Materials

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Cally is wondering whether sugar will dissolve more quickly in her cup of tea when the water is freshly boiled or when it has cooled down.

Do you predict sugar will dissolve more quickly in hot water or cooler water?

How could Cally investigate which condition causes sugar to dissolve more quickly?

What variables would Cally need to keep the same during her enquiry?

Reasoning Card: Properties and Changes of Materials

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