A-level Chemistry

Everything You Need to Know

Assessments

Paper 1

What's assessed

- Relevant physical chemistry topics (sections 3.1.1 to 3.1.4, 3.1.6 to 3.1.8 and 3.1.10 to 3.1.12)
- Inorganic chemistry (section 3.2)
- Relevant practical skills

Assessed

- written exam: 2 hours
- 105 marks
- 35% of A-level

Questions

105 marks of short and long answer questions

Paper 2

What's assessed

- Relevant physical chemistry topics (sections 3.1.2 to 3.1.6 and 3.1.9)
- Organic chemistry (section 3.3)
- Relevant practical skills

Assessed

- written exam: 2 hours
- 105 marks
- 35% of A-level

Questions

105 marks of short and long answer questions

Paper 3
What's assessed • Any content • Any practical skills
Assessed • written exam: 2 hours • 90 marks • 30% of A-level
Questions 40 marks of questions on practical techniques and data analysis 20 marks of questions testing across the specification 30 marks of multiple choice questions

8 A-level practical assessment

Practical work is at the heart of chemistry, so we have placed it at the heart of this specification.

Practical assessments have been divided into those that can be assessed in written exams and those that can only be directly assessed whilst students are carrying out experiments.

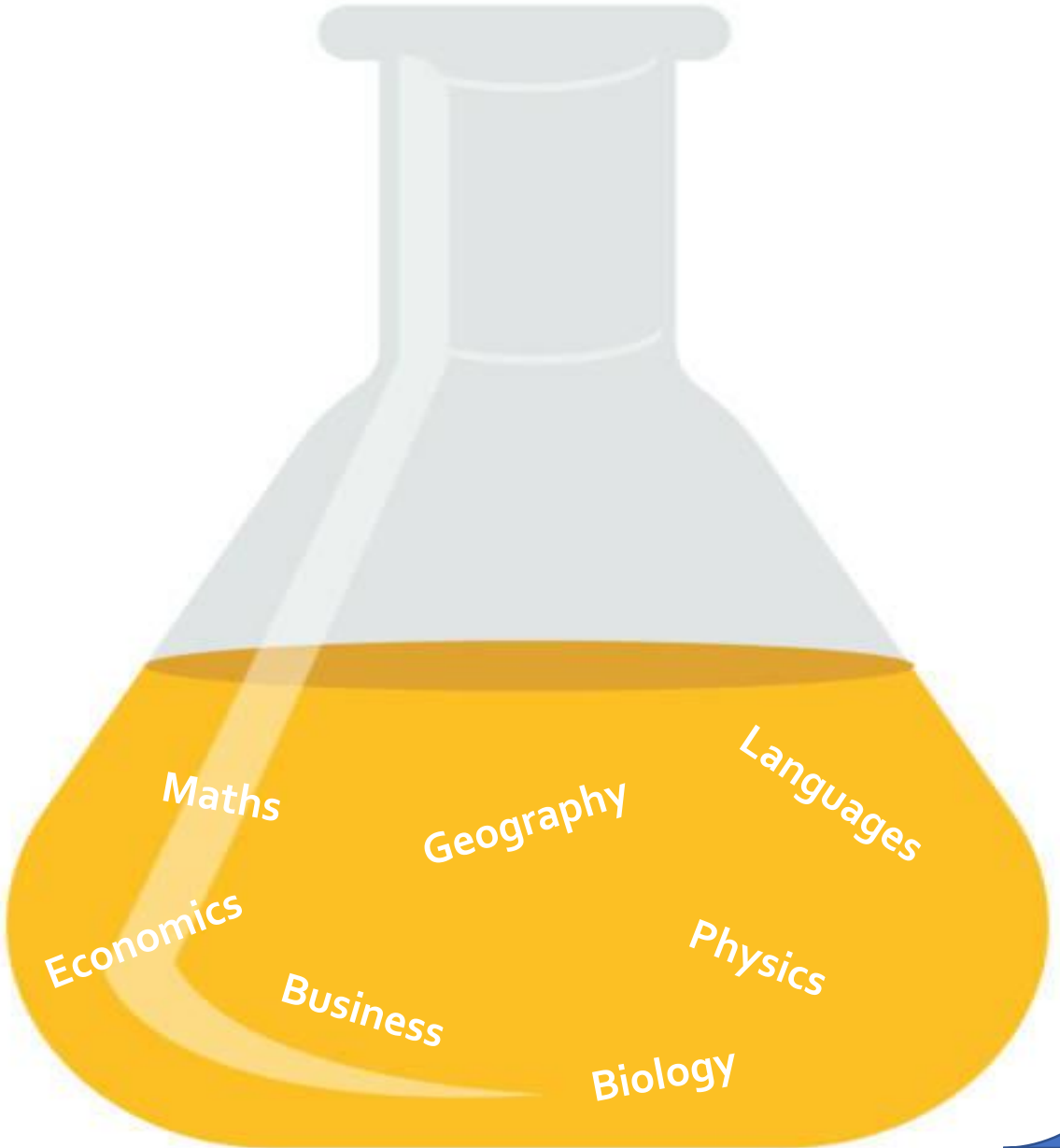
A-level grades will be based only on marks from written exams.

A separate endorsement of practical skills will be taken alongside the A-level. This will be assessed by teachers and will be based on direct observation of students' competency in a range of skills that are not assessable in written exams.

Overview

- Year 2 doing A2 (A-levels)
- Physical chemistry- Bonding, energetics, thermodynamics
- Inorganic chemistry - Group 2,3 and 7, transition metals, periodic table
- Organic chemistry - Alkanes/alkenes, alcohols, aromatics, spectroscopy

What subjects “go” well with chemistry?



- Chemistry is well respected by universities
- Chemistry is required for a number of undergraduate degrees

Careers

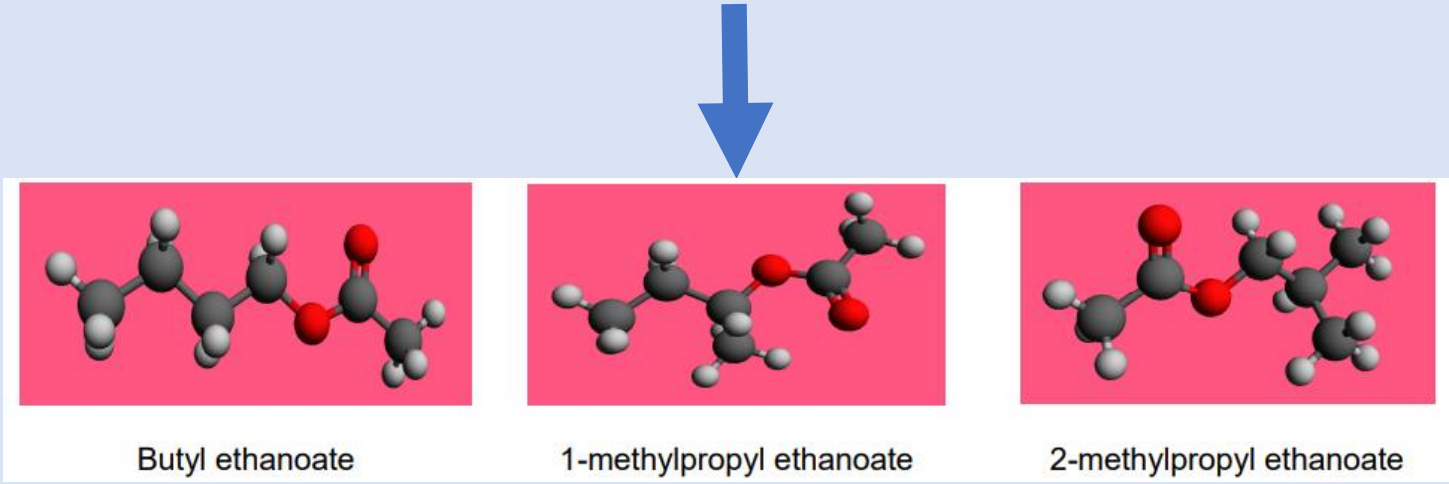
#VictoryScientist

Making esters

- Chemistry could lead you to the fashion industry!

- Esters have distinctive odours used in flavourings, perfume and fragrances which can be manufactured.

- You can create your own odours by changing the molecular structure of components.



Practical name: Making esters

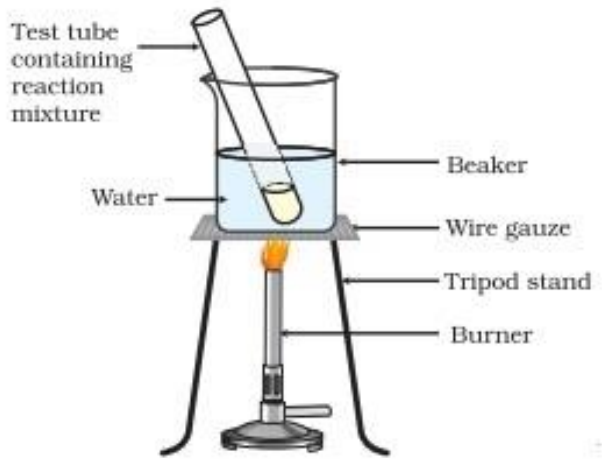
1. Aim of the practical: To produce odours of esters used in the perfume industry

2. Equipment
- Pipette
- Ethanoic acid
- Test tubes
- Concentrated sulphuric acid
- Butan-1-ol
- Beaker
- Tripod
- Bunsen burner
- Gauze
- 0.5M sodium carbonate
- Methanol
- Benzoic/Salicylic acid

3. Safety:

Heat from Bunsen burner
Concentrated sulphuric acid is highly corrosive and causes burns through eyes skin or nose.
Ethanoic acid is corrosive and flammable.
Butan-1-ol irritant and flammable.
Sodium carbonate irritant.
Methanol is highly toxic and flammable.
Benzoic acid is irritant to eyes, skin and respiratory tract.
Wear goggles

5.



Method for butyl ethanoate:
1. Add 10 drops of glacial ethanoic acid to a test tube which contains 1 drop of concentrated sulphuric acid.
2. Using a different pipette, add 10 drops of butan-1-ol to the test tube.
3. Add 10ml to a beaker
4. Gentle lower the test tube with all the contents into the beaker.
5. Heat the beaker to boiling the turn off the Bunsen. After 1 minute has passed, remove the test tube from the beaker and place in a test tube rack.
6. Once cooled, add 10ml of 0.5M sodium carbonate.

Method for methyl benzoate and methyl salicylate:
1. Add 1ml of methanol to a test tube which contains 1 drop of concentrated sulphuric acid.
2. Weight out 0.2g of benzoic or salicylic acid (depending on making methyl benzoate or methyl salicylate) to the test tube.
3. Add 10ml to a beaker
4. Gentle lower the test tube with all the contents into the beaker.
5. Heat the beaker to boiling the turn off the Bunsen. After 1 minute has passed, remove the test tube from the beaker and place in a test tube rack.
6. Once cooled, add 5ml of 0.5M sodium carbonate.

7. Conclusion:

6. Results

Ester	Odour given off
Butyl ethanoate	
Methyl benzoate	
Methyl salicylate	