



# Developing/Secure Pathway

End of Topic Assessment

## Space

### Analysis and Targets

No.	Score	Below/On/Above	Target for next Assessment. How will you achieve it?
1	___/6		
2	___/4		
3	___/6		
4	___/6		
5	___/4		
6	___/4		

Now complete the "Next Step" sheet you've been given and when finished attach it to the back of the paper.

**Q1.** (a) Sita made a model of three parts of the solar system, the Sun, Earth and Moon. She used a marble, a torch and a tennis ball.

Draw a line from each part of the solar system to the object she used.

Draw only **three** lines.

**part of the solar system**

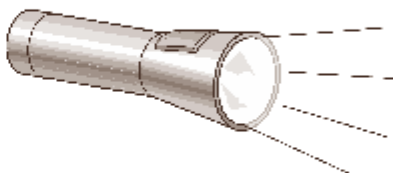
**object**

**Sun**



marble

**Earth**



torch

**Moon**



tennis ball

2 marks

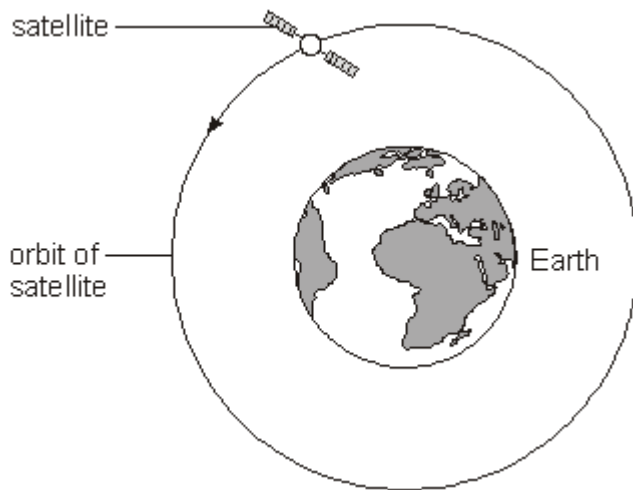
(b) The table below shows the order of some of the planets in our solar system.

Complete the table to show the positions of the Earth, Neptune and the Sun.

	Mercury	Venus		Mars	Jupiter	Saturn	Uranus	
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2 marks

(c) The diagram shows a satellite in orbit around the Earth.



*not to scale*

(i) Give **one** use of a satellite.

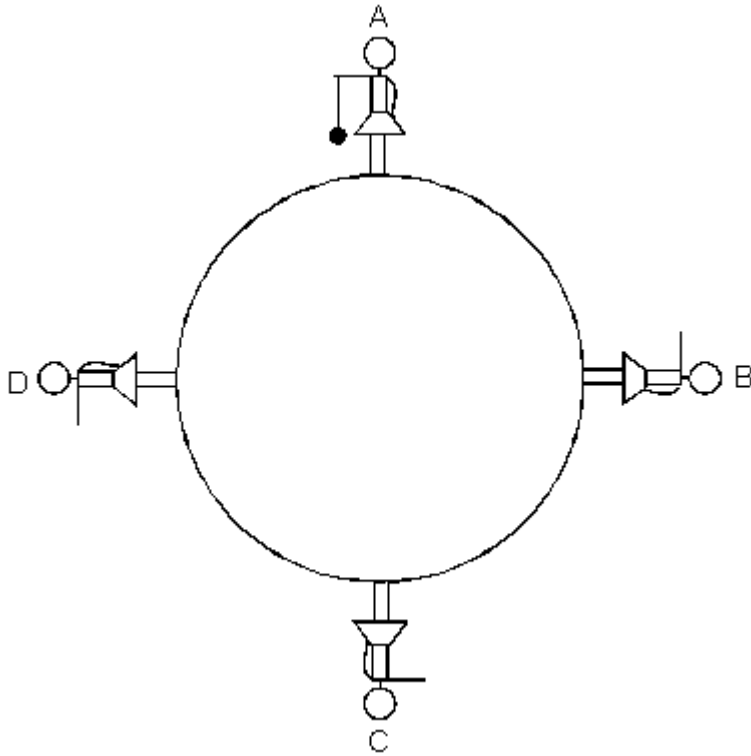
.....  
.....

(ii) Which force keeps the satellite in orbit around the Earth?  
Tick the correct box.

gravity	<input type="checkbox"/>	friction	<input type="checkbox"/>
air resistance	<input type="checkbox"/>	magnetism	<input type="checkbox"/>

2 marks  
maximum 6 marks

**Q2.** Lisa drew a picture of herself standing at four different positions on the Earth,



*not to scale*

- (a) (i) Draw an arrow at **each** of the four positions to show the direction of the force of gravity on Lisa.

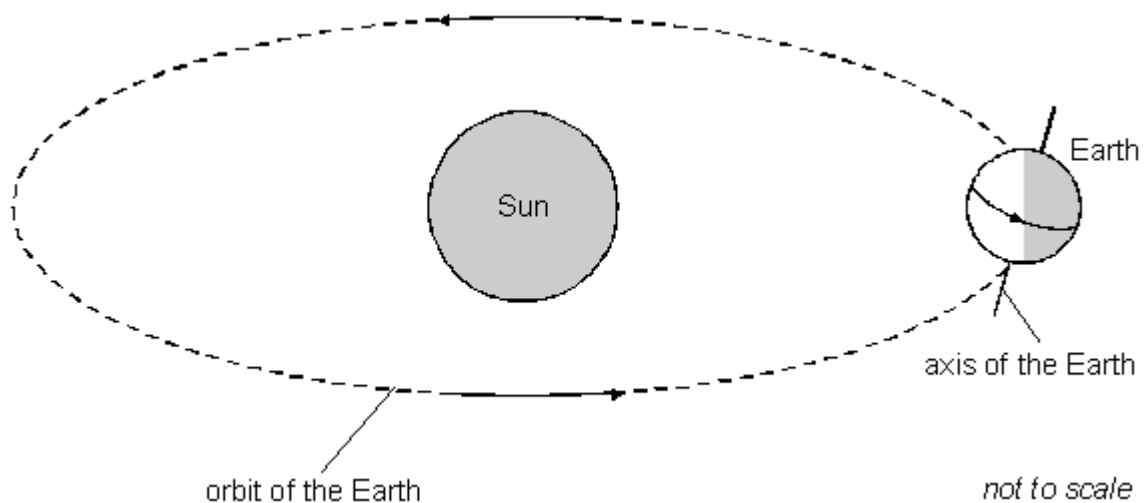
1 mark

- (ii) The drawing at position A shows Lisa holding a ball on a string. Draw the ball and string in positions B, C and D.

1 mark

(b) The drawing below shows:

- that the Earth goes round the Sun;
- that the Earth rotates on its axis.



Choose from the list below to answer parts (i) and (ii).

**60 seconds 60 minutes 24 hours 7 days 28 days 365 days**

(i) How long does it take for the Earth to go round the Sun once?

.....

1 mark

(ii) How long does it take for the Earth to rotate on its axis once?

.....

1 mark  
Maximum 4 marks

**Q3.** David lives in Britain. He sees that the Sun seems to move across the sky.

(a) Where does the Sun rise in the morning? Tick the correct box.

in the north	<input type="checkbox"/>	in the south	<input type="checkbox"/>
in the west	<input type="checkbox"/>	in the east	<input type="checkbox"/>

(b) (i) At what time of day is the Sun highest in the sky?

.....

2 mark

(ii) In which direction will David see the Sun when it is highest in the sky? Tick the correct box.

towards the north	<input type="checkbox"/>	towards the south	<input type="checkbox"/>
towards the west	<input type="checkbox"/>	towards the east	<input type="checkbox"/>

1 mark

(c) Where does the Sun set in the evening? Tick the correct box.

in the north	<input type="checkbox"/>	in the south	<input type="checkbox"/>
in the west	<input type="checkbox"/>	in the east	<input type="checkbox"/>

1 mark

(d) Explain why the Sun seems to move across the sky.

.....

1 mark

(e) Light from the Sun takes about 8 minutes to get to the Earth. How long does light from other stars take to get to the Earth? Tick the correct box.

more than 8 minutes	<input type="checkbox"/>
8 minutes	<input type="checkbox"/>
less than 8 minutes	<input type="checkbox"/>
zero minutes	<input type="checkbox"/>

1 mark  
Maximum 6 marks

**Q4**

The table below gives information about the planets of the Solar System. They are listed in alphabetical order.

planet	average distance from the Sun in million km	diameter in km	time for one orbit round the Sun	time for one rotation on its axis in hours	temperature on surface of planet in °C
Earth	150	13 000	365 days	24	+22
Jupiter	780	140 000	12 years	9.8	-150
Mars	230	6800	687 days	25	-23
Mercury	58	4900	88 days	1400	+350
Neptune	4500	51 000	165 years	16	-220
Pluto	5900	2300	248 years	150	-220
Saturn	1400	120 000	29 years	10.2	-180
Uranus	2900	51 000	84 years	17	-210
Venus	110	12 000	225 days	5800	+480

(Data obtained from *The Guinness Book of Astronomy*, Patrick Moore; published by Guinness 1992)

(a) Explain why Neptune and Pluto are the coldest planets.

.....

1 mark

(b) Explain why there could be no liquid water on the surface of:

(i) Mars .....

1 mark

(ii) Venus .....

1 mark

(c) On which planet would the time between sunrise and sunset be shortest?

.....

1 mark

(d) Which planet has the shortest year?

.....

1 mark

(e) Give the name of the force which keeps the planets in their orbits.

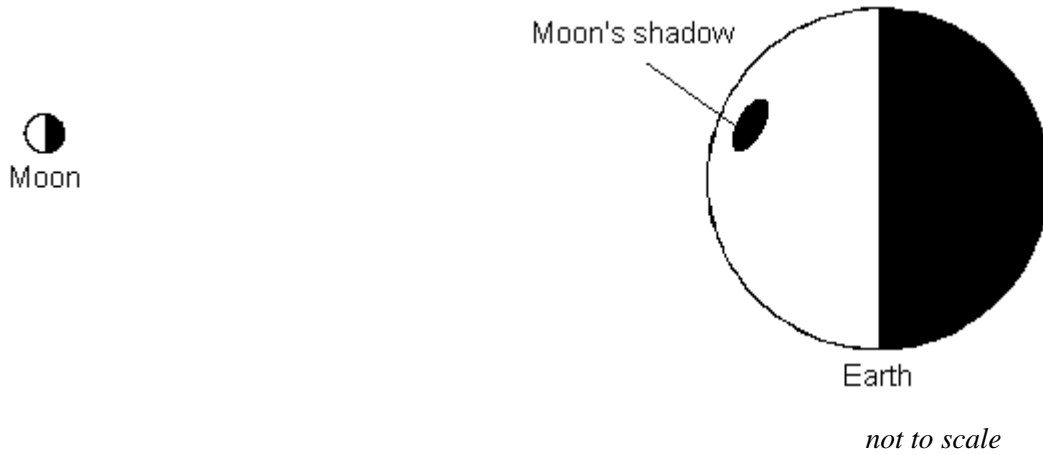
.....

1 mark

Maximum 6 marks

On 11th August 1999 there will be an eclipse. The shadow of the Moon will pass over part of the Earth.

(a) The diagram below shows the Moon, the Moon's shadow and the Earth.



On the diagram, draw an arrow pointing towards where the Sun must be.

1 mark

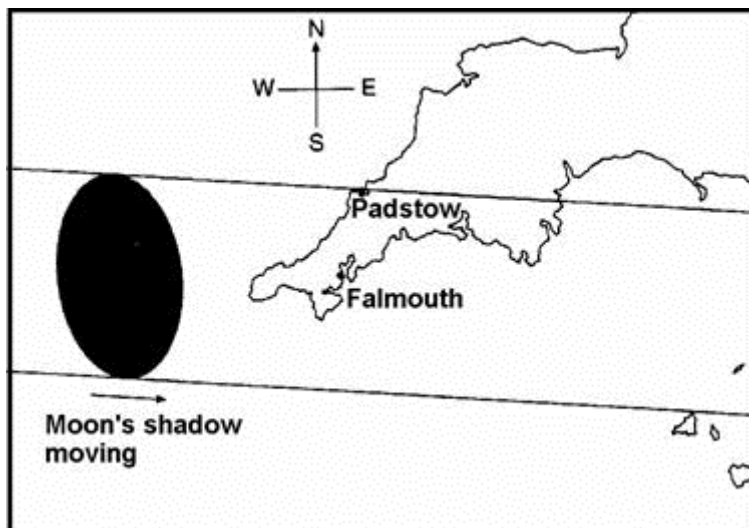
(b) At about midday the Moon's shadow will pass over Cornwall in England. Where, in the sky, is the Sun at midday? Tick the correct box.

- |                   |                          |
|-------------------|--------------------------|
| towards the North | <input type="checkbox"/> |
| towards the West  | <input type="checkbox"/> |
| towards the East  | <input type="checkbox"/> |
| towards the South | <input type="checkbox"/> |

1 mark



(c) The map shows the shape of the Moon's shadow and the path it will take across Cornwall.



The Moon's shadow will take about 2 minutes to move across a house in Falmouth. It will take less than 2 minutes to move across a house in Padstow.

Explain why it will take less time for the Moon's shadow to move across a house in Padstow than to move across one in Falmouth.

.....  
.....

1 mark

(d) Why does the Moon's shadow move over the surface of the Earth?

.....  
.....

1 mark  
Maximum 4 marks

**Q6.** Each of the observations shown below has one explanation.

Draw a line from each observation to the correct explanation.

**observation**

**explanation**

A ship going out to sea goes out of sight.

The Earth spins on its axis.

We have day and night.

The Earth is a sphere.

We have summer and winter.

The Earth orbits the Sun and the Earth's axis is tilted.

One year on Earth is 365 days.

Gravity attracts objects towards the Earth.

The Earth orbits the Sun.

maximum 4 marks