# Year 5: Properties of materials Knowledge Mat

## Subject Specific Vocabulary

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| **absorbency** | The property of taking in/ soaking up a liquid. |
| **separate** | Separate, part, and divide mean to break into parts or to keep apart. |
| **filtering** | To filter a substance means to pass it through a device which is designed to remove certain particles contained within. |
| **dissolve** | To dissolve is defined as to become broken up or absorbed by something or to disappear into something else. |
| **solution** | When a solid dissolves in a liquid it forms a solution. |
| **soluble and insoluble** | **Soluble** means when it is put in water it dissolves. The resulting liquid is called a solution. E.g. salt in water.<br>**Insoluble** – means when it is put in water it stays as a solid. Often is makes the liquid cloudy or sinks to the bottom. E.g. sand in water. |
| **reversible reaction** | This is when materials can be changed back to how they were before the reaction took place. E.g. When ice melts to form water. It could be frozen back to ice again. |
| **Irreversible reaction** | This is when materials cannot be changed back to how they were before. E.g. When a piece of wood is burned to form ash. It cannot be made wood again. |
| **melting** | Melting is a physical process that results in the transition of a substance from a solid to a liquid. |

## Interesting Books



### Important facts to know by the end of the topic on materials:

- Know what a reversible change means.
- Know what an irreversible change means.
- Give examples of reversible and irreversible changes.
- 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
- Know how ink separates through chromatography.

## Our Science Lessons

**Lesson 1**

- ❑ Materials: Materials can be anything made of matter. They can be living, non-living, man made or natural.
- ❑ **Absorbency:** a material that can absorb/ soak up a liquid. Which material is more absorbent, sponge or cotton wool?

**Lesson 2: separation**

- ❑ Mixtures can be separated out by methods like filtering and evaporating.
- ❑ A mixture is two of more substances that have mixed physically (if not chemically)
- ❑ There are different ways to separate them (Sieve/ Filter paper/ magnets)
- ❑ Certain materials make better filters than others.

**Lesson 3: dissolving & evaporating**

☐Some mixtures cannot be separated with filtering/ sieving.
Some solids can be dissolved in liquids to form a solution (jelly! Salt, sugar, coffee granules.)

**Lesson 4: chromatography**

- ❑ Ink can be separated on coffee filter paper. Black ink is made up of lots of different colours.

**Lesson 5: reversible and irreversible reactions**