



UNIVERSITY *of* CAMBRIDGE
International Examinations

Setting Grids and Mark Schemes

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Why do we use setting grids?

Using setting grids allows us to check that:

- the test is valid
- the test is reliable
- the test is appropriate
- the test is consistent with previous tests
- what is being tested is aligned with educational aims and assessment objectives



Aligning educational aims and assessment objectives with what is to be tested

EXAMPLE AIMS (from an English Language syllabus)

To develop the ability of candidates to:

- communicate accurately, appropriately and effectively in speech and writing;
- understand and respond appropriately and imaginatively to what they read and experience;
- enjoy and appreciate reading texts in the English Language.

These aims form the basis of a course of study; they may not all be translated into assessment objectives for formal examination.



Aligning educational aims and assessment objectives with what is to be tested

EXAMPLE ASSESSMENT OBJECTIVES (from an English Language syllabus)

Candidates should be able to:

- (i) recount personal experience, views and feelings;
- (ii) use language to inform and explain;
- (iii) show an awareness of how spoken and written communication varies according to situation, purpose and audience;
- (iv) read a variety of texts accurately and with confidence;
- (v) select, retrieve, evaluate and combine information from written texts;
- (vi) appreciate the ways writers make use of language; etc....



Extract from a Syllabus

SPECIFICATION GRID

The approximate weightings allocated to each of the assessment objectives in the assessment model are summarised in the table below.

Assessment Objective	Weighting
A Knowledge with understanding	50% (not more than 25% recall)
B Handling information and solving problems	30%
C Experimental skills and investigations	20%

Teachers should take note that there is an equal weighting of 50% for skills (including handling information, solving problems, practical, experimental and investigative skills) and for knowledge and understanding. Teacher's schemes of work, and the sequence of learning activities should reflect this balance, so that the aims of the syllabus may be met, and the candidates prepared for the assessment.



Weighting of Assessment Objectives – at syllabus level

Objective	AS level	A level
A (Papers 1, 2 & 4)	38%	36%
B (Papers 1, 2 & 4)	39%	41%
C (Paper 3 & 5)	23%	23%



Weighting of Assessment Objectives – at component level

	Knowledge AO1	Understanding AO2	Application AO3	Skills AO4	Total
Paper 1	25	12	5	8	50
Paper 2	0	2	5	18	25
Coursework	0	6	5	14	25
Overall	25	20	15	40	100



Setting Grid

Question Number	Syllabus Area	Assessment Objectives					Total
		Knowledge	Understanding	Handling	Application	Evaluation	
1 (a)	1 (b)	1					1
(b)	1 (d)		2				2
2 (a)	3 (a)	2					2
(b)	3 (g)	1		2			3
(c)	3 (k)		2		2		4



Setting Grid

Question Number	Syllabus Area	Assessment Objectives					Total
		Knowledge	Understanding	Handling	Application	Evaluation	
1 (a)	<i>1 (b)</i>	1					1
(b)	<i>1 (d)</i>		2				2
2 (a)	<i>3 (a)</i>	2					2
(b)	<i>3 (g)</i>	1		2			3
(c)	<i>3 (k)</i>		2		2		4
Total		21	24	19	12	4	80
%		26.3	30.0	23.8	15	5.0	100



0610 03	Syllabus					Target grades		Assessment Objective		Marks – 1-2 marks for 1 or 2 mark chunks of information (some in longer questions), 3-4 for 3 or 4 mark prose answers					
Question / part	Section				Learning outcome	A*A	BC	D-U	A recall	A understanding	B	01-Feb	3	4	Total (for question)
	I	II	III	IV											
Target	4	40	20	16		26	34	20	25	25	30	49	15	80	





Paper Subject Coverage Grid

Year	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
2008	5	8	4	5	6		6	5	2	8	4	6		7	6	8	80
2007	3	5	6	9	7	4	8		7	6	4	5	7	3	4	2	80
2006	8	3	4	7	3	8	4		8	9	5		7	2	8	4	80
2005	7	7	5	8	3	5	3		10	6	7	4	3	2	1		80



Task

- Construct a setting grid for a test in your subject.
- Explain to your neighbour how you would use this setting grid to help you:
 - set a test
 - check that the draft test is valid and appropriate



Mark Schemes

- Question paper and mark scheme **together** form the assessment instrument
- Integral part of the question setting process
- Indication of validity of questions / paper
- Means of ensuring reliability of marking
- Closely matched to mark allocations / questions / paper



A good mark scheme..

- anticipates all likely correct responses
- provides rationale for rejecting incorrect responses
- accommodates unexpected correct responses
- covers much of the anticipated 'outcome space' for the question



A valid mark scheme should:

- reflect the requirements, weightings and content of the syllabus and paper
- be technically correct
- reflect each question's demands
- include all the required points
- only include points covered by the question
- award marks in proportion to amount and level of work done and time taken



A reliable mark scheme should:

- be clear and unambiguous
- be able to be applied consistently
- accommodate 'live' answers to the question paper
- leave as little as possible to the marker's individual judgement
- include clear marking instructions and guidance on any annotations to be used



A fair mark scheme should:

- accord with mark allocations in the question paper
- allocate marks according to the knowledge and abilities required
- award marks positively for attainment
- not deduct marks for lack of attainment
- not penalise errors disproportionately



A clear mark scheme should:

- be easy-to-understand and user-friendly
- be set out clearly and logically, with sensible spacing and page turns
- consist of single-mark points
- provide for alternative answers
- not use fractions of marks



The mark scheme must reflect the instruction in the question.....

- Name the inputs to ...
- State the word equation for ...
- Define the term ...
- Outline the process of ...
- Describe the process of ...
- Explain how plants carry out ...
- Explain why plants carry out ...
- Discuss the process of ...
- Compare respiration and ...

photosynthesis



The mark scheme must reflect the marks in the question.....

- Estimate $504 \times 98 / 51$ [1 mark]
– = 1000
- Calculate $504 \times 98 / 51$ to 3 significant figures.
Show your working. [3 marks]
– = $504 \times 98 = \underline{49392}$
 $49392 / 51 = \underline{968}$
___significant figures
- Write down the answer to $504 \times 98 / 51$ [1 mark]
– = 968; precision required?



Mark scheme requirements

- Multiple marks must be broken down as far as possible to allow marking to be as objective as possible
 - Each marking point should carry exactly one mark where possible
 - Fractional marks should not be used



Identifying single-mark points

- Single correct answer
- List of possible acceptable answers
- Steps in a calculation
- Points in an extended written answer
- Marks for quality of response



Providing for alternative answers

- / or OR
- Any three from
- Either-or structures
- Special rulings
- Errors carried forward



The MABC system in Maths

- B marks: independent marks
 - must be seen
- M marks: method marks
 - must be seen
 - A marks depend on them
- C marks: compensatory method marks
 - need not be seen if answer is correct
- A marks: answer or accuracy marks
 - allows C marks to be awarded OR
 - depends on M marks



Levels of response mark schemes

- An alternative approach to marking
- Used for extended, discursive responses
- Used in e.g. Literature, History, Geography
- More subjective than point-by-point marking
- More dependant on professional judgement



A question with a levels of response mark scheme

Question from IGCSE History:

How far was German militarism the most important cause of war in 1914? Explain your answer. [8 marks]



The levels of response mark scheme

- Level 1 – Unsupported assertions [1]
- Level 2 – Identifies reasons for war [2-3]
- Level 3 – Explains militarism OR other reasons [3-5]
- Level 4 – Explains militarism AND other reasons [5-7]
- Level 5 – Explains as above with evaluation of 'how far' [8]



Refining the mark scheme

- In the light of candidates' responses at the start of the marking period, the mark scheme should be revised to accommodate all likely answers.
- The final mark scheme should clearly define what is and is not acceptable as an answer in order to facilitate fully valid and reliable marking.