



ASSESSMENT and
QUALIFICATIONS
ALLIANCE

GCSE

**Science A (4461) /
Physics (4451)**

Specification A

PHY1AP, PH1ASF & PH1ASH

Mark Scheme

2010 Examination – November Series

**The blank answer sheet for this component can be
found at the end of this document.**

This component is an objective test for which the following list indicates the correct answers used in marking the candidates' responses.

Further copies of this Mark Scheme are available to download from the AQA Website: www.aqa.org.uk

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GCSE
SCIENCE A (4461) / PHYSICS (4451)

Objective Test Answer Key

PHY1A (Energy and Electricity)

November 2010

Foundation Tier

Question	Key			
One	A	conduction	2	
	B	insulation	3	
	C	radiation	1	
	D	reflection	4	
Two	A	gas	4	
	B	geothermal	3	
	C	moving water	2	
	D	uranium	1	
Three	A	chemical	1	
	B	electrical	3	
	C	heat	4	
	D	kinetic	2	
Four	A	coal-fired	4	
	B	hydroelectric	3	
	C	nuclear	2	
	D	tidal barrage	1	
Five	A	electric drill	1	
	B	desk lamp	3	
	C	hair dryer	2	
	D	television	4	
	A	B	C	D
Six	2	4	2	1
Seven	1	1	4	2
Eight	4	1	3	4
Nine	2	3	3	4

GCSE
SCIENCE A (4461) / PHYSICS (4451)

Objective Test Answer Key

PHY1A (Energy and Electricity)

November 2010

Higher Tier

Question	Key			
One	A	electric drill	1	
	B	desk lamp	3	
	C	hair dryer	2	
	D	television	4	
Two	A	electrical to light	1	
	B	electrical to sound	2	
	C	light to electrical	4	
	D	sound to electrical	3	
	A	B	C	D
Three	4	1	3	4
Four	2	3	3	4
Five	4	2	4	4
Six	3	2	4	1
Seven	3	4	2	1
Eight	2	4	2	3
Nine	2	3	4	3

Unit : PHY1AP PHYSICS UNIT 1A

Centre :

Candidate Number :

UCI :

Series: BG10

Candidate Name :

11-NOV-10

For completion by the Examination Invigilator. Please fill this circle if the candidate is absent: ○

HIGHER TIER

Instructions on how to complete this answer sheet are given on the question paper. Please make sure you follow them carefully.

Questions ONE to NINE Choose one response 1 - 4 for each of the parts A - D

QUESTION ONE		1	2	3	4
1A	Electric drill	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1B	Desk lamp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1C	Hair dryer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1D	Television	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION TWO		1	2	3	4
2A	electrical to light	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2B	electrical to sound	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2C	light to electrical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2D	sound to electrical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION THREE		1	2	3	4
3A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION FOUR		1	2	3	4
4A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION FIVE		1	2	3	4
5A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION SIX		1	2	3	4
6A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION SEVEN		1	2	3	4
7A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION EIGHT		1	2	3	4
8A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION NINE		1	2	3	4
9A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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FOUNDATION TIER

Instructions on how to complete this answer sheet are given on the question paper. Please make sure you follow them carefully.

Questions ONE to NINE Choose one response 1 - 4 for each of the parts A - D

QUESTION ONE		1	2	3	4
1A	conduction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1B	insulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1C	radiation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1D	reflection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION TWO		1	2	3	4
2A	gas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2B	geothermal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2C	moving water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2D	uranium	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION THREE		1	2	3	4
3A	chemical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3B	electrical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3C	heat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3D	kinetic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION FOUR		1	2	3	4
4A	coal-fired	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4B	hydroelectric	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4C	nuclear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4D	tidal barrage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION FIVE		1	2	3	4
5A	Electric drill	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5B	Desk lamp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5C	Hair dryer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5D	Television	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION SIX		1	2	3	4
6A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6C		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6D		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION SEVEN		1	2	3	4
7A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7C		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7D		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION EIGHT		1	2	3	4
8A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8C		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8D		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION NINE		1	2	3	4
9A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9C		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9D		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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