

The Periodic Table

Lesson 9 - Review 1

Science

Chemistry - Key Stage 3

Miss Willett





What have you learnt already?

1. What is an element?
2. How many electrons fit on the first shell of an atom?
3. What does the mass number tell you about an atom?



What makes a good flash card?

What's the problem?!

Example 1:

Example 2:

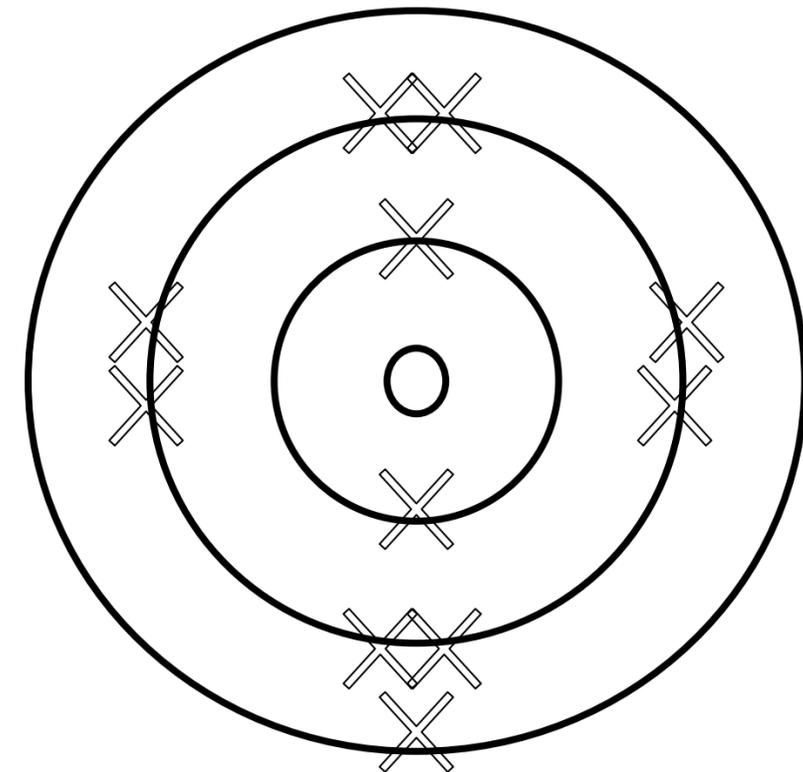
Example 3:



Elements key facts

Atoms

- Elements are made of one type of atom
- Atoms are the smallest piece of substance that exists
- Atoms contain protons, neutrons, and electrons
- Protons: +1, mass 1, nucleus
- Neutrons: 0, mass 1, nucleus
- Electrons: -1, mass 1/2000, shells
- First electron shell = 2 e⁻
- Second and third electron shells = 8 e⁻

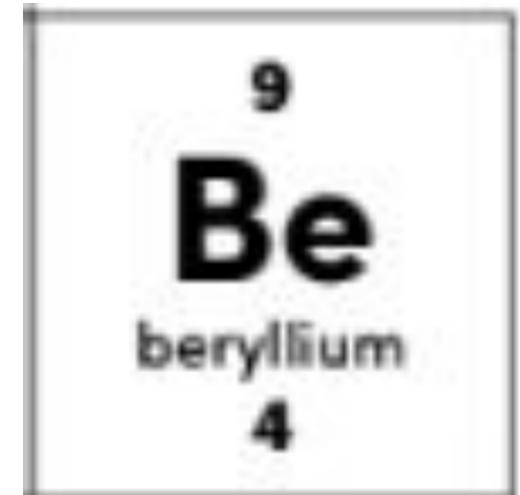


Credit: Miss Willett



Elements key facts The periodic table

- Elements are in groups (columns) of similar properties
- The staircase line separates metals and non-metals
- Metals on the left, non-metals on the right
- Elements are represented by symbols
- First letter: capital, second letter: lower case
- The modern periodic table was devised by Mendeleev
- Mass number = number of protons and neutrons
- Atomic number = number of protons (same as electrons)



Source: Oak



Elements!

True or false?

Electrons have a negative charge and are found on shells

The modern periodic table was designed by Newlands

Atoms have the same number of protons and electrons
(the mass number)



Revision 1: Elements

Make at least 3 flashcards to summarise your learning about ELEMENTS

Some ideas about what you could include:

- What are elements?
- What are the charge and location of the three subatomic particles?
- What is the periodic table? How is it organised?
- Who developed the periodic table?
- How are elements represented?



What makes a good mind map?

Put the stages in order:

A: Write a sentence along the line to show how they're linked

B: Add definitions of the words, where needed

C: Write keywords for the topic, scattered about

D: Draw lines between linked words

E: Choose a topic area

ANSWER:

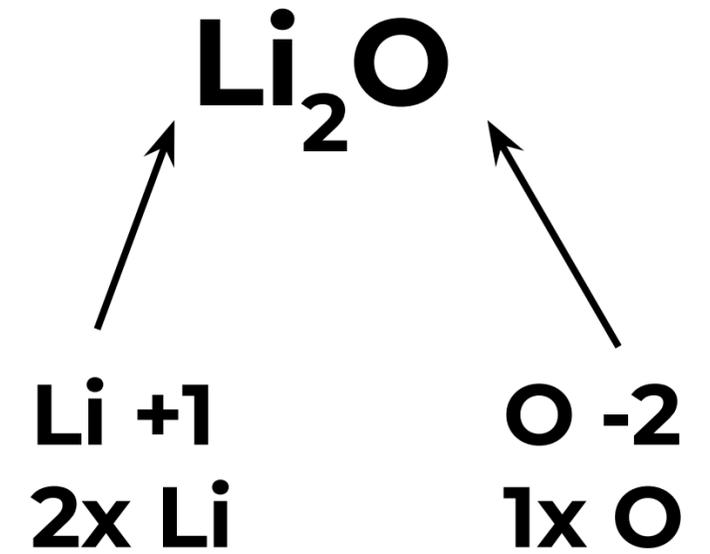
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Compounds key points

What are they?

- Compounds are made from more than one type of atom, chemically bonded
- Compounds have different properties to their elements
- Compound names and formulae are based on their elements
- The subscript number tells you how many atoms of an element is present
- Compounds are neutral, so you need to check charges!
- A metal reacting with oxygen forms a metal oxide



Compounds key points

Conservation of mass

- Atoms rearranged during chemical and physical changes
- No atoms lost or gained
- Mass before = mass after
- Chemical reactions make new products; not reversible
- Physical changes are easily reversible; no new products
- If gas escapes, mass appears to decrease
- If gas in air reacts, mass appears to increase



Compounds!

Quick fire questions!

How many atoms of oxygen are in Al_2O_3 ?

What is formed when you react a metal with oxygen?

When they form compounds, what charge are elements in group 1?



Revision 2: Compounds

Create a mind-map to include the following:

Central word : COMPOUNDS

Keywords to scatter: COMPOUNDS

- Properties
 - Names
 - Charges
 - Formulae
 - Conservation of mass
 - Chemical reactions
- You will have to reference elements here too!



Bringing it all together..

Reflect on the tasks you completed today

Technique →	Flashcards	Mind-maps
What I liked about it:		
What I didn't like about it:		
How could I adapt it?		

