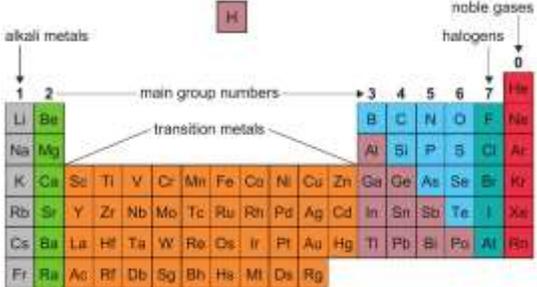
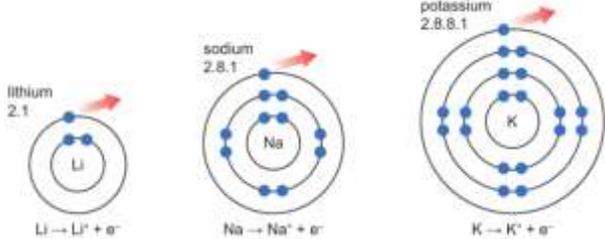


Groups in the periodic table: Autumn Term

Section A: Vocabulary		Section B:	Section C:
alkali metals	A group of very reactive metals found in group 1 of the periodic table.	<p>Group 1 (alkali metals) all react with oxygen and water. The most reactive react violently. Example word and balanced equations: Sodium + oxygen → sodium oxide $4\text{Na}(s) + \text{O}_2(g) \rightarrow 2\text{Na}_2\text{O}(s)$ Lithium + water → lithium hydroxide + hydrogen $2\text{Li}(s) + 2\text{H}_2\text{O}(l) \rightarrow 2\text{LiOH}(aq) + \text{H}_2(g)$</p> <p>Going down group 1, the reactivity increases. Each atom has one electron in its outer shell which it wants to lose. Each period down increases the atom size by adding another electron shell, this reduces the force of attraction between the positive nucleus and negative outer electron.</p> <p>Group 7 (Halogens) all form diatomic covalently bonded molecules, share chemical properties and show a trend in physical properties. Melting point, boiling points and densities all increase going down the group. The reactivity of the halogens increases going up the group. Halogens react with group 1 and group 2 metals to form salts. Chlorine + magnesium → magnesium chloride $\text{Cl}_2(g) + \text{Mg}(s) \rightarrow \text{MgCl}_2(s)$ Fluorine + sodium → sodium fluoride $\text{F}_2(g) + 2\text{Na}(s) \rightarrow 2\text{NaF}(s)$</p>	  
bleach	To take the colour out of something.		
diatomic	Two atoms chemically bonded.		
disinfectant	Something that destroys or neutralises disease-carrying microorganisms.		
displacement reaction	When a more reactive element displaces a less reactive element from one of its compounds.		
group	A vertical column in the periodic table. Elements in the same group generally have similar properties.		
halide	A compound formed between a halogen and another element such as a metal or hydrogen.		
halogen	An element in group 7 of the periodic table.		

Inert	Does not react.	All halogens can be used as disinfectants and bleaches. The halogens react with hydrogen which, when dissolved in water, form acidic solution.
noble gas	An unreactive gas in group 0 of the periodic table.	Chlorine gas can be identified by using damp blue litmus paper which will turn pink then bleach to white.
oxidation	A reaction in which oxygen is added to a substance loss of electrons by an atom or negative ion.	Halogen displacement Halogens take part in displacement reactions where a more reactive halogen takes the place of a less reactive one in an ionic compound.
oxidised	When a substance has gained oxygen (or lost electrons) in a reaction.	Fluorine + sodium iodide → sodium fluoride + iodine $F_2(aq) + 2NaI(aq) \rightarrow 2NaF(aq) + I_2(aq)$
periodic table	The chart in which the elements are arranged by increasing atomic number	Group 0 (Noble gases) The noble gases are colourless, have very low boiling points and are poor conducts of heat and electricity. They all have a stable electron configuration as they have full outer shells (He: 2, Ne: 2.8, Ar: 2.8.8).
reactivity	A description of how quickly or vigorously something reacts.	This makes them inert and explain why they are monatomic.
redox	A reaction in which both oxidation and reduction occur.	There are trends in the physical properties going down the group; increase in melting points, boiling points, and density.
reduced	When a substance has lost oxygen (or gained electrons) in a reaction.	Uses of halogens
reduction	A reaction in which oxygen is removed from a substance; gain of electrons by an atom or positive ion.	<ul style="list-style-type: none"> - Helium in balloons for its low density - Neon in signs as it emits colour when electricity passes through the gas - Argon in light bulbs for its inertness and wine barrels to stop oxygen getting in. - Krypton in photography which produces white light.

