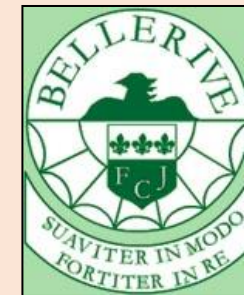


Lesson 1 –

Key points to learn:

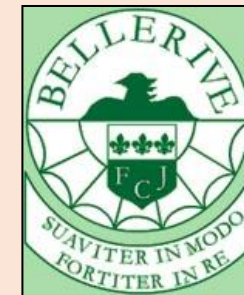
- Metals are conductors of heat and electricity.
- Metals have high melting and boiling points.
- Metals are ductile and malleable.
- Metals make alloys when mixed with other metals.



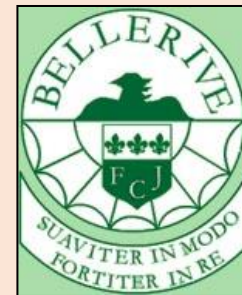
Lesson 2 –

Key points to learn:

- Non-metals are poor conductors of heat and electricity (insulators).
- Non-metals have low melting and boiling points.
- Most non-metal structures are held together by weak forces, meaning they are not strong and are brittle.



Lesson 3 –



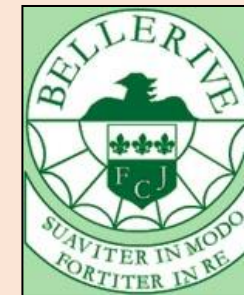
Key points to learn:

- Reacting a metal with an acid produces a salt and hydrogen.
- More reactive metals react with acids more violently.
- Metals below hydrogen in the reactivity series do not react with acids.
- If a lit splint is held to the test tube and a 'squeaky pop' sound is heard, it shows that hydrogen has been made.

Lesson 4 –

Key points to learn:

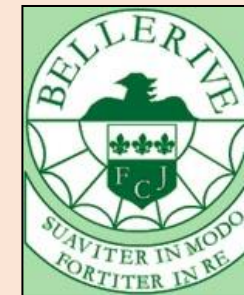
- Reacting a metal with water produces a metal hydroxide and hydrogen.
- Group 1 metals react in similar ways when in water.
- Group 1 metals get more reactive as you go down the group.



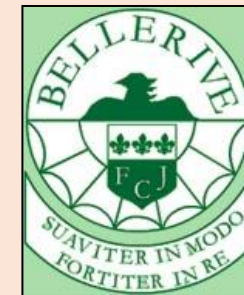
Lesson 5 –

Key points to learn:

- Water and oxygen are required for iron to rust.
- In rusting, iron reacts with oxygen to make iron oxide.
- Rusting can be prevented by painting or greasing iron as well as covering it in plastic or coating it in a layer of a more reactive metal.



Lesson 6 –



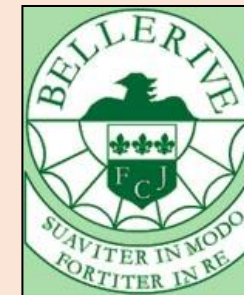
Key points to learn:

- Metals react with oxygen to make metal oxides.
- How quickly a metal reacts with oxygen depends on how reactive it is.
- Some unreactive metals (like gold) do not react with oxygen at all.

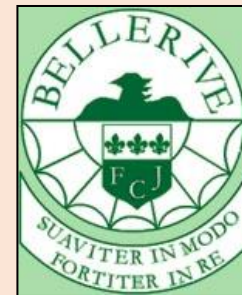
Lesson 7 & 8 –

Key points to learn:

- Metal oxides are alkaline.
- Metal oxides can be reacted with acids to make a salt and water.
- This is a neutralisation reaction.



Lesson 9 –



Key points to learn:

- The reactivity series lists metals in order of their reactivity towards other substances.
- The higher a metal is in the reactivity series, the more quickly or violently it reacts.
- Metals are usually mined as ores – rocks containing different metals and metal compounds.
- Some metals can be extracted from their ores by carbon. Only the metals below carbon in the reactivity series can be extracted this way.
- Metals that are more reactive than carbon have to be extracted by electrolysis.

Lesson 10 –

Key points to learn:

- A more reactive metal will displace a less reactive metal from its compound.
- Displacement reactions are used to investigate the reactivity of metals.

