

Lesson 4 - Classifications

Learning Intentions

By the end of this lesson I will be able to:

- ★ Explain how the elements are organised in the periodic table.
- ★ Name three groups of the periodic table and describe their reactivity.

Classification of Elements

Although the periodic table may seem confusing and organised at random when we first look at it, The Periodic Table of Elements is not just a random jumble of letters and numbers at all. It has a very definite order and structure that is related to the properties of the elements within it.

The **physical properties** of an element or substance are related to what it looks like. For example we might say "Bromine is a brown liquid." Or "Aluminium is a shiny grey solid."

The **chemical properties** of a substance are related to how the substance behaves during reactions. For example, we could say "it burns with a squeaky pop" or "it burns bright white".

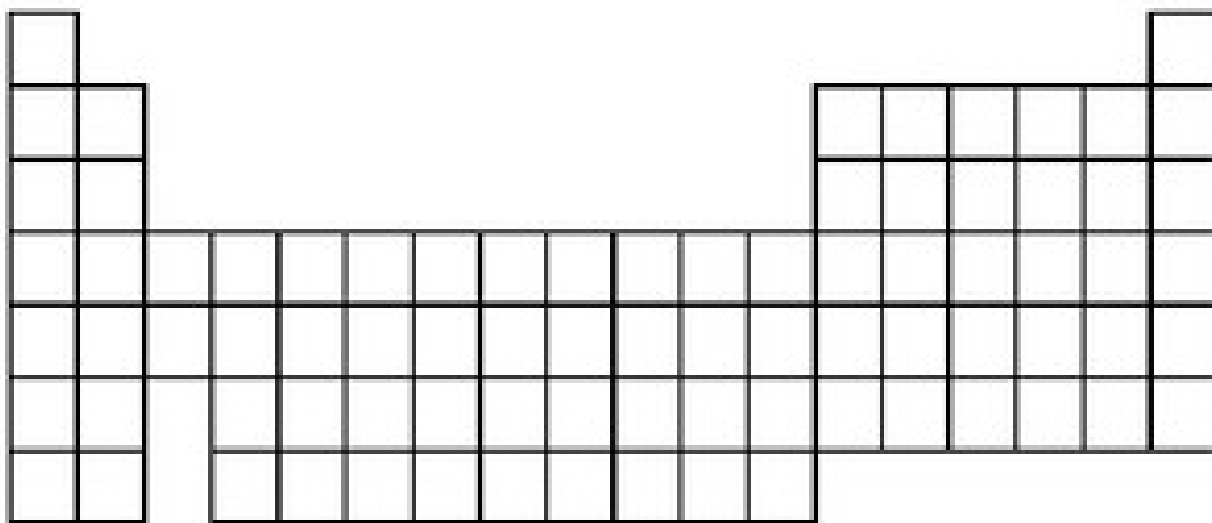
The periodic table is arranged in two basic ways, **groups** which run vertically (up and down the way) and periods which run horizontally (across the way).

Groups of the Periodic Table

The Periodic Table was first put together by Dimitri Mendeleev. He noticed that some elements looked alike and behaved in the same way, much like we may do with our family. For this reason he thought they may belong to the same 'family' - or group - of elements.

The groups of the periodic table run vertically.

Colour in the groups of the periodic table to show each of the groups 1-8.



Group 1	Group 3	Group 5	Group 7
Group 2	Group 4	Group 6	Group 8

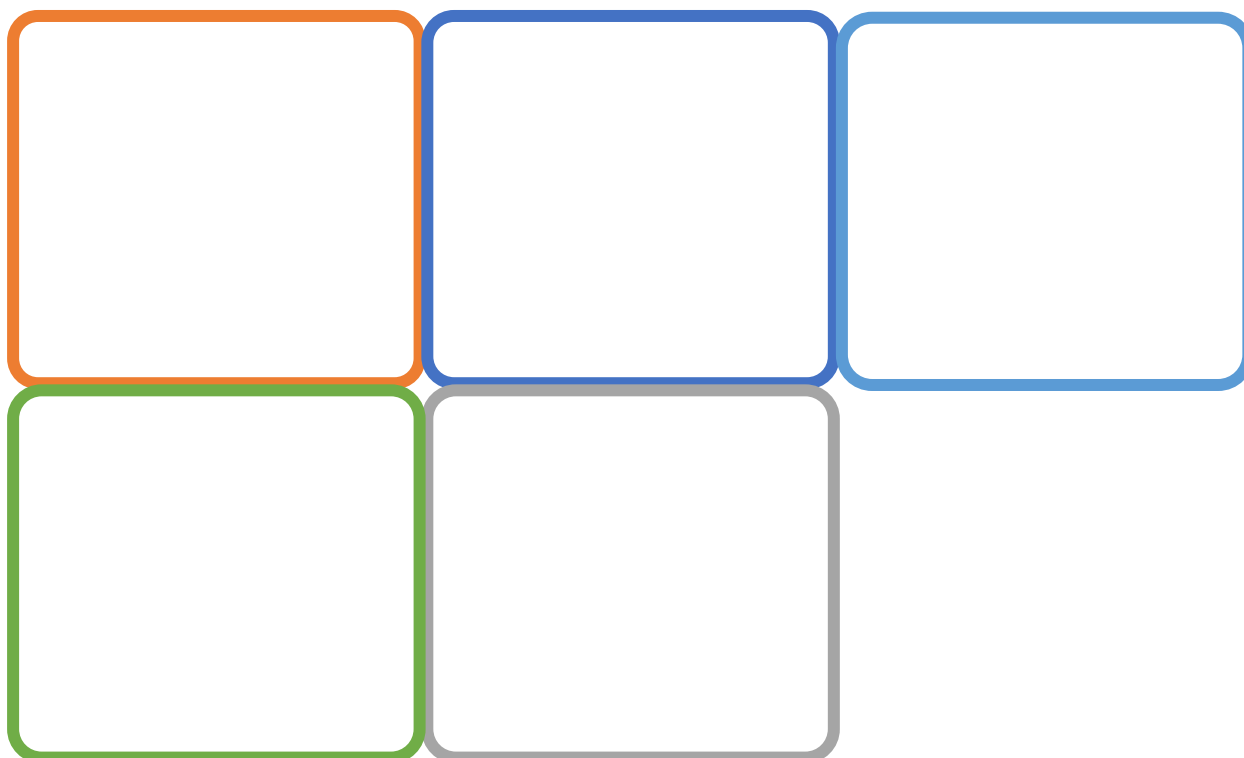
Reactions of Group 1

Group 1 of the periodic table is also called the _____.

Watch the two videos in the slides.

Activity 3.1

Complete that cartoon strip below to show how the elements of the alkali metals reacted.



Reactions of Group 7

Group 7 of the periodic table is also known as the _____.

Activity 3.2

Watch the video about the halogens.

Pay close attention and take note of three facts that you have learned.

1. _____

2. _____

3. _____

Group 8

Group 8 of the periodic table is also known as the _____
_____ you may also see these referred to as _____.

Activity 3.3

Below you will see a list of 9 questions.

You are going to watch a video about the Noble Gases - your teacher will instruct you as to which questions you have to answer.

1. Which side of the periodic table are the Noble Gases Found?

2. What type of other elements do the Noble Gases react with?

3. Comment on the valence electron shell.
4. Give two facts about Helium.
5. Give a use for helium
6. Give a use for Neon.
7. Comment of the flammability of the noble gases.
8. What does krypton mean?
9. State a fact about xenon and radon.
10. Which noble gas has not been mentioned in these questions?

Was I successful?	Red	Yellow	Green
I can explain how the elements are organised in the Periodic Table.			
I can name 3 groups of the periodic table and describe their reactivity.			