



Rewarding Learning

General Certificate of Secondary Education
2012

Science: Single Award (Modular)

Road Safety, Radioactivity
and Earth in Space
Module 6

Foundation Tier

[GSC61]

WEDNESDAY 14 NOVEMBER 2012

2.30 pm–3.15 pm

**MARK
SCHEME**

- 1 (a) Mars [1]
Jupiter [1] [2]
- (b) Hydrogen [1]
pulled [1]
fusion [1] [3]
- (c) E [1]
- (d) Extra-terrestrial [1]
- 2 (a) C & D [2]
- (b) Advantage – provides jobs for those close to mine [1]
Disadvantage – dust pollution/noise pollution/visual eyesore/
destroys habitats [1] [2]
- (c) Oil
gas
coal (any 2) [2]
- 3 (a) (i) steady speed [1]
(ii) A → B [1]
(iii) 100/20 [1]
5 [2] [2]
- (b) (i) 4 bars correct [2]
2–3 bars correct [1] [2]
- (ii) Donna [1]
- (c) 23 m [1]
12 m [1] [2]
- (d) (i) Friction [1]
(ii) Heat/Sound [1]
- (e)
- | | Decrease | No change | Increase |
|-------------------|----------|-----------|----------|
| Reaction time | | | ✓ |
| Thinking distance | | | ✓ |
| Braking distance | | ✓ | |
- [3]

AVAILABLE
MARKS

7

6

14

			AVAILABLE MARKS
4	(a) A – neutron [1] B – electron [1]	[2]	
	(b) (i) Buildings/medical/nuclear power/food and drink	[1]	
	(ii) Background	[1]	4
5	(a) (i) Battery [1] Petrol [1]	[2]	
	(ii) It uses less fossil fuel [1] Less carbon dioxide produced [1] Less global warming [1]	[3]	
	(b) How good a device is at transferring energy	[1]	
	(c) (i) 800 J	[1]	
	(ii) 1200/4000 [1] 0.3/30% [2]	[2]	9
6	(a) Aluminium stops (alpha and) beta [1] Paper stops alpha [1] Lead stops all; three/gamma [1] keep counter/source same distance from material [1] <i>any 3</i>	[3]	
	(b) Kills bacteria/fungus [1] longer shelf life [1]	[2]	5
Total			45