

Advanced Higher Chemistry – Success Criteria

All learners in Chemistry will be expected to develop their skills in class and at home as described below and will be regularly assessed both informally and formally to inform the estimate for SQA.

Learners in Chemistry will show development by:

- ✓ demonstrating knowledge and understanding of chemistry by making accurate statements in the following contexts:
- ✓ Inorganic chemistry:
 - ◆ electromagnetic radiation and atomic spectra
 - ◆ atomic orbitals, electronic configurations and the periodic table
 - ◆ transition metals
- ✓ Physical chemistry:
 - ◆ chemical equilibrium
 - ◆ reaction feasibility
 - ◆ kinetics
- ✓ Organic chemistry and instrumental analysis:
 - ◆ molecular orbitals
 - ◆ synthesis
 - ◆ stereo chemistry
 - ◆ experimental determination of structure
 - ◆ pharmaceutical chemistry
- ✓ Researching chemistry:
 - ◆ common chemical apparatus
 - ◆ skills involved in experimental work
 - ◆ stoichiometric calculations
 - ◆ techniques
- ✓ extending and applying knowledge of chemistry to new situations, interpreting and analysing information to solve complex problems
- ✓ planning and designing chemical experiments, including risk assessments, to make a discovery, demonstrate a known fact, illustrate particular effects or test a hypothesis
- ✓ carrying out complex experiments in chemistry safely, recording systematic detailed observations and collecting data
- ✓ selecting and presenting detailed information appropriately
- ✓ processing and analysing chemical information and data (using calculations, significant figures and units, where appropriate)
- ✓ making reasoned predictions and generalisations from a range of evidence
- ✓ drawing valid conclusions and giving explanations supported by evidence and/or justification
- ✓ critically evaluating experimental procedures by identifying sources of uncertainty and suggesting and implementing improvements

- ✓ communicating chemical findings and information fully and effectively
- ✓ analysing and evaluating scientific publications and media reports

Homework:

- ✓ I will engage in learning and complete the activities asked of me to the best of my ability.
- ✓ That I meet deadlines for submission of homework.
- ✓ That I respond positively to any feedback on homework and try to improve in this area.

Informal Assessments:

- ✓ Open-ended questions – that I contribute to discussions about the question and that I link different key areas in my written answer.
- ✓ Practical reports – that I follow the candidate guide to complete each assessment standard to a N5 level.
- ✓ Presentations – that I contribute fully to the group task and show improvements throughout the year.
- ✓ Past paper questions – that I complete questions in class correctly and show an improvement in the quality of my answers.

Project:

- ✓ That I can clearly follow the candidate guide for the project.
- ✓ That I can choose an appropriate area of study and devise a suitable research question.
- ✓ That I have regularly maintained a record of work in my day book
- ✓ That I can select appropriate research methods.
- ✓ That I can process and analyse data adequately.
- ✓ That all submission dates for drafts and final project are met.

Performance in Tracking and Unit Assessments:

- ✓ Percentage achieved in assessments.
- ✓ Evidence of improvement or working within target level.
- ✓ That I am identifying and resolving areas for development and attending study support if necessary.

Formal Assessments:

- ✓ Percentage achieved in Formal Assessments.
- ✓ That I am aware of my areas of strength and areas for development identified in the Formal Assessments.
 - Knowledge and understanding
 - Scientific inquiry and investigation skills
 - Analytical and problem-solving skills in a Chemistry context

What will be taken into consideration when deciding on a teacher-estimated grade for Advanced Higher Chemistry?

- Performance in the Formal Assessment(s).
- Performance in the tracking and unit assessments.
- Performance in Project
- Performance in the informal assessments, which are ongoing throughout the year:
 - Open-ended questions.
 - Practical reports.
 - Presentations.
 - Past paper questions.
- Commitment to and quality of homework.