

PROJECT#1: S3/ ORAL PRESENTATIONS: CHEMISTRY OF EVERYTHING

- ⇒ For your S3 oral assessment, as if you were taking part in *Fame Lab*, you will be required to give a ten-minute talk (maximum) to the class, in pairs:
 - ✓ you will prepare **a presentation of an infographic poster or short animation about chemistry that you will produce (about a product, a historical event or figure)**
- ⇒ you will find **help** on www.visme.com or www.canvas.com and **inspiration** there: <https://jameskennedyonash.wordpress.com/category/infographics/chemistry-of-everything/>
 - + You will find at the back of this page a **timeline** entitled *Chemistry Through the Ages* (from *What's Chemistry all About?* By Alex Frith & Dr Lisa Jane Gillespie, ed Usborne)



Your presentation should take the following form:

- ✓ A **general introduction** to the topic, why you chose to talk about this specific product/event/historical figure.
- ✓ A **detailed and entertaining** (think of *Fame Lab*!) **description of the poster** and/or animation you have created
- ✓ A **conclusion** that may include your point of view on other possible applications/ future use, etc
- ✓ A few **questions** on the topic to your classmates to trigger up a discussion

Reminder:

- ✓ You will hand in to your teacher an **A4 printed version of your poster + short biblio/webography**
- ✓ **BOTH speakers** must be equally **involved** in the presentation.
- ✓ Remember that you have been working on the subject and that your classmates have not, make yourself as **CLEAR** as possible (write keywords on the board, etc)
- ✓ Your presentation should last **10 minutes maximum** (questions included).

You will be assessed on:

- 1/ your method (plan, summary of the document, i.e. NO paraphrase)
- 2/ your general expression (vocabulary, grammar, syntax, pronunciation)
- 3/ how you interact with the group (dynamism, clarity, questions to the group)
- 4/ as a class member, you will ALSO be assessed on how you get involved in the follow-up discussion.

DATE OF YOUR ORAL PRESENTATION: _____

Chemistry through the ages

People have been studying substances for thousands of years. In about 750. Arab scholars named this work *al quemia*, meaning 'the chemistry'. This term was translated into English as 'alchemy'. This early science gradually evolved into what we know today as 'chemistry'...



about 800,000 years ago

Early people work out how to create fire. They experiment with it to use for heat, light and cooking.



about 5,300 years ago

Ancient Egyptians and Sumerians discover that a reaction inside a mixture of grain and water makes beer.



about 5,000 years ago

Metal workers in the Middle East melt copper and tin. Mixing them together, they create the alloy bronze, which is strong and good for making cooking pots.



about 750 - 1400

Great Persian scholars such as Jabir, Al-Razi and Nasir Al-Tusi study *al quemia*. They develop strict scientific methods and equipment, and discover many acids and metals.

about 1430 - 1530

European 'alchemists' borrow the work of the Arab experimenters and do their own experiments. They try to turn lead into gold, and brew potions they hope will grant them eternal life.

Their goals are closer to magic than science, but they make some important discoveries. Swiss alchemist Paracelsus creates some effective new medicines.



1770s

Antoine Lavoisier proves that matter can't be created or destroyed - it can only be changed from one form to another. This is now called the 'Law of Conservation of Mass'.



1661

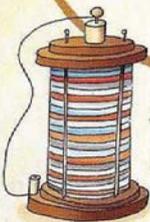
Robert Boyle publishes his book *The Sceptical Chymist*. He complains that alchemists don't conduct their experiments properly.

He also puts forward the theory that substances are composed of millions of tiny parts.



1800

Alessandro Volta experiments with metals and salts, and constructs his 'Voltaic pile' - the first battery.



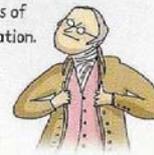
1810s

Humphry Davy discovers and names new elements such as sodium, potassium, calcium, magnesium and chlorine.



1800s-30s

John Dalton develops an accurate theory of atoms from his studies of gases and evaporation.



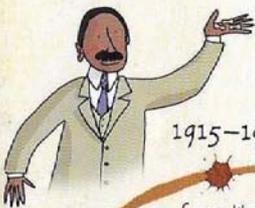
1848

Lord Kelvin gives his name to a new temperature scale. 0 Kelvin, or 'absolute zero', is a temperature so cold that it would make atoms stop moving.



1915-1923

George Washington Carver helps American farmers to grow healthy, cheap crops by replacing soil nutrients with fertilizers. He also finds hundreds of uses for compounds he extracts from peanuts.



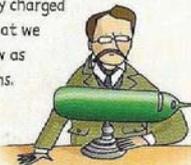
1898

Marie and Pierre Curie isolate two new radioactive elements, radium and polonium, from coal dust.



1897

J. J. Thompson studies beams of light called cathode rays. He finds tiny, negatively charged particles that we now know as electrons.



1869

Dmitri Mendeleev arranges all known elements into a Periodic Table. He deliberately leaves room for undiscovered elements to fit into the grid.

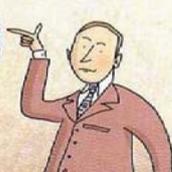
1918

Ernest Rutherford finds the proton...



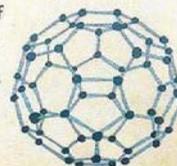
1932

...and James Chadwick finds the neutron.



1985

Buckminsterfullerenes are discovered. This begins a new branch of science, called nanotechnology, as scientists investigate how these 'bucky balls' can be used to make super-tiny machines.



2001

A new anti-cancer drug called Glivec® is developed by teams of chemists. Many other new life-saving drugs are being researched every day.

