The Periodic Table
Lesson 14 - Review 2

Science

Chemistry - Key Stage 3

Miss Willett

Summary table:

	Group 1	Group 7	Group 0
Other name:			
Electrons on outer shell:			
Physical properties:			
Chemical properties:			

What have you learnt already?

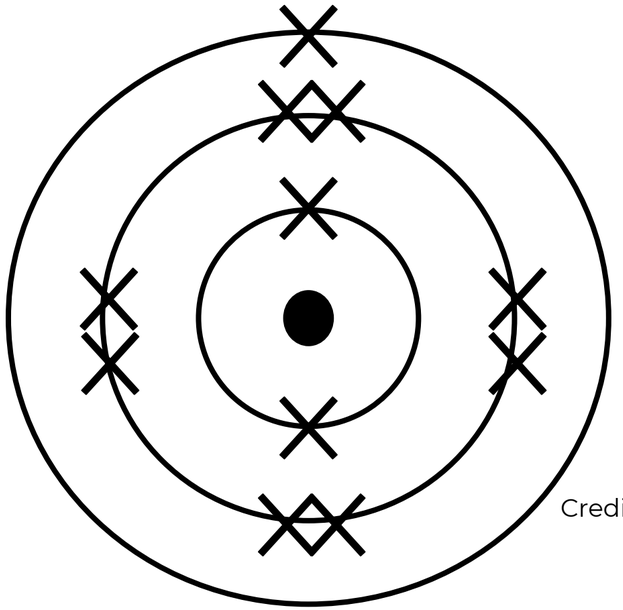
1. What is the staircase line?

2. What does group number tell you about an atom?

3. What does it tell you about a compound if its name ends in ‘-ate’?

Group 1 - key facts!

- Called the alkali metals
- Have 1 electron on the outer shell
- Very reactive!
- Reacts with oxygen to form metal oxides
- Reacts with water to form metal hydroxides
- Soft metals; can be easily cut
- Low density metals



Credit: Miss Willet

Group 1

True or false?

Elements in group 1 have 1 electron on their inner shell

When potassium reacts with water, it explodes with a blue flame

Group 1 metals react quickly with oxygen, and so tarnish quickly

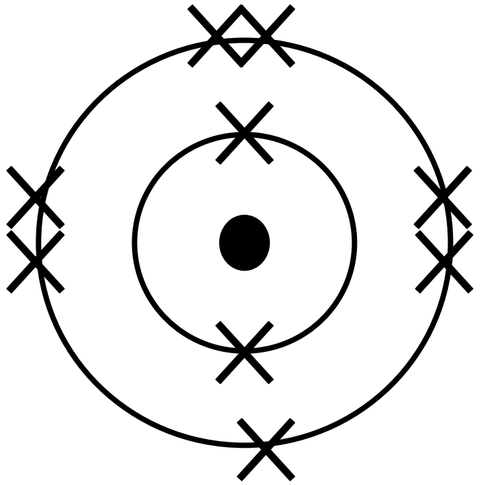
Group 1 equations

SLOP - Shed Loads of Practice!!

1. Lithium + water → _____ _____ + _____
2. Caesium + oxygen → _____ _____
3. Potassium + _____ → _____ _____ + hydrogen
4. _____ + _____ → sodium oxide
5. Lithium + _____ → _____ oxide
6. _____ + water → lithium _____ + _____
7. _____ + oxygen → potassium _____
8. _____ + _____ → sodium _____ + _____
9. Caesium + water → _____ _____ + _____

Group 7 - key facts!

- Called the halogens
- 7 electrons on their outer shell
- Non-metals
- Reactivity decreases down the group
- Form diatomic elements
- Colourful! Fluorine - yellow, chlorine - green, bromine - red/brown, iodine - grey
- Undergo DISPLACEMENT reactions



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Group 7

What’s the missing word?!

Chlorine is a _____ gas

_____ is the most reactive halogen

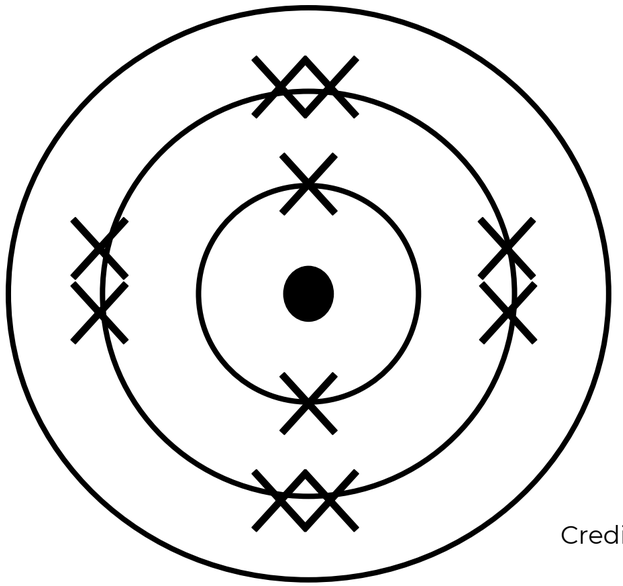
Have __ electrons on their outer shell

Group 7 equations SLOP - Shed Loads of Practice!!

1. Lithium + chlorine → _____ _____
2. Caesium + iodine → _____ _____
3. Potassium bromide + _____ → potassium _____ + bromine
4. _____ + _____ → sodium iodide
5. Lithium chloride + iodine → _____
6. _____ + fluorine → caesium _____
7. Sodium _____+ chlorine → _____ _____ + bromine
8. Caesium + _____ → _____ chloride
9. L_____ fluoride + bromine → _____

Group 0 - key facts!

- Called the noble gases
- Atoms have a full outer shell
- Unreactive
- Very low boiling points (so gases at room temperature)
- Low density (and density increases down the group)
- Uses: helium - balloons, neon - glowing lights, argon - light bulbs, krypton - lasers



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Group 0

Quick fire round!

How many electrons are on the outer shell of helium?

What state of matter are all Group 0 elements in?

How does density change down the group?

Group 0 uses

Who am I?!

I am suited to my use, because if electricity is passed through me, I glow

I am suited to my use, because I have a much lower density than air!

I am suited to my use, because I am denser than air - this means I stop oxygen getting to hot metals!

Group 0 uses SLOP - Shed Loads of Practice!

- _____ is used for balloons
- _____ is used for welding
- If you pass electrical current through it, _____ will glow
- _____ is used because it is lowest density
- _____ creates a red laser colour
- _____ coats metals, so oxygen can’t react
- _____ can be used to correct vision
- There is lots of _____ in Las Vegas!