

Name:

Date:

Science Assessment Year 5: Earth and Space



The Solar System

1. Join up these labels to the correct planet, star or satellite:

Mars Earth Saturn Mercury Neptune

Sun Uranus Venus Earth's Moon Jupiter

5 marks

Movements, Shape and Size

2. Roughly, how much bigger than the Earth is the Sun? Circle the correct answer:

10 times bigger

Over 1 million times bigger

5000 times bigger

10 000 times bigger

1 mark

3. Why does the Sun look like it is moving across the sky during the day?

1 mark

4. How long does it take for:

a) The Earth to spin once on its axis?

1 mark

Total for this page

b) The Moon to go around the Earth once?

.....

1 mark

c) The Earth to go round the Sun once?

.....

1 mark

5. Describe how Earth and the other planets in our Solar System move around:

.....

.....

1 mark

6. By the 17th Century, scientists and astronomers had accepted that we have a heliocentric solar system. Before this, it was accepted that we had a geocentric system. What did the geocentric system mean and why is it wrong?

.....

.....

1 mark

.....

Eclipses

7. What happens in a solar eclipse?

.....

.....

2 marks

8. How is it that the Moon looks about the same size as the Sun during a solar eclipse, when in reality, the Sun is many, many times bigger than the Moon?

.....

.....

1 mark

Total for this page

9. What is a Solar Eclipse?

.....

1 mark

10. What safety issues should you think about when wanting to watch a solar eclipse?

.....

1 mark

.....

Seasons and Times

11. What causes the seasons in our part of the Earth?

.....

1 mark

12. What is the name for the time of year when day and night are the same length? (This happens twice a year.)

.....

1 mark

13. All about leap years...

a) What is a leap year?

.....

1 mark

b) How often do we have a leap year?

.....

1 mark

c) Why do we have to have leap years?

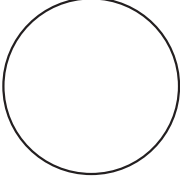
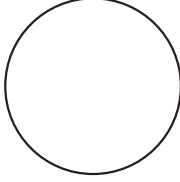
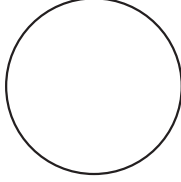
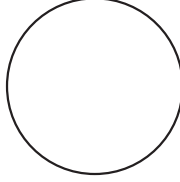
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1 mark

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The Moon

14. Shade these circles to show these phases of the Moon:

			
New Moon	Waxing Crescent	Waning Gibbous	Third/Last Quarter

15. Who was the first man on the Moon in 1969?

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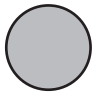

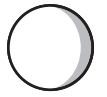

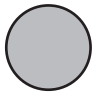

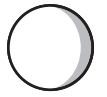

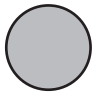

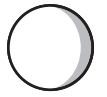

2 marks

1 mark

Total for this page

question	answer	marks	notes
1. Join up these labels to the correct planet, star or satellite.			
		5	5 marks available: <ul style="list-style-type: none"> • 0 marks for 1 correct • 1 mark for 2 or 3 correct • 2 marks for 4 or 5 correct • 3 marks for 6 or 7 correct • 4 marks for 8 or 9 correct • 5 marks for all 10 correct
2. Roughly, how much bigger than the Earth is the Sun? Circle the correct answer.			
	1 mark for: <ul style="list-style-type: none"> • Over 1 million times bigger 	1	
3. Why does the Sun look like it is moving across the sky during the day?			
	Example: <ul style="list-style-type: none"> • The Earth spins on its axis so we move, not the Sun • As the Earth turns, it turns away and towards the Sun 	1	1 mark for answers that mention the Earth spinning.
4. How long does it take for:			
a	1 mark for either of: <ul style="list-style-type: none"> • 1 day • 24 hours 	1	
b	1 mark for of: <ul style="list-style-type: none"> • 28 days 	1	
c	1 mark for either of: <ul style="list-style-type: none"> • 1 year • 365 days • 365 $\frac{1}{4}$ days 	1	
5. Describe how Earth and the other planets in our Solar System move around.			
	1 mark for answers that mention the word orbit : <ul style="list-style-type: none"> • All the planets orbit the Sun at different distances. Mercury is the nearest and Pluto/Neptune is the furthest away. • Earth orbits the Sun and so do the other planets. 	1	Accept answers that mention a heliocentric model/system, even if the word 'orbit' is not there. Do not accept answers that say 'go round' the Sun as the scientific word 'orbit' should be used.

question	answer	marks	notes
6. By the 17th Century, scientists and astronomers had accepted that we have a heliocentric solar system. Before this, it was accepted that we had a geocentric system. What did the geocentric system mean and why is it wrong?			
	1 mark for answers that describe the geocentric system mentioning all these things: <ul style="list-style-type: none"> planets and the Sun orbiting The Earth at the centre of the (orbiting) planets and stars/Sun 	1	
7. What happens in a solar eclipse?			
	1 mark for: <ul style="list-style-type: none"> The Moon moves in front of the Sun 2nd mark for either of: <ul style="list-style-type: none"> The Moon blocks the Sun's rays/light This makes it dark The Sun's light can't get through 	2	
8. How is it that the Moon looks about the same size as the Sun during a solar eclipse, when in reality, the Sun is many, many times bigger than the Moon?			
	<ul style="list-style-type: none"> The Moon is nearer than the Sun The Sun is much further away than the Moon 	1	
9. What is a Solar Eclipse?			
	<ul style="list-style-type: none"> A solar eclipse where the Moon doesn't completely block out all of the Sun. A solar eclipse where there is a ring of light around the Moon when the eclipse is full. 	1	1 mark for either option
10. What safety issues should you think about when wanting to watch a solar eclipse?			
	<ul style="list-style-type: none"> Example: The Sun is too bright to look straight at You need to look through a dark filter because you can't look straight at the Sun. 	1	1 mark for answers that include the Sun being too bright to look directly at.
11. What causes the seasons in our part of the Earth?			
	Example: <ul style="list-style-type: none"> Because the Earth is tilted on its axis The Earth is tilted at 23.5° on its axis The fact that the Earth is sometimes pointing away from the Sun and sometimes point towards the Sun. 	1	1 mark for answers that mention the tilt of the Earth on its axis.

question	answer	marks	notes								
12. What is the name for the time of year when day and night are the same length? (This happens twice a year.)											
	1 mark for: <ul style="list-style-type: none"> Equinox Also accept: <ul style="list-style-type: none"> Spring Equinox and Autumn Equinox 	1	Accept spelling errors where the intention is obvious. Don't accept Spring Equinox or Autumn Equinox on their own.								
13. All about leap years...											
a	1 mark for answers that mention the extra day we have in February. For example: <ul style="list-style-type: none"> A year when we have one extra day in February A year with one extra day in it When we have 366 days rather than 365 days in our year 	1	February need not be mentioned for this answer.								
b	1 mark for: <ul style="list-style-type: none"> Every 4 years 	1									
c	1 mark for answers which refer to the Earth taking $365 \frac{1}{4}$ days to orbit the Sun.	1									
14. Shade these circles to show these phases of the Moon.											
	<table border="1" style="width: 100%; text-align: center;"> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>New Moon</td> <td>Waxing Crescent</td> <td>Waning Gibbous</td> <td>Third/Last Quarter</td> </tr> </table>					New Moon	Waxing Crescent	Waning Gibbous	Third/Last Quarter	2	0 marks for 1 correct 1 mark for 2 or 3 correct 2 marks for 4 correct Accept rough shading and answers where the shape is near enough to these without creeping into the next stage. New Moon should be just about fully black.
											
New Moon	Waxing Crescent	Waning Gibbous	Third/Last Quarter								
15. Who was the first man on the Moon in 1969?											
	<ul style="list-style-type: none"> Neil Armstrong Armstrong 	1	1 mark for either option								
		total 25									