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**Science Knowledge Organiser**

**Year 5 Properties and Changes of Materials**

**By the end of the unit children can:**

* **Compare and group together everyday materials on the basis of their properties.**
* **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.**
* **Give reason, based on evidence from comparative and fair tests, for the particular uses of everyday materials.**
* **Demonstrate that dissolving, mixing and changes of state are reversible changes.**
* **Explain that some changes result in the formation of new materials. This kind of change is not usually reversible.**

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| **Key Vocabulary** |
|  | **Definition** |
| malleable | easily formed into different shape |
| permeable | a material/object that can let something pass through (often water). |
| impermeable | a material/object that cannot let something pass through (often water) |
| solution  | a liquid mixture (salt water is a mixture of salt and water) |
| dissolving | when a solid material mixes with a liquid and is no longer visible.  |
| soluble | able to be dissolved in water |
| insoluble | will not dissolve in water |
| visible | can be seen |
| saturation point | a solution that has dissolved as much of a solid that it can |
| variables | something that can be changed and measured |
| filtration | separates an **insoluble** solid from a liquid |
| sieving | separates solids of different sizes |
| reversible change | changes that are not permanent  |
| irreversible change  | changes that are permanent  |

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| **Key Knowledge** |
| * Different plastics are suitable for different purposes.
* Not all metals are magnetic.
* Solids vary in hardness and some are **permeable**.
* Solids, liquids and gases can be separated by using; **filtering**, **sieving**, **evaporation**.
* Dissolving, mixing and altering states are **reversible** changes.
* Some changes like burning are examples of **irreversible** change.
* Know that dissolving is when a solid material mixes with a liquid and is no longer **visible**.
* Know that materials dissolved into liquid will create a **solution**: salt water, sugar water.
* Know that the hotter the solution and/or by stirring a **solution** the faster the **dissolving** process occurs.
* Know that there is a limit to how much material can be **dissolved** into a given liquid. This is called the **Saturation Point**. After this, no more material will be dissolved – it will be visible.
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