**Chemistry Pre Post 16 Task**

Chemistry has many areas and topics but the most fundamental thing common to all are the Elements themselves. While some have been known for thousands of years e.g. Gold, Silver, Copper others have been discovered in the last twenty years.

Some of the most interesting aspects of these elements are the stories behind their discovery. From the distillation of urine in the hope of finding Gold but actually resulting in the discovery of Phosphorous, to the incredibly accurate weighing of the air which ultimately lead to the discovery of the Noble gases and then the separation of each from the other, to the man-made manufacture of the trans uranic elements. The science and questioning which has resulted in today’s full periodic table is a very complex story.

The tasks are to:

1. Research the discovery of three different elements found between 1700 and 1920 and write a short report outlining how they were isolated and identified.
2. Research the work of Glen Seaborg and Yuri Oganessian the two Chemists who collectively discovered more new elements than anyone else (and the only Chemists who were living at the time elements were named after them), Briefly describe how they made the elements beyond Plutonium (which are attributable to whom) and how such unstable elements are identified.
3. Largely ignored in A level and degree course are the Lanthanides these elements are not as rare as the other name of rare earth elements suggests but are hugely important in modern society. Research and write a report out lining the history, extraction, separation and uses of these elements.

There are several ways to start each piece of research but the best is to google search for key ideas raised from one article to the next and then put all the information gathered together in the three sections of your report

Here are some useful web sites to help you get started:

1)

The first place to start would be the RSC (Royal Society of Chemistry, not the Shakespeare lot!) web site and their interactive Periodic table (down load the app to your phone) and associated articles on their site.

https://www.rsc.org/periodic-table

Click on an element to expand and find more of the history

https://www.rsc.org/iypt/iypt-elements/?utm\_source=rsc-periodic-table-site&utm\_medium=referral&utm\_content=iypt-banner

2)

<https://hias.tamu.edu/fellow/dr-yuri-oganessian/>

<https://www.famousscientists.org/glenn-seaborg/>

3)

https://chem.libretexts.org/Bookshelves/Inorganic\_Chemistry/Modules\_and\_Websites\_(Inorganic\_Chemistry)/Descriptive\_Chemistry/Elements\_Organized\_by\_Block/4\_f-Block\_Elements/The\_Lanthanides/aLanthanides%3A\_Properties\_and\_Reactions