



GCSE

Science A (4461)

Specification A

PHY1AP, PH1ASF & PH1ASH

Mark Scheme

2010 Examination – March 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
PHY1AP (Energy and Electricity)
March 2010
 Foundation Tier

Question	<i>Key</i>			
One	A	conduction	4	
	B	convection	3	
	C	insulation	2	
	D	radiation	1	
Two	A	heat (thermal energy)	1	
	B	light	3	
	C	movement (kinetic energy)	4	
	D	sound	2	
Three	A	electric kettle	2	
	B	electric oven	4	
	C	electric shower	1	
	D	flat-screen television	3	
Four	A	Electricity is produced.	4	
	B	Fission of uranium produces heat.	1	
	C	The heat is used to produce steam.	2	
	D	The turbine drives a generator.	3	
Five	A	0.25	4	
	B	60	3	
	C	100	1	
	D	240	2	
	A	B	C	D
Six	3	4	2	1
Seven	1	4	2	1
Eight	3	3	1	2
Nine	2	2	2	4

GCSE
SCIENCE A (4461)/PHYSICS (4451)
Objective Test Answer Key
PHY1AP (Energy and Electricity)
March 2010
Higher Tier

Question	<i>Key</i>			
One	A	0.25	4	
	B	60	3	
	C	100	1	
	D	240	2	
Two	A	computer monitor	1	
	B	loudspeaker	3	
	C	microphone	2	
	D	solar cell	4	
	A	B	C	D
Three	3	3	1	2
Four	2	2	2	4
Five	3	2	2	4
Six	4	4	4	3
Seven	4	4	2	1
Eight	3	3	2	2
Nine	1	4	4	1

Unit : PHY1AP PHYSICS UNIT 1A

Centre :

Candidate Number :

UCI :

Series : 3G10

Candidate Name :

03-MAR-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	0.25	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1B	60	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1C	100	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1D	240	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION TWO		1	2	3	4
2A	computer monitor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2B	loudspeaker	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2C	microphone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2D	solar cell	<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"/>
3B		<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"/>
3D		<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"/>
4B		<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"/>
4D		<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"/>
5B		<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"/>
5D		<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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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	convection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1C	insulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1D	radiation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION TWO		1	2	3	4
2A	heat (thermal energy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2B	light	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2C	movement (kinetic energy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2D	sound	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION THREE		1	2	3	4
3A	electric kettle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3B	electric oven	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3C	electric shower	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3D	flat-screen television	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION FOUR		1	2	3	4
4A	Electricity is produced.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4B	Fission of uranium produces heat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4C	The heat is used to produce steam.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4D	The turbine drives a generator.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION FIVE		1	2	3	4
5A	0.25	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5B	60	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5C	100	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5D	240	<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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