**Year 8 Knowledge Organiser**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The Knowledge**

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|  | **Topic:** | **The Periodic table 1 (C.11)** |
| 1 | Define "period" | Rows in the periodic table |
| 2 | Define "group" | Columns in the periodic table |
| 3 | Which side of the periodic table contains metals? | Left |
| 4 | Which side of the periodic table contains non-metals? | Right |
| 5 | Where are alkali metals found in the periodic table? | Group 1 |
| 6 | Where are halogens found in the periodic table? | Group 7 |
| 7 | Give 4 properties of metals | \*High melting point \*Good thermal and electrical conductors \*Ductile \*Malleable |
| 8 | Give 4 properties of non-metals | \*Low melting point \*Poor thermal and electrical conductors \*Brittle |
| 9 | Define "alloy" (extension only) | Mixture of two elements, one is a metal |
| 10 | Why are alloys hard? (extension only) | Atoms are different sizes so can't slide over each other |
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|  | **Topic:** | **The Periodic table 2 (history) (C.12)** |
| 1 | What is the name for the smaller number given for each element? | Atomic number |
| 2 | What is the name for the bigger number given for each element? | Mass number |
| 3 | How do you calculate the number of protons for an element? | Use the atomic number |
| 4 | How do you calculate the number of electrons for an element? | Use the atomic number |
| 5 | How do you calculate the number of neutrons for an element? | Mass number - atomic number |
| 6 | How are elements arranged in the periodic table? | In order of atomic number (lowest to highest) |
| 7 | The column (group) in the periodic table tells us the … | Number of electrons in the outer shell |
| 8 | What is the name of the elements found in the middle of the periodic table that are not part of a group? | Transition metals |
| 9 | Why did Mendeleev do when creating the modern periodic table? (extension only) | Left gaps to make the pattern fit |
| 10 | How do you calculate the relative formula mass of a compound? (extension only) | Add up the mass numbers |
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|  | **Topic:** | **The periodic table 3 (groups) (C.13)** |
| 1 | Name 6 alkali metals in order of reactivity (low to high) | Lithium, sodium, potassium, rubidium, caesium, francium |
| 2 |  | Shiny |
| 3 | What is formed when alkali metals (group 1) react with water? | Alkaline metal hydroxide |
| 4 | What happens to reactivity as you move down the alkali metals (group 1)? | Increases |
| 5 | Name the 5 halogens (group 7) in order of reactivity (low to high) | Astatine, Iodine, Bromine, Chlorine, Fluorine |
| 6 | State 3 properties of the halogens (group 7) | Non-metal, highly reactive, diatomic |
| 7 | What happens to reactivity as you move down the halogens (group 7)? | Decreases |
| 8 | Name three noble gases (group 0) (extension only) | Helium, neon, argon |
| 9 | State 3 properties of the noble gases (group 0) (extension only) | Non-metal, inert, gases |
| 10 | What happens to density as you move down the noble gases (group 0)? (extension only) | Increases |
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|  | **Topic:** | **Materials (extension only) (C.14)** |
| 1 | How are ceramics made? | Shaping wet clay and heating in furnace |
| 2 | State two properties of ceramics | Hard and tough |
| 3 | Why do we glaze ceramics? | To make them waterproof |
| 4 | What is a polymer? | A very large molecule made from smaller molecules called monomers |
| 5 | Give an example of a polymer | Plastic |
| 6 | Give two properties of polymers | Insulators, unreactive |
| 7 | Define "composite" | A material made form two or more different types of material |
| 8 | Give two examples of composites | MDF and fibreglass |
| 9 | What is MDF made from? | Wood fibres and glue |
| 10 | Why do we use composites? | We can combine materials with useful properties |
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|  | **Topic:** | **Reaction properties (C.15)** |
| 1 | Recall the six signs of a chemical reaction | 1) Odour, 2) colour change, 3) precipitate formed, 4) temperature change, 5) gas produced, 6) light emitted |
| 2 | Define "exothermic" | A reaction which gives out energy |
| 3 | Define "endothermic" | A reaction which takes in energy |
| 4 | Describe the test for oxygen gas | Relights a glowing splint |
| 5 | Describe the test for hydrogen gas | A lit splint causes a squeaky pop |
| 6 | Describe the test for carbon dioxide gas | Turns limewater cloudy |
| 7 | If a salt contains two elements only, what ending is given to the name? (extension only) | "-ide" |
| 8 | If a salt contains more than two elements (including oxygen!), what ending is given to the name? (extension only) | "-ate" |
| 9 | What is the formula for copper sulphate? | CuSO4 |
| 10 | What is the formula for calcium carbonate? | CaCO3 |