2022 revision support for learners: National 5 Chemistry

Guidance for the 2022 exam

You can use the following information to help you plan your revision and prepare for the 2022 National 5 Chemistry exam.

Reading questions

Take your time in the exam when you are reading the questions. Read all parts of each question carefully. Make sure you do not miss important pieces of information and that your answers relate to what you are being asked.

Remember that information is not always in written form. It can be given in diagrams or laid out in tables, for example in an experiment report extract.

You can highlight or underline key words in the question if it helps you to focus your answer. Remember that you may not need the information given at the start of a question until a later part.

Your answers must be clear. Take care not to include information that is irrelevant or chemically incorrect.

You will not gain full marks for a correct answer if you:

- give an extra, incorrect answer
- include additional information that contradicts the correct response
- use incorrect spelling or if careless handwriting changes the meaning of your response, for example mistakes in the endings of compound names -ane, -ene

Calculations

You must be familiar with the different types of chemical calculations covered in the course and with numerical calculations set in a chemical context.

You can find the relationships you are expected to use in these calculations on page 3 of the National 5 Chemistry Data Booklet. You must be able to calculate any value within each relationship.

It is important to learn the basic 'routines' for the different types of calculation. You should practise calculations using different mole ratios other than 1:1, 1:2 or 2:1.

In all calculations worth more than 1 mark, you will receive credit for correctly demonstrating chemical concepts or for intermediate results in a multi-step calculation. Always show your working clearly to maximise your chances of obtaining partial marks. You should practise rounding final answers.

If a unit is provided in a question, it is not necessary to state the unit with your answer. However, if you do give a unit, it must be correct.

Definitions

You must be able to accurately recall and use statements from the National 5 Chemistry course.

You must be able to accurately describe and explain chemistry definitions and chemical terms from the National 5 Chemistry course. You must also be able to describe chemical tests, processes, and chemical reactions using appropriate terminology. Remember, if you are asked for a chemical test, you need to give the test and the result.

Symbols, formulae and structural formulae

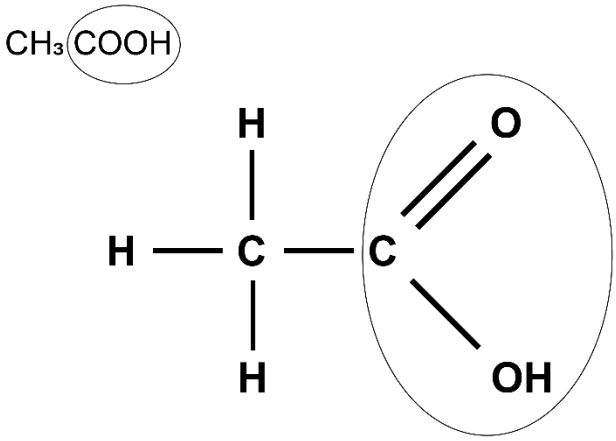
Take care when writing chemical symbols and formulae. You should ensure that:

- the size and case of letters are appropriate, for example Mg not mg, MG or M_G
- the size and position of numbers are correct, for example H_2O not H2O or H^2O
- any charges are superscripted, for example Ca^{2+} not Ca2+

You must be able to write and balance chemical equations correctly. This includes nuclear equations using nuclide notation.

You should practise drawing full and shortened structural formulae of organic compounds, ensuring that the bond lines are connected to the correct atom. For example, in an alcohol, the bond from a carbon atom must connect with the oxygen atom of the hydroxyl group and not the hydrogen atom: -OH and not -HO.

You should learn the names of functional groups in organic compounds and be able to identify them in shortened and full structural formulae, for example the carboxyl group in a carboxylic acid:



You should be familiar with the rules for systematic naming and be able to draw structures from these names and name compounds from their structures.

Apparatus and practical techniques

You must be familiar with laboratory apparatus and be able to describe how it should be used.

You must be familiar with all the practical techniques and analytical methods in the National 5 Chemistry course.

You should be able to use and draw tables and graphs of results. You should be able to use averages to process results. Given a set of results, you should be able to establish relationships and draw conclusions.

You should practise drawing labelled apparatus line diagrams for experiments, for example those involving gas collection.

Open questions

Remember that there are no definitive answers to open questions. You can give a broad answer covering a number of aspects, or you can focus on one particular aspect and give a more detailed answer.

When tackling the question you should consider giving:

- chemical equations for the reactions involved
- definitions of terms mentioned in the question
- explanations of concepts relevant to the question
- details of experimental procedures and how the results may be used

Open questions are marked based on your overall demonstration of understanding, rather than on the number of points you make. The marker will not award 1 mark for each point you make. They will read your answer as a whole and judge the level of understanding you have shown.

Demonstrating a good level of understanding gains 3 marks, a reasonable level of understanding, 2 marks, a limited level of understanding, 1 mark, and no understanding, 0 marks. You do not need to give a perfect answer to gain the full 3 marks. However, your answer must be relevant to the area of chemistry mentioned in the question.

Revision resources

Past papers and specimen question paper

It is important to practise questions of a similar standard to those you will find in your exam.

You should use the past papers, specimen question paper and marking instructions on the National 5 Chemistry subject page:

- 2019 National 5 Chemistry past paper and marking instructions
- 2018 National 5 Chemistry past paper and marking instructions
- National 5 Chemistry specimen question paper and marking instructions

2017 exam responses with marking commentary

You may find it useful to look at examples of marked responses from the 2017 National 5 Chemistry exam. You can find these responses and accompanying marking commentaries on our Understanding Standards website.

The responses give an indication of the level of detail you need to provide to gain maximum marks. They also highlight common mistakes learners make. They include a variety of marked open questions, calculations, explain-type questions, and researching chemistry questions.

Remember to look out for *Your Exams*. This guide contains essential information and rules that you need to know about SQA exams.