

AMENDMENTS TO EDEXCEL ADVANCED SUBSIDIARY AND ADVANCED GCE IN CHEMISTRY (NUFFIELD) (8086/9086)

Key changes to the specification are listed below and will also be identified in a fully revised version of the above AS and Advanced GCE specification available on the Edexcel website (www.edexcel.org.uk). Printed versions will subsequently be available from our publications department. We will notify you through our website when the printed specifications are available.

- Since June 2002 the time for Unit 1 has been reduced to 1 hour 15 mins.
- Delete last sentence from page 57 that states that Mark Schemes will be required which are specific to each investigation assessed. A replacement page 57 is attached (see page 4).
- It is no longer a QCA requirement that the synoptic unit is taken by students in their final examination sitting.
- The final submission date for coursework is May 15th.
- Replacements for pages 6, 13 and 57 of the specification are attached (see pages 2, 3 and 4).
- The student and the teacher who assesses the work must sign student coursework record sheets. See attached copies. Copies of the coursework record sheets for Unit Test 6253/01 and Unit Test 6255/5A are attached (see pages 5 and 6).

Replacement for Page 6

Advanced GCE

The Advanced GCE in Chemistry (Nuffield) assessment is based on units 1, 2, 3, 4, 5 and 6 and includes internal assessment of practical skills in Unit Tests 3 and 5B. The Advanced GCE assessment comprises two components:

- the AS (the first 50% of the total course) composed of Units 1, 2 and 3
- the A2 (the second 50% of the total course) composed of Units 4, 5 and 6.

The assessment schedule of the Advanced GCE can be tailored to meet particular centre/student requirements. That is, the unit tests can be completed:

- for the AS at the end of the first year and for the A2 at the end of the second year
- for the AS and the A2 at the end of the same year
- at stages throughout the course.

The scheme of assessment is summarised in Table 1 below.

Table 1 – Summary of the assessment scheme

Unit test component	Time	Weighting	
		AS	A GCE
Unit Test 1 Written Paper	1 hr 20 mins <u>1 hr 15 min</u>	30%	15%
Unit Test 2 Section A: Written paper Section B: Comprehension	1 h 30 min	40%	20%
Unit Test 3 Internal Assessment of Practical Skills		30%	15%
Unit Test 4 Written Paper	1 h 30 min		15%
Unit Test 5 5A: Internal Assessment of Practical Skills (Investigation, General Practical Competence)			7.5%
5B: Special Studies	45 min		7.5%
Unit Test 6 Synoptic (open book)	2 h		20%

Replacement for Page 13

Includes opportunities for students to use in context which may be new to them, skills and ideas that permeate chemistry, for example, writing chemical equations, quantitative work, relating empirical data to knowledge and understanding.

Assessment objective 4 relates specifically to the synoptic assessment. The synoptic component accounts for 20% of the assessment framework and is externally assessed in Unit Test 6.

Key Skills

The specification will provide opportunities for developing and generating evidence for the Key Skills of:

- Communication
- Information Technology
- Application of Number
- Working with Others
- Improving Own Learning and Performance
- Problem Solving.

The Key Skills Qualification comprises: Communication, Information Technology and Application of Number. All the Key Skills including the Wider Key Skills (Working with Others, Improving Own Learning and Performance and Problem Solving) have been mapped in this specification at level 3. There may be opportunities in the AS and Advanced GCE in Chemistry (Nuffield) to provide Key Skills evidence for the other levels if this is more appropriate for the student.

The mapping of level 3 Key Skills across the AS and Advanced GCE in Chemistry (Nuffield) can be found in *Appendix E*. Activities taken from the AS and Advanced GCE in Chemistry from which level 3 Key Skills may be portfolio assessed can also be found in *Appendix E*.

Spiritual, moral and cultural issues

These Advanced Subsidiary and Advanced GCE specifications in Chemistry (Nuffield) offer opportunities to students to explore spiritual, moral and cultural dimensions as well as to gain scientific knowledge and understanding of chemical topics. Through their studies, students can discover and learn to appreciate the influence of chemistry within communities and on a global scale. Students can discover the extent chemistry has changed and is changing the global community. Students can acquire an appreciation of the powerful influence of humans and their potential for changing living systems and the environment, from a global to regional perspective. Their studies will lead them to consider ethical issues and their understanding of chemistry should help raise debate on the decisions, which may be taken at a personal and wider national and international level, relating to the effects of human activities and the use and manipulation of chemical systems. The Special Studies can be used to develop students' awareness in this aspect of their studies.

The following units and topics can be used to explore the above criteria:

- Unit 1: topic 2 Alcohols: an introduction to organic chemistry, background reading (2.4) skill (f)
- Unit 2: topic 10 Organic chemistry: halogenoalkanes, skill (d)
- Unit 4: topic 12 Arenes: benzene and phenol, background reading (12.6)
- Special Study: Biochemistry 5, skill (b)

Replacement for Page 57

Conducting a complete investigation

The nature of investigations

The Nuffield specification links together the four skills (a to d) on page 56, in order to assess students' ability to conduct a complete investigation.

For a **complete investigation** students can be asked to identify their own problem for study or be provided with a suitable problem brief. The method of proceeding and the choice of the techniques to be employed is for the student to research and select. In general a complete investigation is likely to occupy at least six hours of laboratory time, although some may be spread out over a longer period of time. All will require some additional time for preliminary research, trailing of experiments and the writing of the final report.

The criteria for the award of marks should be made explicit to students so that they do not select inappropriate tasks for investigation or omit aspects of their investigation from their report. The criteria are listed in the specification and indicate that complete investigations are to be assessed on the three aspects separately.

Evidence of the work done by students will normally be in the form of students' reports of the investigations. These may be handwritten or word-processed. The students' reports of their investigations should show how the student has approached the investigation, give records of procedures, observations and measurements, details of secondary sources consulted, and conclusions and summaries based on the evidence collected. At this level it is also essential that students include a thorough justification for their practical procedures and their conclusions, based on information from the *Book of Data*, theory from the *Student's Book*, and any other sources available, such as a data base.

Students are likely to refine their plans as an investigation proceeds and credit must be allowed for this. The mark attained is to be assessed on the basis of the investigation as executed, using the student's report and (where necessary) any additional evidence such as observation of the student at work, or questioning related to the work or the report. In such cases, notes should be added to the written work to indicate what was observed, or what was said during interviews or discussions with the student. Normal teaching support should be available to students without penalty, but where additional hints or prompts have been given, these should be recorded and the mark awarded should reflect the extent of the advice given.

Collaborative or co-operative work is not permitted for an assessed investigation.

It is not necessary for all students to be assessed on the same occasion or on the same investigation.

Record Sheet AS Chemistry (Nuffield) Unit Test 6253/01

Centre number: Centre name

Student number: Student name:

Form and/or set:

Duration of course: September 20. to May 20

For re-sit students only: Former centre number

Former student number

Type of assessment	Ability	Title of exercise	Date of assessment	Mark
1 Practical skills	Designing an experiment			/15
	Carrying out an experiment (1)			/15
	Carrying out an experiment (2)			/15
	Processing results of an experiment			/15
For office use only				TOTAL
MODERATED MARK /60				/60

Declaration of authentication:

I declare that the work submitted for assessment has been carried out without assistance other than that which is acceptable under the scheme of assessment.

Signed (**candidate**)

Date

Signed (**teacher**)

Name of teacher

Date

Edexcel
Success through qualifications

Record Sheet A2 Chemistry (Nuffield) Unit Test 6255/5A

Centre number: Centre name

Student number: Student name:

Form and/or set:

Duration of course: September 20. to May 20

For *Re-sit students only*. Former centre number

Former student number

Type of assessment	Title of exercise	Date of assessment	Mark
1 Conducting a complete investigation			/30
2 General practical competence	N/A	N/A	/8
For office use only MODERATED MARK /38			TOTAL /38

Declaration of authentication:

I declare that the work submitted for assessment has been carried out without assistance other than that which is acceptable under the scheme of assessment.

Signed (**candidate**)

Date

Signed (**teacher**)

Name of teacher

Date