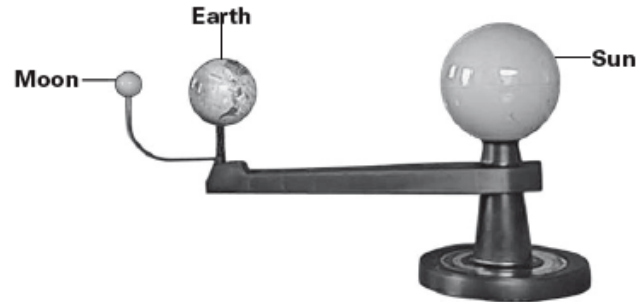


1

The Earth, Moon and Sun

- (a) The picture below shows a model of the Earth, Moon and Sun.



Tick **ONE** box to show the shape of the Earth, Moon and Sun in space.

cylinder

☐

sphere

☐

oval

☐

circle

☐

1a
1 mark

- (b) Complete the sentences below by writing **Earth**, **Moon** or **Sun**.

1bi
1 mark

The is a source of light.

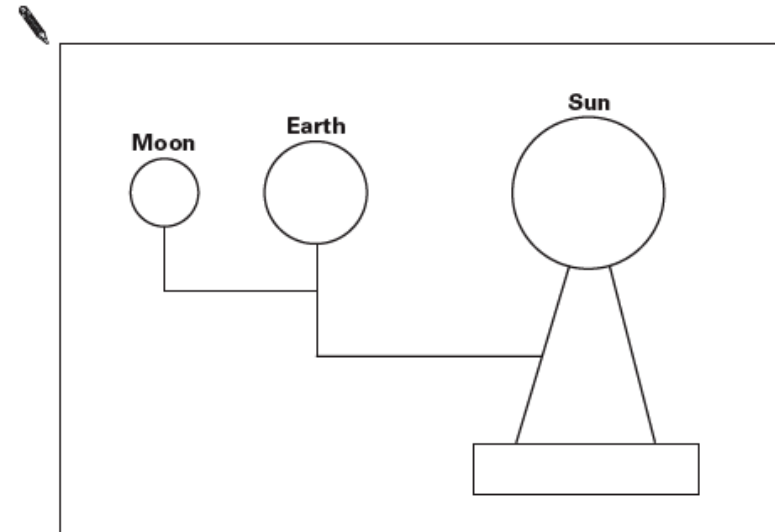
1bii
1 mark

The orbits the Sun.

The has an orbit of 28 days.

- (c) The diagram below shows the model of the Earth, Moon and Sun.

On the diagram, shade in the part of the **Earth** where it is night.



1c
1 mark

- (d) Describe how the Earth moves to cause day and night.

.....

.....

1d
1 mark

2 Moon trip

- (a) Astronauts travel to the Moon in a spacecraft.
Rocket engines push the spacecraft away from the Earth.

What name is given to the force that tries to pull the spacecraft back to Earth?

.....

- (b) From the Earth, the Moon looks like a circle.
The astronauts know this is not its real shape.



What shape is the Moon?

.....

- (c) The Moon orbits the Earth.

Tick **ONE** box to show how many days it takes the Moon to orbit the Earth.

1 day ☐ 7 days ☐
28 days ☐ 365 days ☐

- (d) The astronauts can see the Earth from space. On one half of the Earth it is night. On the other half it is day.

How does the Earth move to cause night and day?

.....

(1 mark)

- (e) Plants do not grow on the Moon.
Growth is one of the life processes of plants.

Name **another** life process of plants.

.....

(1 mark)

- (f) Plants cannot live on the Moon. Some of the conditions on the Moon stop plants carrying out all their life processes.

Tick the **TWO** conditions which stop plants carrying out their life processes on the Moon.

Tick **TWO** boxes.

There is sunlight.

☐

There are minerals in the rocks.

☐

There is no rain.

☐

There is no air.

☐

(1 mark)

3 Jack's shadow

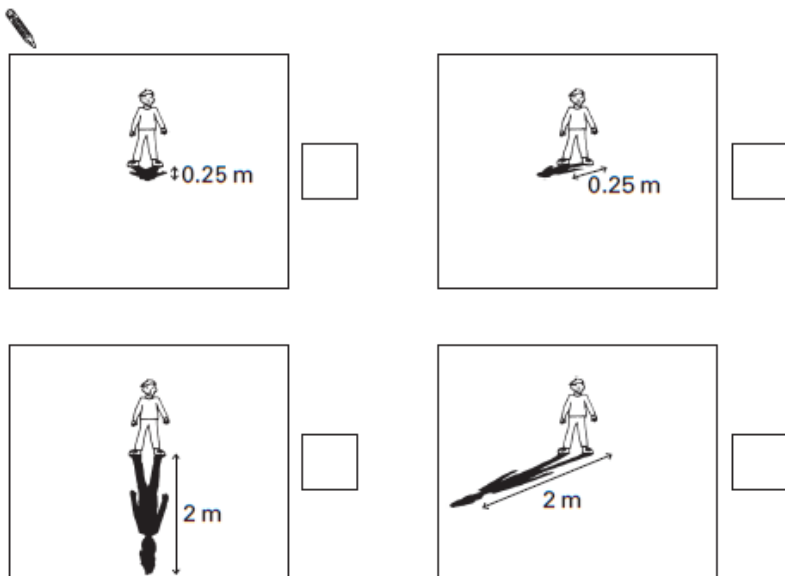
- (a) Class 3 are investigating shadows in the playground. It is a bright sunny day.

Susie measures the length of Jack's shadow at **9 am**.



Then she measures the length of Jack's shadow at midday. Jack stands in the same position in the playground.

Which picture shows Jack's shadow at **midday**? Tick **ONE** box.



- (b) Explain why a shadow forms on the ground when the sunlight shines on Jack.

.....

.....

- (c) At **3 pm** Jack stands in the same place in the playground. Susie measures Jack's shadow again. His shadow has changed position.

What movement in space causes Jack's shadow to change position?

.....

.....

(1 mark)

- (d) The class observed Jack's shadow on a sunny day.

Tick **ONE** box to show why the class should **not** do their test on a cloudy day.

On a cloudy day...

Jack's shadow is very dark.	<input type="checkbox"/>	Jack's shadow is difficult to see.	<input type="checkbox"/>
Jack's shadow does not change position.	<input type="checkbox"/>	Jack's shadow is very big.	<input type="checkbox"/>

(1 mark)

- (e) Susie has some ideas about shadows.

Write **true** or **false** under each idea about shadows.

The colour of a car's shadow depends on the colour of the car.

You can tell if Jack's eyes are shut by looking at his shadow.

The shape of the shadow depends on the shape of the object.

Only light from the Sun causes a shadow.

(2 marks)

(1 mark)

(1 mark)

- (a) Martin is making a model of the Earth, Sun and Moon. He collects some objects that can be used to model the Earth, Sun and Moon.



melon



pea



poppy seed

Write **Earth**, **Sun** and **Moon** in the table below to show what each object should model.

Object	melon	pea	poppy seed
What it models			

1 mark 4a

- (b) What shape are the Earth, Sun and Moon in space?

1 mark 4b

- (c) Martin uses his model to show what causes day and night.

How can Martin show what causes **day and night** using his model?

Tick **ONE** box.

spin the Earth on its axis

☐

move the Earth around the Sun

☐

spin the Sun on its axis

☐

move the Sun around the Earth

☐

1 mark 4c

- (d) Complete the sentence below about the Moon's orbit.



The Moon orbits the Earth once every.....

1 mark 4d

- (e) Martin shines a torch on a globe.
It models the Sun shining on the Earth.



Estimate what time of day it would be on the Earth at place A.

Places B and C have been done for you.



Place	Time of day
A	
B	6pm
C	9pm

1 mark 4e

Shadows and space

- (a) Jimmy stands a pole in the playground.
There is a shadow of the pole on the playground.

Why does the pole cause a shadow on the playground?



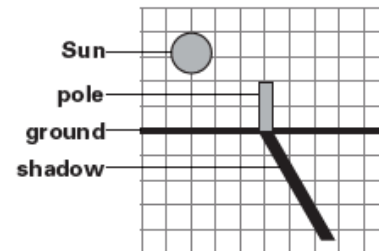
1 mark



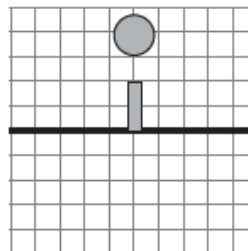
.....

- (b) Jimmy records the shadow at 10 am.

He draws his results on squared paper.



Draw the shadow of the pole at 12 noon.



1 mark

- (c) Tick **ONE** box to show which movement in space causes the shadows to change on Earth during a day.



the Sun spinning

☐

the Earth orbiting the Sun

☐

the Earth spinning

☐

the Moon orbiting the Earth

☐

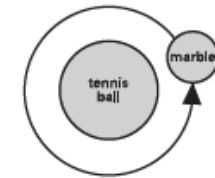

1 mark

- (d) Jimmy and his friends use different sized balls to model the Sun, Earth and Moon.

a football models the Sun
a tennis ball models the Earth
a marble models the Moon



The marble is moved around the tennis ball.



Which movement is modelled by the marble and the tennis ball?
Tick **ONE** box.

the Moon orbiting the Earth

☐

the Earth orbiting the Moon

☐

the Moon spinning on its axis

☐

the Earth spinning on its axis

☐


1 mark

- (e) The children use the tennis ball and the football to model an orbit.
This orbit takes one year.

How should the children move the tennis ball and the football to model the orbit that takes one year?



.....

.....



1 mark

6

The Earth and light

- (a) Kate and Ashur are finding out about the Earth, Sun and Moon.

They decide to investigate how shadows change at different times of the day. Kate measures the length of Ashur's shadow.

They repeat their test at two other times of the day.



Draw **THREE** lines to match each time of day to the correct length of shadow.

Time of day	Length of shadow
11am	280cm
12 noon	110cm
5pm	70cm

- (b) Tick **ONE** box to show why shadows change length during the day.

☐ The Sun orbits the Earth.
 ☐ The Earth orbits the Sun.

☐ The Sun goes up in the day and down at night.
 ☐ The Earth spins on its axis.

- (c) The Moon does not give out light of its own. It reflects light from the Sun.

Tick **ONE** box to show which sentence below is evidence that the Moon does not give out its own light.

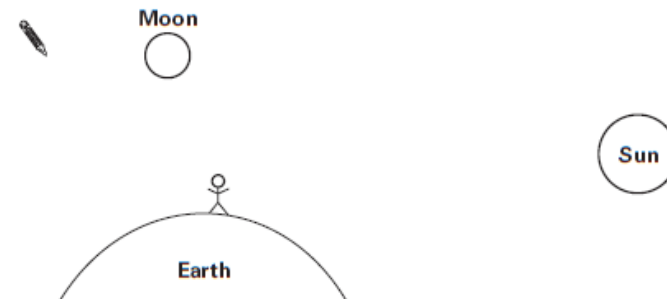
☐ The Moon is a sphere but appears to change shape during the month.

☐ The Moon is nearer to the Earth than the Sun.

☐ The Moon cannot be seen on cloudy days.

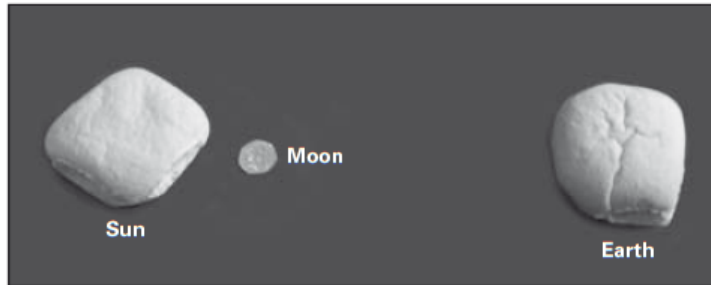
☐ The position of the Moon in the sky changes.

- (d) Draw **TWO** arrows on the diagram below to show the direction the light travels so that a person on the Earth can see the Moon.



7 The Sun

- (a) George makes a model of the Sun, Earth and Moon.
He uses two bread rolls and a 50p coin.



Tick **THREE** boxes to show some changes that would make George's model more accurate.



The Sun should be bigger.

☐

The Moon should be the same size as the Earth.

☐

The Sun should be a sphere.

☐

The Moon should be an oval.

☐

The Sun should orbit the Earth.

☐

The Moon should be closer to the Earth.

☐

(2 marks)

- (b) The Sun appears to move across the sky each day.

What movement in space makes the Sun appear to move across the sky each day?



.....

.....

(1 mark)

Module test questions

Earth, Sun and Moon

There used to be SATs tests in Science, quite like those for English and Maths.

These questions have been compiled from several of those old papers, so some of the questions are actually just asking for the same few answers in different ways.

There is no requirement to do the whole paper as a single test. Only do this if you really want to. Otherwise, perhaps try answering one printed page of the questions each day.

We cannot do these as a formal test because everyone is set up differently at home, so take your time and feel free to chat with family members about the questions as you go along.



