



GCSE

Science A (4461)

Specification A

PHY1AP, PH1ASF & PH1ASH

Mark Scheme

2010 Examination – June 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)
June 2010
 Foundation Tier

Question	Key			
One	A	chemical energy	4	
	B	electrical energy	3	
	C	heat (thermal energy)	2	
	D	kinetic energy	1	
Two	A	conduction	4	
	B	convection	3	
	C	insulation	1	
	D	radiation	2	
Three	A	fossil fuels	1	
	B	hot rocks	2	
	C	moving air	4	
	D	sunlight	3	
Four	A	gas-fired	2	
	B	hydroelectric	1	
	C	nuclear	3	
	D	wind farm	4	
Five	A	Coal	4	
	B	Gas	1	
	C	Hydroelectric (falling water)	2	
	D	Nuclear	3	
	A	B	C	D
Six	2	2	3	2
Seven	2	3	1	2
Eight	4	4	3	3
Nine	3	2	4	3

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

Question	Key			
One	A	Coal		4
	B	Gas		1
	C	Hydroelectric (falling water)		2
	D	Nuclear		3
Two	A	electricity is produced		4
	B	moving water drives turbines		2
	C	turbines drive generators		3
	D	water collects in a reservoir		1
	A	B	C	D
Three	4	4	3	3
Four	3	2	4	3
Five	2	2	3	2
Six	2	3	2	4
Seven	4	3	4	4
Eight	3	2	2	2
Nine	2	3	3	2

Unit : PHY1AP PHYSICS UNIT 1A

Centre :

Candidate Number :

UCI :

Series : 6M10

Candidate Name :

28-JUN-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	Coal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1B	Gas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1C	Hydroelectric (falling water)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1D	Nuclear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION TWO		1	2	3	4
2A	electricity is produced	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2B	moving water drives turbines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2C	turbines drive generators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2D	water collects in a reservoir	<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	chemical energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
1B	electrical energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
1C	heat (thermal energy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
1D	kinetic energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			

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

	QUESTION THREE				1	2	3	4
3A	fossil fuels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
3B	hot rocks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
3C	moving air	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
3D	sunlight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			

	QUESTION FOUR				1	2	3	4
4A	gas-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	wind farm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			

	QUESTION FIVE				1	2	3	4
5A	Coal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
5B	Gas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
5C	Hydroelectric (falling water)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
5D	Nuclear	<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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