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| **Boarshaw Primary School - Science** | |
| **Year 5** | **Science: Everyday materials and their properties** |

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| **Previous knowledge: What should I already know?** | Diagram – changing state |
| * Compare and group materials together, according to whether they are solids, liquids or gases * Observe that some materials change state when they are heated or cooled, and measure or research temperature at which this happens in degrees Celsius * Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature |  |
| **Key facts / information** |
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| **Key facts / information – separating materials** |
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| **Key vocabulary** |
| Conductor – A material or device which allows heat or electricity to pass through it  Dissolve – When something solid mixes with a liquid and becomes part of the liquid  Evaporation – The process of turning from liquid to vapour (gas)  Flexible – Capable of bending easily without breaking  Gas – An air-like substance which expands freely to fill any space available  Insulator – A substance which does not allow heat, sound or electricity to pass through it  Irreversible – Cannot be changed back to its original state  Liquid – A substance that can be poured, flows freely and will change shape dependiong upon the container it is in  Magnetic – A material that is attracted to a magnet  Material – The matter from which a thing is made from  Opaque – Not able to be seen through, not transparent  Property – The characteristics of something  Reversible – Able to be changed back to its original state  Solid – Firm and stable in shape, not a liquid or fluid. Can be cut, bent or squashed to change its shape  Soluble – Able to be dissolved, especially in water  Thermal – Relating to heat  Transparent – Allows light to pass through so that objects behind can be seen |
| **Key knowledge: What I should know by the end of the unit?** |
| * Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets * 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 * Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic * Demonstrate that dissolving, mixing and changes of state are reversible changes * Explain that some changes result in the formation of new materials and that this kind of change is not usually reversible, including changes associate with burning and the action of acid on bicarbonate of soda. |

**Materials mini – quiz**

1. **Solids, liquids and gases have different properties. Put a tick in the correct boxes.**

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|  | **Solid** | **Liquid** | **Gas** |
| can fill the container |  |  |  |
| can change volume |  |  |  |
| can be cut |  |  |  |

1. **Choose a suitable word to describe each of these materials:**
2. brick -
3. glass -
4. plastic -
5. **Name a reversible change.**
6. **Name an irreversible change.**
7. **Explain which method you would use to separate the following mixtures:**
8. sugar and coffee
9. paper clips and rice
10. sand and water
11. **What happens when…**
12. a liquid is heated?
13. a liquid is cooled?