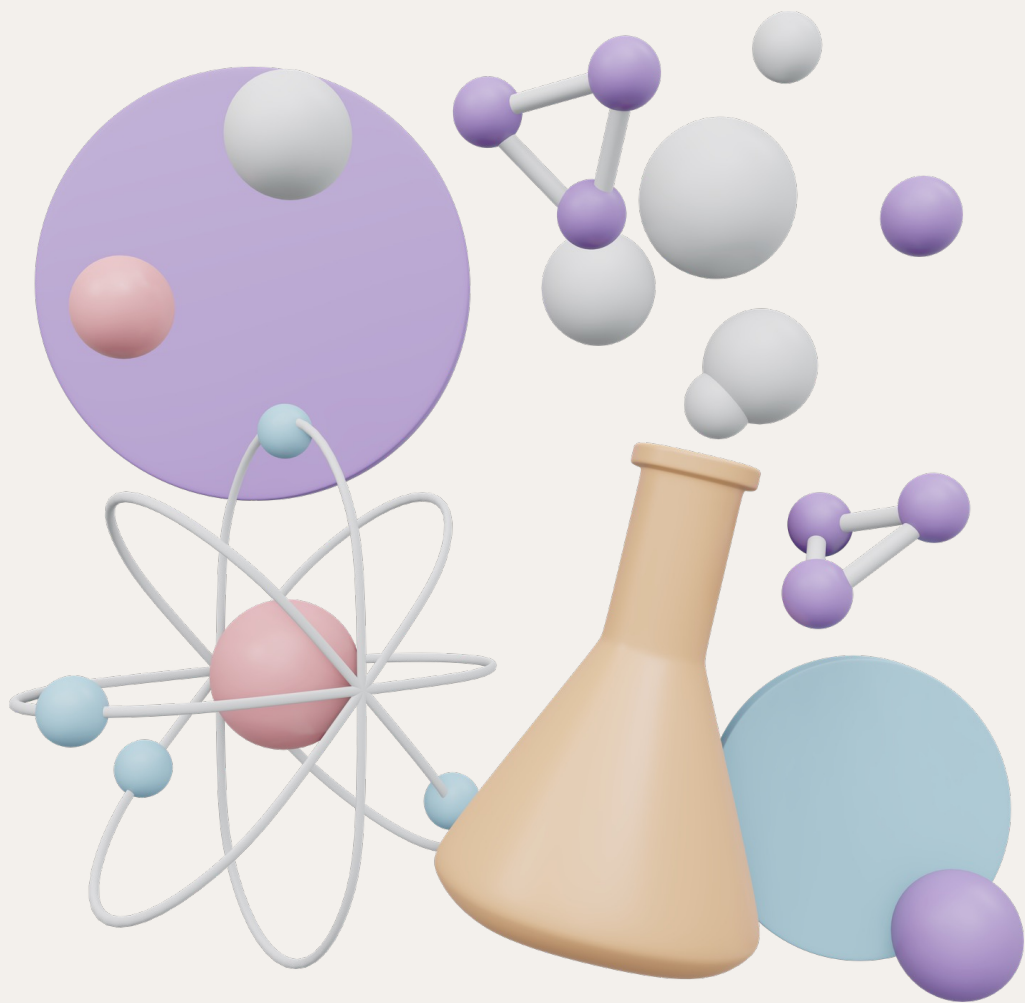
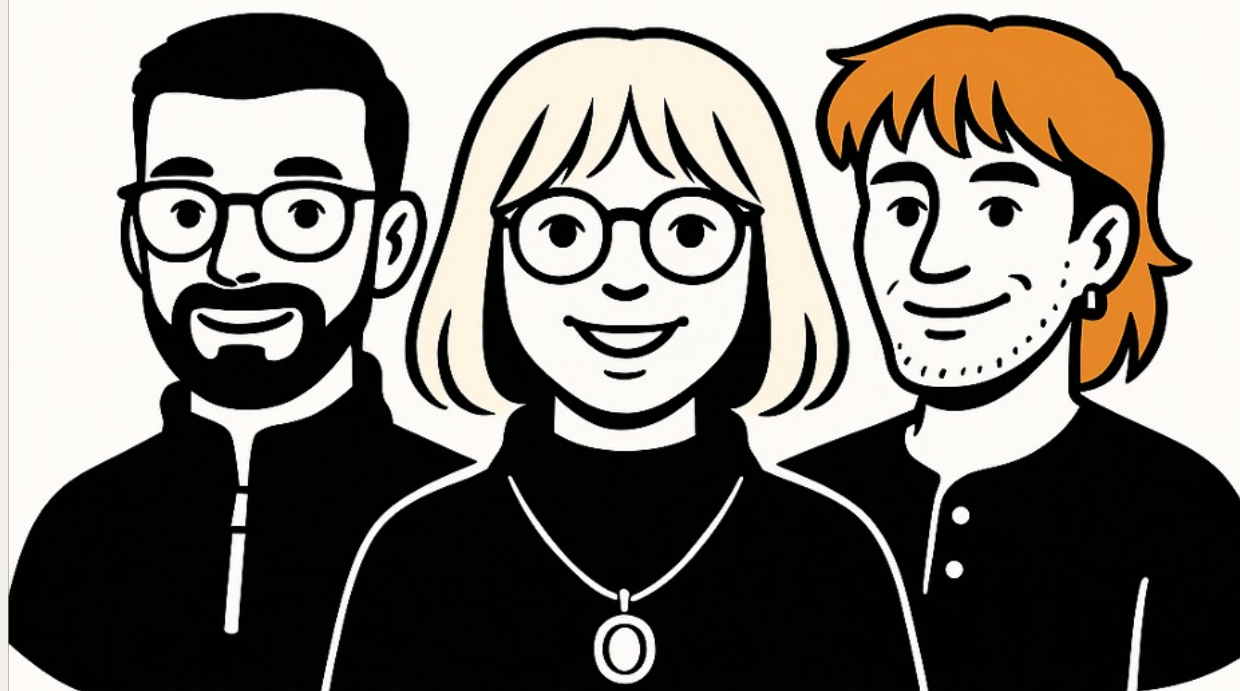




SENIOR CYCLE CHEMISTRY

**THE
CHEMISTRY
DEPARTMENT**

**MEET THE
CHEMIS-TRIO**



**MANOR HOUSE
CHEMISTRY DEPARTMENT**



WHAT IS CHEMISTRY?

Chemistry is a branch of science concerned with the structure and composition of materials and the changing of one substance into another.

SENIOR CYCLE CHEMISTRY: TOPICS

History and theory
surrounding the
atom and the
periodic table

Water
Analysis

Oil Refining

Chemical
Equilibrium

pH and
Indicators

Environmental
Chemistry

Stoichiometry

Volumetric
Analysis

SENIOR CYCLE CHEMISTRY

28 Mandatory Experiments

- demonstrating fireworks
- Extracting clove oil from cloves
- Preparing soap
- Finding the concentration of acid in vinegar
- Concentration of Chlorine in pool water

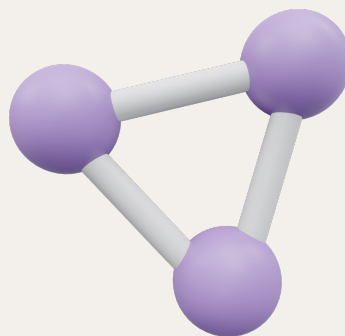


THINGS TO NOTE WHEN CONSIDERING CHEMISTRY



UNDERSTAND

Do I have a good understanding of JC Science (especially Chemistry) and JC Maths Concepts?



ABSTRACT

Am I good at abstract thinking? (chemistry has lots of concepts you can't visualise)



KNOW

Do I have an interest in carrying out laboratory work

BREAKDOWN OF NEW COURSE

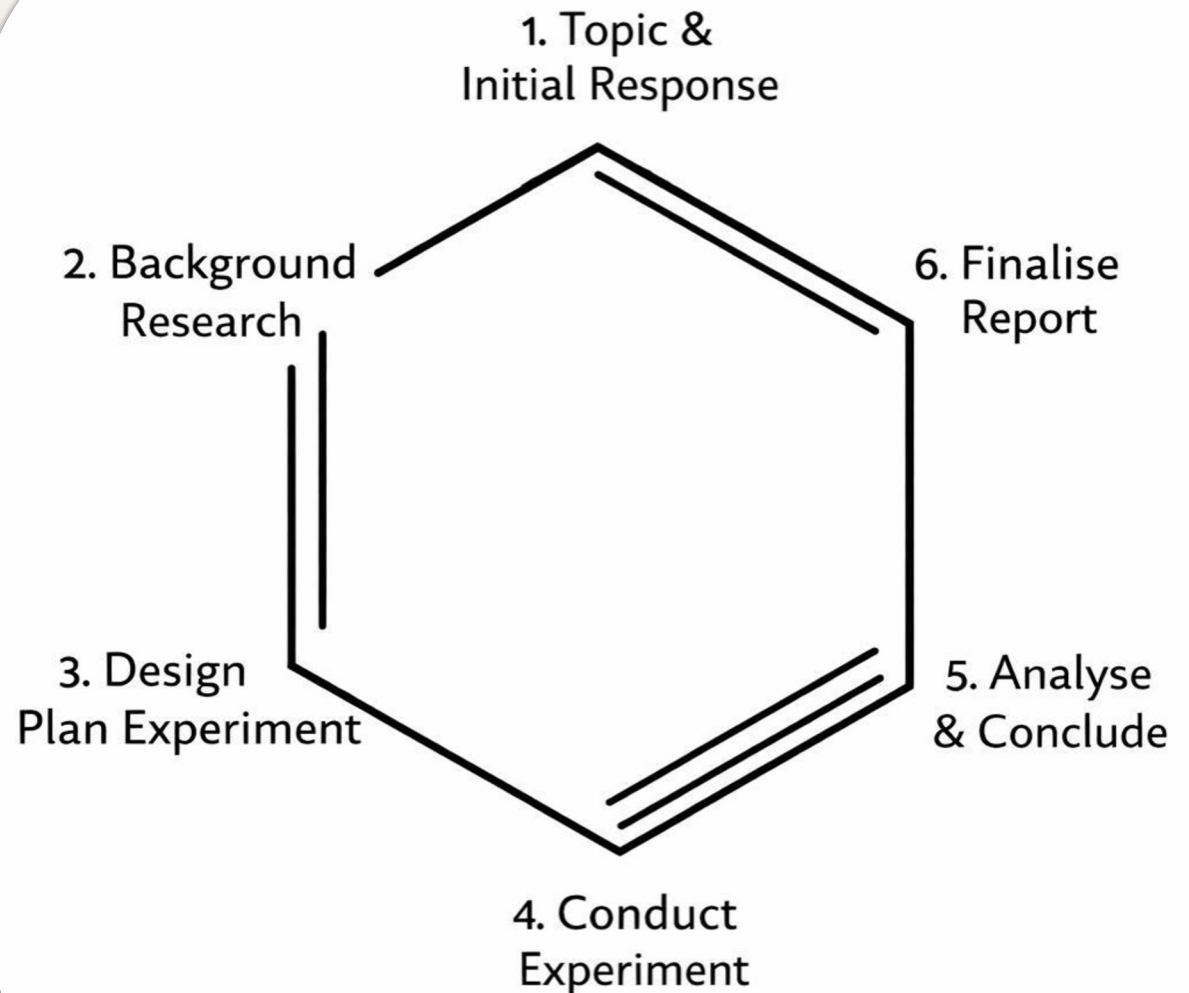
Written Exam (60%)

- Will consist of a range of question types
- The paper will include a selection of questions that will assess the topics as mentioned before
- An emphasis on the application of chemistry

AAC: Chemistry in Practice Investigation (40%)

- Students complete a chemistry experiment and write a report about it.
- It provides an opportunity for students to pursue their interests in chemistry, to make their own investigative decisions and acquire a more in depth understanding of the course

AAC Cycle of work



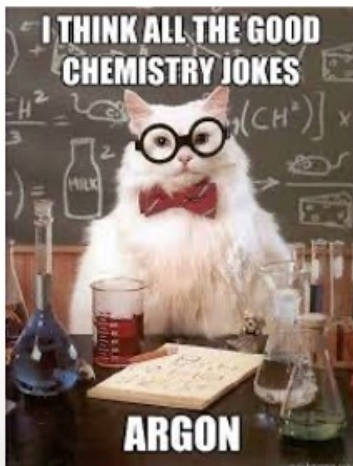
I don't trust atoms....

I heard they make up everything.

Nobody:
My chemistry teacher:



I THINK ALL THE GOOD
CHEMISTRY JOKES

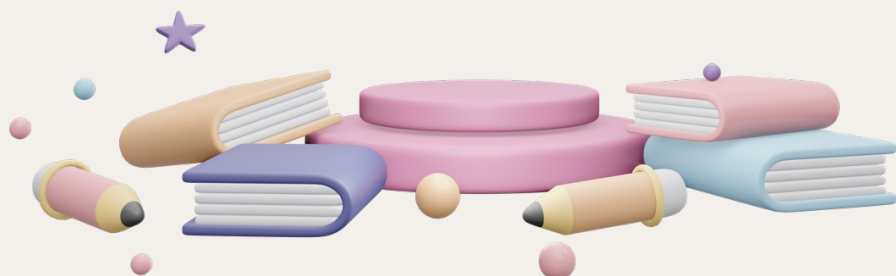


ARGON

This is how shielding effect works



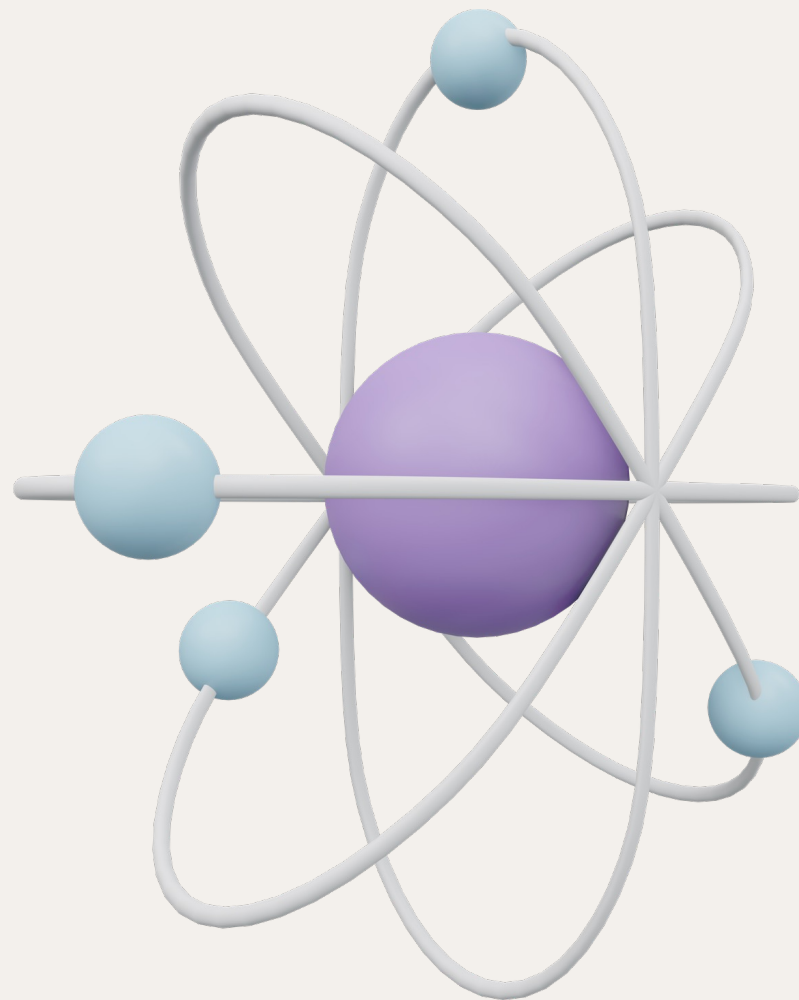
AIM OF TRANSITION YEAR CHEMISTRY

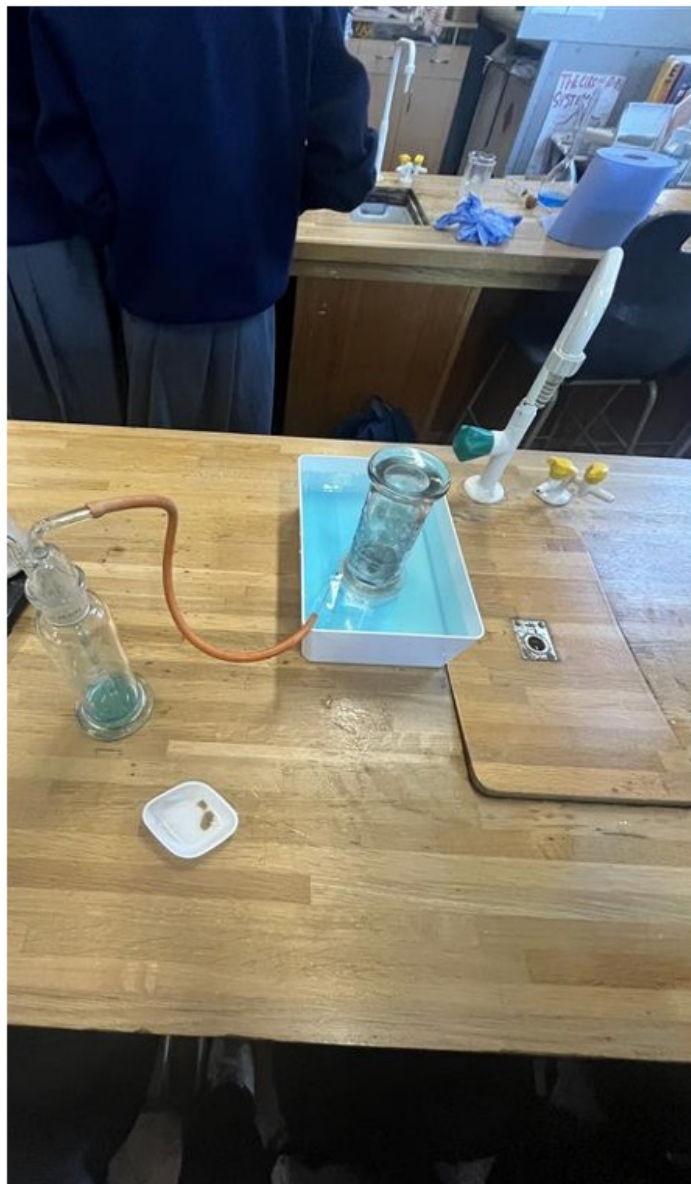


- To bridge the gap Junior Cycle Chemistry and Senior Cycle Chemistry.
- To introduce some of the leaving certificate content
- Encourage independent and group work by means of project and experimental work.
- Examine real life applications of Chemistry

WHAT DO WE DO IN TY CHEMISTRY?

- We introduce you to some Senior Cycle Chemistry content
- **AAC Prep:** We do a lot of chemistry write-ups. The AAC is in the form of a lab report. In TY, we develop the skills and tricks needed to write a strong lab report.
- Fun Experiments!!





Transition Year Chemistry Experiments

Ms. Ormonde

4th Chemistry

Serial Dilution Experiment

Method:

1. Using a glass pipette and pipette filler, pipette 10 ml of the stock copper sulfate solution into a 100 ml volumetric flask.
2. Using deionised water, fill the volumetric flask up to the calibration mark on the flask.
3. Invert the flask a few times to create a homogenous solution. Label this solution number 1.
4. Using the glass pipette, pipette 10 ml of your solution number 1 into another 100 ml volumetric flask.
5. Using deionised water, fill the volumetric flask up to the calibration mark on the flask.
6. Invert the flask a few times to create a homogenous solution. Label this solution number 2.
7. Repeat this serial dilution process until you have 4 volumetric flasks
8. Note any observations.
9. Take a picture of your volumetric flasks for your results part of your report.



Chemistry Experiment 5: Acid-Base Titration

Date: 25/02/2026

Aim: to neutralise a solution of NaOH of unknown concentration using a standardised solution of HCl

Background:

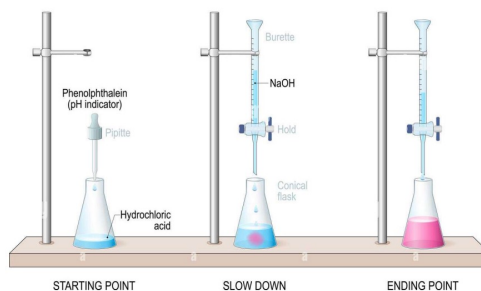
- What is a standardised solution?
- What is an acid? What is a base?
- What is a titration? What is it used for? Why is it used?
- How do you choose which indicator to use? Explain why we chose our given indicator.

(feel free to add any extra information in this section to expand your background research)

Variables

- **Independent:** the volume of HCl being added into the NaOH
- **Dependent:** the indicator colour used to determine the endpoint of the titration

Diagram:



Step-by-Step Procedure:

1. Set up the burette

- Rinse the burette with a little HCl solution, then fill it with HCl.
- Make sure there are no air bubbles in the tip.
- Record the initial burette reading.

2. Measure the NaOH

- Use the 25 mL pipette to take 25.00 cm³ of NaOH and put it into the conical flask.
- Add 2-3 drops of phenolphthalein. Swirl the flask so the solution mixes well.

3. Titrate

- Place the flask on a white tile under the burette.
- Slowly add HCl from the burette, swirling the flask continuously.
- Near the endpoint, add HCl drop by drop.
- The endpoint is when the pink colour just disappears and stays colourless.

4. Record the volume

5. Repeat

- Do 2-3 more titrations until you get concordant titres (titres that are very close to each other, e.g., within 0.1 cm³).
- Discard any rough titration or obvious mistakes.

Table of Results:

Titration	1	2	3
Volume of HCl (cm ³)			

Calculations: to be done in class on Thursday

Conclusions:

A brief explanation of the experiment. Also make sure to include the concentration of the NaOH that we calculated.

Discussions:

What skills did you practice? What went well? What could you improve on?

Mr. Byrne Chemistry Vlogs

Chemistry teachers when you mix water and food coloring without putting on safety goggles



Where can Chemistry Take me?

CAREERS IN CHEMISTRY

Analytical Chemist

Biochemist

Chemical Defense Scientist

Chemical Engineer

Chemical Laboratory Scientist

Chemist

Food Scientist

Forensic Scientist

Geochemist

Hazardous Waste Chemist

Materials Scientist

Neuroscientist

Nuclear Chemist

Pharmacologist

Physical Chemist

Research Chemist

Toxicologist

Water Chemist

Plus Many More!

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