

A2 Teaching Plan: Unit 8 Investigating the Scientist's Work

Based on 12 weeks at 5 hours per week (4 hours contact time + 1 hour directed study).

The learning activities are suggestions only. Teachers may wish to develop alternative strategies.

Week Number	Specification Unit Reference and Assessment Objectives	Suggested Learning Activities	Resources
1	8.2.1 Research for an investigation AO1 b	<ul style="list-style-type: none"> Teacher-led discussion of investigations already completed for GCSE and work done for Unit 4 Discussion on sources of information and validity Necessity to record all sources with all details Students begin research on their own investigation and make sure information found is recorded. 	<ul style="list-style-type: none"> Internet Books in library Previous coursework/practical experiments used in AS Literature provided by industry and other institutions
2	8.2.1/2 Research for practical techniques Risk assessment	<ul style="list-style-type: none"> Teacher-led review of practical techniques both quantitative and qualitative used in AS Biology/Chemistry/Physics experiments. Include accuracy of apparatus Students research and record possible practical techniques for their investigations for more than one method found Limitations in use of some techniques recorded Selection of techniques recorded. Method/s written up. 	<ul style="list-style-type: none"> Practical reference books Internet (B.S.I. web site) Previous work Text books (e.g. Salter's approach text books)

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3	8.2.1 Organisation AO1a	<ul style="list-style-type: none"> Exemplar plan in Teacher's Guide and work done for Unit 4 discussed Students draw up own plan Plan submitted for provisional grading Students order equipment Difficulties recorded, including any ethical ones. 	<ul style="list-style-type: none"> Access to lab technicians
Weeks 4 to 8 are for actual experimental work	8.2.2 Trial of practical techniques AO3 a	<ul style="list-style-type: none"> First rough attempt at practical work to discover problems etc. Write up of practical including problems and solutions recorded. Risk assessment included. 	<ul style="list-style-type: none"> Laboratory equipment
	8.2.2 Obtaining primary data AO2a	<ul style="list-style-type: none"> Investigation carried out using as many techniques as possible Results recorded, written up in appropriate format and to appropriate accuracy Submitted for moderation. 	<ul style="list-style-type: none"> Laboratory equipment
	8.2.2 Data review	<ul style="list-style-type: none"> Evaluation of accuracy and reliability of data Identification of additional data needed Review of range of samples tested Comparison with secondary data. 	<ul style="list-style-type: none"> Data books Reference books Internet.
	8.2.3 Processing data/errors	<ul style="list-style-type: none"> Teacher led discussion on errors Data processed and errors calculated. 	<ul style="list-style-type: none"> Reference books

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	8.2.3 Presentation of results A02 b and c	<ul style="list-style-type: none"> • Discussion on ways in which results can be presented • Use of graphs • Results presented in suitable way. 	
9	8.2.4 Evaluation of results	<ul style="list-style-type: none"> • Conclusions drawn • Sources of error identified • Critical evaluation of method(s) used. 	
10	Review of plan	<ul style="list-style-type: none"> • Students review plan and then submit it. 	
11	8.2.5 Write up report AO3c	<ul style="list-style-type: none"> • Outcomes written up. 	
12	8.2.5 Write up report AO3 d and e	<ul style="list-style-type: none"> • Evaluation of the investigation completed. 	