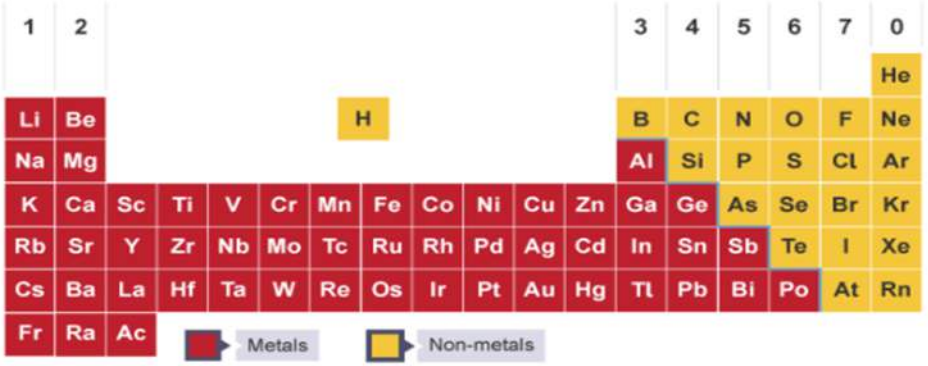
Year 8 The Periodic Table Knowledge Organiser

1. Keywords

Atom	The smallest particle of a chemical element that can exist.
Element	A substance made from only one type of atom.
Compound	A substance made of two or more different types of atom chemically bonded together.
Reactants	The chemicals that react with each other at the start of a chemical reaction.
Products	The chemicals that are formed in a chemical reaction
Conservation of mass	The mass of the reactants equals the mass of the products
Word equation	An equation in which only the names of the reactants and products are used to model a reaction.
Symbol equation	gives more information about a chemical reaction because it includes the symbols and formulae of the substances involved.
Period	Elements in the same row going across the periodic table.
Group	– Elements in the same column going down the periodic table



2. Periodic Table

Invented by	Dmitri **Mendeleev**, a Russian scientist.
How did he arrange the elements?	In order of **atomic mass**, and by their **chemical properties**
What was special about his periodic table?	**Predicted** the existence of **other elements** not discovered, and **left gaps** for them in his table.
Why did scientists use Mendeleev's Periodic Table?	**New elements** were **discovered** that **matched these gaps**.

3. Properties – metals and non-metals

Property	Metals	Non-metals
Density	High (they feel heavy for their size)	Low (they feel light for their size)
Strength	Strong	Weak
Malleable or brittle	Malleable (they bend without breaking)	Brittle (they break or shatter when hammered)
Conduction of heat	Good	Poor (they are insulators)

The periodic table is arranged in rows called periods and columns called groups. Groups contain elements with similar chemical properties.

5. Group 0—Noble Gases

Group 0 elements are not reactive. This is because the atoms have full outer shells.

4. Properties – Groups 1 (Alkali Metals) and 7 (Halogens)

Group 1 (I)	Melting point	Density	Reactivity	Group 7 (VII)	Melting point	Density	Reactivity
Lithium (Li)	**Decreases** down the group	**Increases** down the group	**Increases** down the group	Fluorine (F)	**Increases** down the group	**Increases** down the group	**Decreases** down the group
Sodium (Na)				Chlorine (Cl)			
Potassium (K)				Bromine (Br)			
Rubidium (Rb)				Iodine (I)			