

C2 Topic 4 Revision tracker

CHEMISTRY

| Learning objectives I can: | I can do this very well | I can do this quite well | I need to do more work on this |
|---|-------------------------|--------------------------|--------------------------------|
| 4.5 Demonstrate an understanding that elements and compounds can be classified as: | | | |
| a ionic | | | |
| b simple molecular covalent | | | |
| c giant molecular covalent | | | |
| d metallic; and that each type of substance has different physical properties, including relative melting point and boiling point, relative solubility in water and ability to conduct electricity (as solids and in solution) | | | |
| HSW 3 Describe how phenomena are explained using scientific models | | | |
| 4.1 Classify elements as ... transition metals based on their position in the periodic table | | | |
| 4.2 Describe the structure of metals as a regular arrangement of positive ions surrounded by a sea of delocalised electrons | | | |
| 4.3 Describe and explain the properties of metals, limited to malleability and the ability to conduct electricity | | | |
| 4.4 Recall that most metals are transition metals and that their typical properties include: | | | |
| a high melting point | | | |
| b the formation of coloured compounds | | | |
| HSW 13 Explain how and why decisions about uses of science and technology are made | | | |
| 4.1 Classify elements as alkali metals (group 1) ... based on their position in the periodic table | | | |
| 4.6 Describe alkalia metal as: | | | |
| a soft metals | | | |
| b metals with comparatively low melting points | | | |
| 4.7 Describe the reactions of lithium, sodium and potassium with water to form hydroxides which are alkaline, and hydrogen gas | | | |
| 4.8 Describe the pattern in reactivity of the alkali metals lithium, sodium, and potassium with water and use this pattern to predict the reactivity of other alkali metals H and explain the pattern | | | |
| HSW 2 Describe how data is used by scientists to provide evidence that increases our scientific understanding | | | |
| 4.1 Classify elements as ... halogens (group 7)... based on their position in the periodic table | | | |
| 4.9 Recall the colours and physical states of the halogens at room temperature | | | |
| 4.10 Describe the reactions of halogens with metals to form metal halides | | | |
| HSW 13 Explain how and why decisions that raise ethical issues about uses of science and technology are made | | | |
| 4.12 Investigate displacement reactions of halogens reacting with halide ions in solution | | | |
| 4.11 Recall that halogens react with hydrogen to produce hydrogen halides, which dissolve in water to form acidic solutions | | | |
| 4.13 Describe the relative reactivity of the halogens as shown by their displacement reactions with halide ions in aqueous solution | | | |
| HSW 7 Work safely, individually and with others, when collecting first-hand data | | | |
| 4.1 Classify elements as ... noble gases (group 0) ... based on their position in the periodic table | | | |
| 4.14 Describe the noble gases as chemically inert, compared with the other elements and demonstrate an understanding that | | | |

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| this lack of reactivity can be explained by the electronic arrangements in their atoms | | | |
| 4.15 Demonstrate an understanding that the discovery of the noble gases was due to chemists: a noticing that the density of nitrogen made in a reaction differed from that of nitrogen obtained from air | | | |
| b developing a hypothesis about the composition of the air | | | |
| c performing experiments to test this hypothesis and show the presence of the noble gases | | | |
| 4.16 Relate the uses of the noble gases to their properties, including: a inertness | | | |
| b low density | | | |
| c non-flammability | | | |
| 4.17 Use the pattern in a physical property of the noble gases, such as boiling point or density, to estimate an unknown value for another member of the group | | | |