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|  | **YEAR 5 PROPERTIES AND CHANGES OF MATERIALS KNOWLEDGE ORGANISER**   |  |
|  **KEY VOCABULARY AND SPELLINGS** **Soluble**  – able to be dissolved, especially in water**Insoluble** – cannot be dissolved, especially in water  **Dissolve** – when something solid mixes  with a liquid and becomes part of the liquid **Solution** – is made when one substance dissolves into another **Reversible change** – can be reversed back to its original state**Irreversible chang****e** – cannot be reversed back to its original state **Transparent** – allows light to pass through**Thermal conductor** - a material or device which allows heat to carry through**Electrical conductor** – a material or device with allows electricity to carry through **Magnetic** – capable of being magnetised or attracted by a magnet | **COMPARING AND GROUPING** - Materials can be compared and grouped together on the basis of their properties including: * **Hardness** – how hard or soft a material is
* **Solubility** – whether a material can dissolve
* **Transparency** – whether it allows light to pass through
* **Conductivity** (electrical or thermal) – whether it allows heat or electricity to carry through
* **Response to magnets** – whether it is magnetic
 | **PARTICLE ARRANGEMENT** **Solid** – particles packed closely together **Liquid** – particles have some space to move **Gas** – particles are free to move  |
| **REVERSIBLE AND IRREVERSIBLE CHANGES**

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| **REVERSIBLE**  | **IRREVERSIBLE**  |
| Dissolving sugar in water  | Toasting bread  |
| Freezing water  | Cooking a cake  |
| Melting chocolate  | A candle melting  |

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| **DISSOLVING** - Sometimes when a solid (solute) is mixed with a liquid (solvent) it will dissolve to form a solution e.g. dissolving sugar in hot tea.  The solid seems to disappear in the solution but it is still there it has just become part of the liquid.  A soluble material can dissolve however an insoluble material cannot dissolve.  |
| **SEPARATING MIXTURES** **SIEVING** – a mixture of different sized solid particles can be separated with a sieve.  **FILTERING** – an insoluble solid can be separated from a liquid when passed through a filter. The liquid passes through the solid particles are trapped on the filter.  **EVAPORATING** – if a solution is boiled (heated) the water will evaporate into gas and the solid will be left behind.  |