KS5 Homework focus: Unit 1 Chemistry
Week 2 - Electronic Structure.

Try your best to answer the RAG'ed questions below.

Watch and make notes on:
https://www.youtube.com/watch?v=2AFPfg0Como

Without using your notes write out all the key concepts you have learned this week on electronic configuration.

Give it a go

A structure viewed under a light microscope with a magnification of ×400 is measured using a scale in the eyepiece. Each division in the scale is equal to 0.06 mm. The structure measures 7 divisions.

Calculate the real length of the structure.

Try your best to answer the RAG'ed questions below.

Watch and make notes on:
YouTube - Tyler Dewitt – Ionic, covalent and metallic bonding

Describe, using correct scientific vocabulary, the differences between ionic, covalent and metallic bonding.

Give two examples of elements, compounds or molecules with each type of bond.

Try your best to answer the RAG'ed questions below.

YouTube - Tyler Dewitt Intermolecular forces

Draw a table showing the different types of intermolecular forces

Using models, describe the difference between London, Dipole-Dipole and Hydrogen bond forces.

Pentane (C_5H_{12}) boils at 309 K and ethane (C2H6) boils at 185 K. This means that pentane is a liquid at room temperature (293 K) and ethane is a gas. Explain why pentane is a liquid at room temperature but ethane is a gas.

Try your best to answer the RAG'ed questions below.

Write a balanced equation for:
   methane (CH_4)+ oxygen => carbon dioxide + water

Write a balanced equation for:
calcium carbonate ($CaCO_3$)+ hydrochloric acid (HCl)
   => calcium chloride + carbon dioxide = water

Give it a go

Write a balanced equation for:
   calcium hydroxide $(CaOH)_2$ + hydrochloric acid => calcium chloride + water

Try your best to answer the RAG'ed questions below.

What is meant by the term molar mass?

What is relative formula mass for these molecules?
1) CO_2
2) H_2SO_4
3) Fe_2O_3

Silver iodide is used in the manufacture of photographic paper. Calculate the theoretical yield of silver iodide for 34g of silver nitrate reacting with excess sodium iodide. The equation for the reaction is a s follows:

$AgNO_3$ (aq) + NaL (aq) => AgL (s) + $NaNO_3$ (aq)
Ar(N) = 14, Ar(O) = 16, Ar(Ag) = 108, Ar(I) = 127