Year 5: Properties and Changes of Materials Knowledge Organiser

Key Information

Thermal conductors *– Heat passes easily through some materials. These are called thermal conductors. Metals like copper, aluminium and gold are great thermal conductors.*

Thermal insulators *– Heat does not pass easily through some materials so we can use them to keep things hot or cold instead e.g. flasks, polystyrene.*

Electrical conductors *- Electricity passes easily through some materials. These are good electrical conductors e.g. copper, aluminium.*

Electrical insulators *- Electricity does not pass easily through some materials. These are good electrical insulators e.g. wood, plastic.*

dissolving vs melting *- **Dissolving** requires two materials, this results in a mixture of the two (a solution). **Melting** only involves one substance and this same material can be both a solid and liquid.*

properties of materials *– transparent, opaque, translucent, rigid, flexible, waterproof, absorbent, flammable, inflammable.*

Key Scientists

Marie Curie (1867-1934)

Marie Curie was a physicist and chemist who conducted pioneering research on radioactivity. She is remembered for her discovery of radium and polonium, and her huge contribution to finding treatments for cancer.

John Dalton (1766-1844)

John Dalton was an English chemist, physicist and meteorologist. He was famous for the atomic theory that suggested all matter was comprised of atoms.

Subject Specific Vocabulary

dissolving	Some substances dissolve when you mix them with water. When a substance dissolves, it might look like it has disappeared, but in fact it has just mixed with the water to make a transparent liquid called a solution.
solvent	A liquid that will dissolve something is called a solvent.
solution	When a substance dissolves in water to make a transparent liquid, it is called a solution.
soluble/insoluble	when mixed with water, it disappears (dissolves)/when mixed with water, it doesn't dissolve
particles	very small pieces of something
suspension	A mixture between a liquid and particles of a solid when the particles do not dissolve in the liquid.
sieving	a separating process using a barrier with small to medium-sized holes
filtering	a process for separating an insoluble solid from a liquid e.g. sand from water
evaporation	The process of changing a liquid (water) to a gas (water vapour) using heat.
burning	This is a chemical change in which a substance combines with oxygen to release heat and light.

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