



ASSESSMENT and
QUALIFICATIONS
ALLIANCE

GCSE

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

Specification A

PHY1BP, PH1BSF & PH1BSH

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
PHY1B (Radiation and the Universe)
November 2010
 Foundation Tier

Question	Key			
One	A	infra red	1	
	B	ultraviolet	4	
	C	visible light	3	
	D	X-rays	2	
Two	A	can be used by anyone to view the surface of the moon	2	
	B	in orbit around the Earth	3	
	C	built on the top of a mountain and can be used to view planets	4	
	D	used by scientists to detect radio waves from space	1	
Three	A	infra red	4	
	B	microwaves	3	
	C	radio waves	1	
	D	visible light	2	
Four	A	gamma	1	
	B	infra red	3	
	C	radio	4	
	D	ultraviolet	2	
Five	A	decreased	3	
	B	increased	2	
	C	shifted	1	
	D	not changed	4	
	A	B	C	D
Six	2	4	3	4
Seven	1	1	2	3
Eight	1	3	3	1
Nine	2	1	3	3

GCSE
SCIENCE A (4461) / PHYSICS (4451)
 Objective Test Answer Key
PHY1B (Radiation and the Universe)
November 2010
 Higher Tier

Question	Key			
One	A	decreased	3	
	B	increased	2	
	C	shifted	1	
	D	not changed	4	
Two	A	categoric	3	
	B	continuous	1	
	C	dependent	2	
	D	reliable	4	
	A	B	C	D
Three	1	3	3	1
Four	2	1	3	3
Five	3	3	1	4
Six	3	2	1	2
Seven	2	3	2	4
Eight	2	2	4	2
Nine	3	3	4	4

Unit : PHY1BP PHYSICS UNIT 1B

Centre :

Candidate Number :

UCI :

Series : BG10

Candidate Name :

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	decreased	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1B	increased	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1C	shifted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1D	not changed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION TWO		1	2	3	4
2A	categoric	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2B	continuous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2C	dependent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2D	reliable	<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	infra red	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1B	ultraviolet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1C	visible light	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1D	X-rays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION TWO		1	2	3	4
2A	can be used by anyone to view the surface of the Moon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2B	in orbit around the Earth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2C	built on top of a mountain, can be used to view planets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2D	used by scientists to detect radio waves from space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

QUESTION THREE		1	2	3	4
3A	infra red	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3B	microwaves	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3C	radio waves	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3D	visible light	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

QUESTION FIVE		1	2	3	4
5A	decreased	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5B	increased	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5C	shifted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5D	not changed	<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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