**Chemistry Revision: Groups in the**

Mastery Matrix Points

|  |
| --- |
| Describe the key properties (state, easy to cut, appearance) of group 1 |
| Describe and explain how the reactivity changes as you move down group 1 (oxygen, chlorine, water) |
| Describe the key properties (molecular mass, boiling and melting point) of group 7 |
| Describe and explain how the reactivity changes as you move down group 7 |
| Describe the key properties (boiling point) of group 0 |
| Describe and explain how the reactivity changes as you move down group 0 |

Key Knowledge

Group 1 is called the

The properties of group 1 are

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As you go down group 1, the reactivity ………………………..

Group 1 elements all have \_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ in their outer shell.

Group 7 is called the

Properties of group 7

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As you go down group 7, the reactivity ………………………..

Group 7 elements all have \_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ in their outer shell.

As you go down group 7, the melting point and boiling point……………………….

Group 0 is called the

Properties of group 0

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As you go down group 0 the boiling points ………………………..

Group 0 elements all have \_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ in their outer shell, apart from helium which has \_\_\_\_\_.

**Periodic Table**

Understanding and Explaining

1. Describe the reactions below.

|  |  |  |
| --- | --- | --- |
| **Reactants** | **Product made (name and formula)** | **Observations during the reaction** |
| Lithium + water |  |  |
| Sodium + water |  |  |
| Potassium + water |  |  |
| Lithium + chlorine |  |  |
| Sodium + chlorine |  |  |
| Potassium + chlorine |  |  |
| Lithium + oxygen |  |  |
| Sodium + oxygen |  |  |
| Potassium + oxygen |  |  |

1. Describe and explain how the reactivity of group 1 changes as you go down the group.
2. Explain why group 7 elements have similar reactions when reacting with metals and non-metals.
3. Describe the reactions below.

|  |  |  |
| --- | --- | --- |
| **Reactants** | **Product made (name and formula)** | **Is the product a covalent molecule or ionic lattice?** |
| sodium + chlorine |  |  |
| hydrogen + chlorine |  |  |
| copper + bromine |  |  |
| Sulfur + bromine |  |  |
| lithium + iodine |  |  |
| phosphorus + iodine |  |  |

1. Explain why group 0 elements are unreactive.
2. Explain why the boiling point of group 0 increases as you go down the group.
3. Explain why the reactivity of halogens decreases as you go down the group.
4. Describe what happens in a halogen displacement reaction, such as chlorine + sodium bromide 🡪 sodium chloride + bromine.