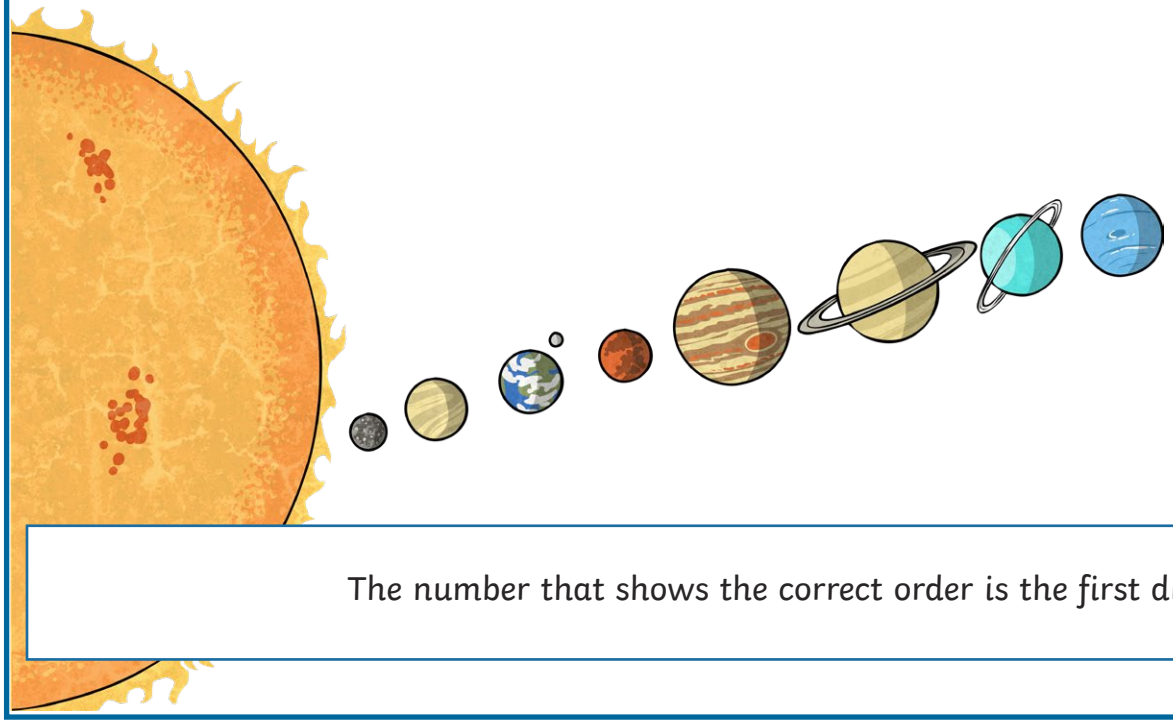
Earth and Space

Clue for Digit 1

Starting with the planet closest to the Sun, which is the correct order of the planets?

1. Mercury, Venus, Mars, Earth, Jupiter, Saturn, Uranus, Neptune
2. Mercury, Venus, Earth, Mars, Saturn, Jupiter, Uranus, Neptune
3. Venus, Mercury, Earth, Mars, Jupiter, Saturn, Uranus, Neptune
4. Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune



The number that shows the correct order is the first digit of the combination on the padlock.

Earth and Space

Clue for Digit 2

Look at these sentences about the Earth's movement in space.

It takes the Earth 365 days, or 1 year, to complete one rotation on its axis.

The Earth's axis is at a tilt of 23.5 degrees.

The Sun rotates on its axis once every 27 days.

The Sun rises in the west and sets in the east.

The Earth revolves round the Sun.

The path the Earth takes round the Sun is called its orbit.

When the northern hemisphere of the Earth is tilted away from the Sun, people in this area are experiencing summer.

The number of false statements is the second digit of the combination on the padlock.

Earth and Space

Clue for Digit 3

Look at these labels.

waxing half moon

waning crescent

full moon

waxing crescent

waning half moon

waxing gibbous

new moon

waning gibbous

The number of incorrect labels is the third digit of the combination on the padlock.

Earth and Space

Clue for Digit 4

An object in our solar system must have certain criteria to be classed as a planet.
Which of these criteria are they?

It has to be roughly spherical.	**It has to have been discovered by an astronomer.**	**It has to orbit the Sun.**
It must not orbit another planet.	**It must not be made of gas.**	**It must have at least one moon.**
It must be big enough to clear away any debris floating near to it.	**It cannot be seen in the sky with the naked eye.**	**It must once have had water on it.**

The number of things needed in order for a body to be classed as a planet is the fourth digit of the combination on the padlock.

Earth and Space

Clue for Digit 5

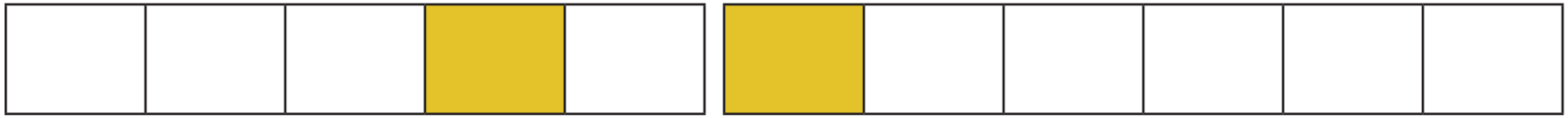
Read the clues about forces and write the answer with one letter in each box.

71% of the Earth's surface is covered in this.

21% of the Earth's atmosphere is made up of this.

The Earth, other planets and the Sun make up this.

When viewed from space, much of Earth is covered in this.



Rearrange the letters in the orange boxes to spell the next digit of the combination on the padlock.

Earth and Space

Clue for Digit 6

The number of months it takes for the Earth to orbit the Sun

+

The number of days it takes for the Moon to orbit the Earth

+

The number of hours it takes for the Earth to rotate on its axis

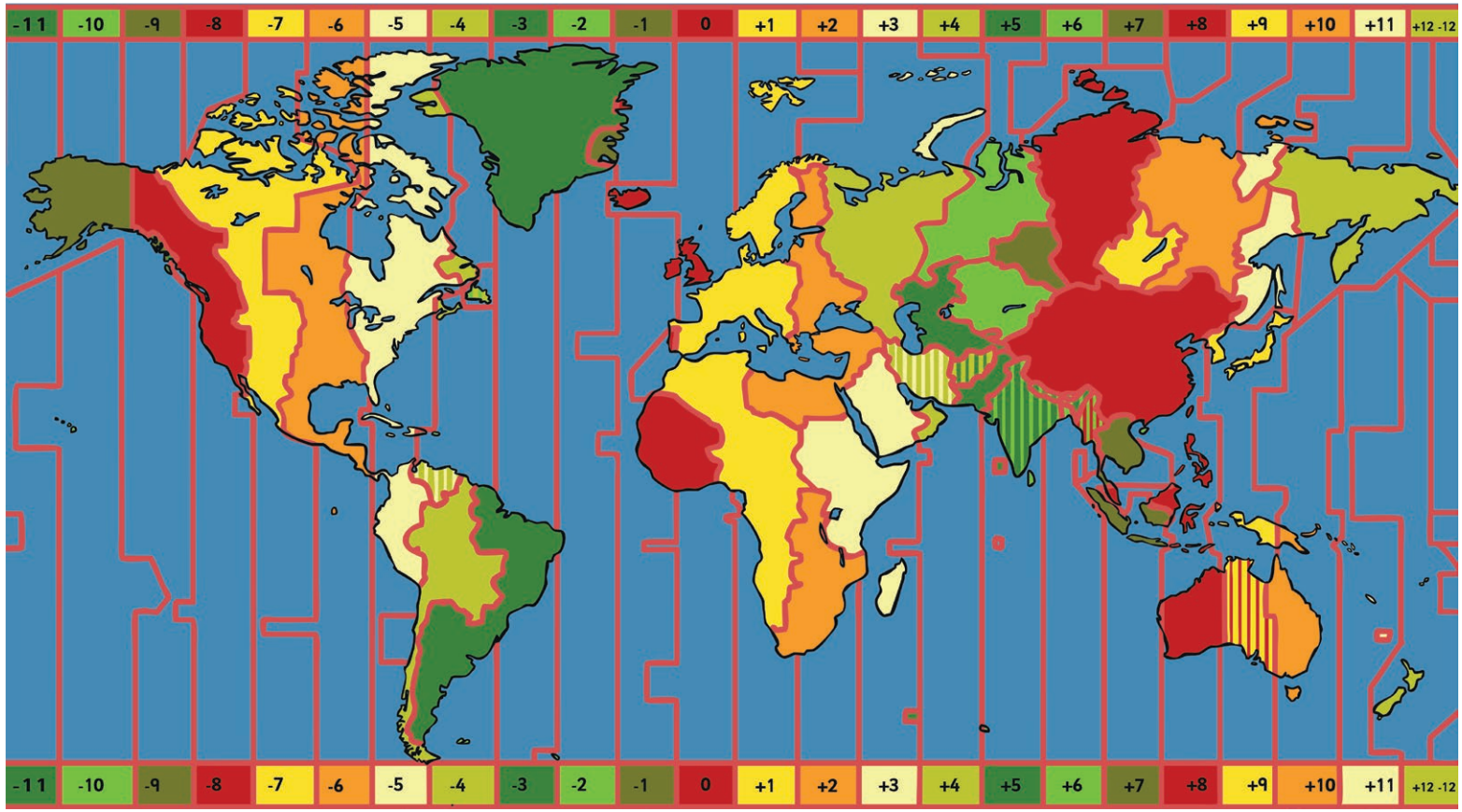
Divide this total by 8

The answer is the sixth digit of the combination for the padlock.

Earth and Space

Clue for Digit 7

The rotation of Earth creates different time zones across the world.



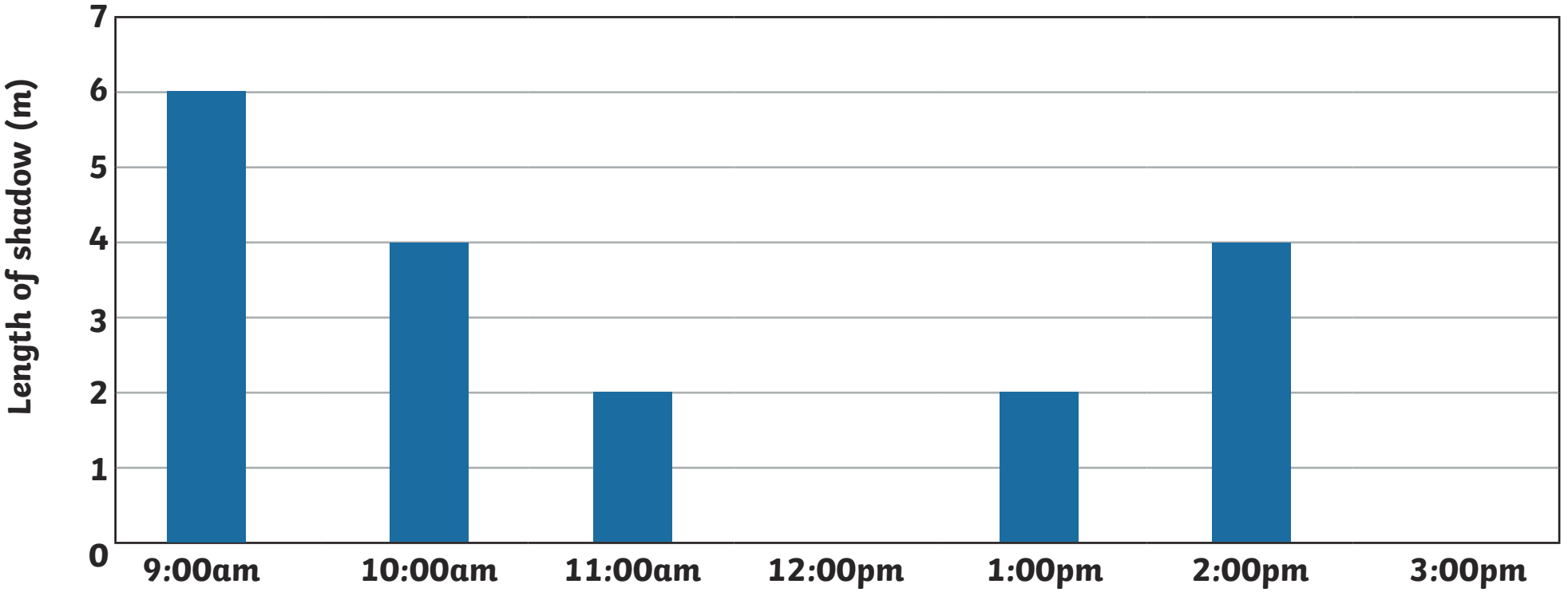
If it is 11pm in London, what time is it in Sydney?

The time is the seventh digit of the combination for the padlock.

Earth and Space

Clue for Digit 8

Due to the rotation of the Earth on its axis, the Sun appears to change position in the sky during the day. (Class 5 know that the Sun doesn't actually move!) Class 5 did an experiment to show how shadows change length. They recorded their results in a bar chart.



The data for 3pm is missing. Predict what the length of shadow might be at this time.

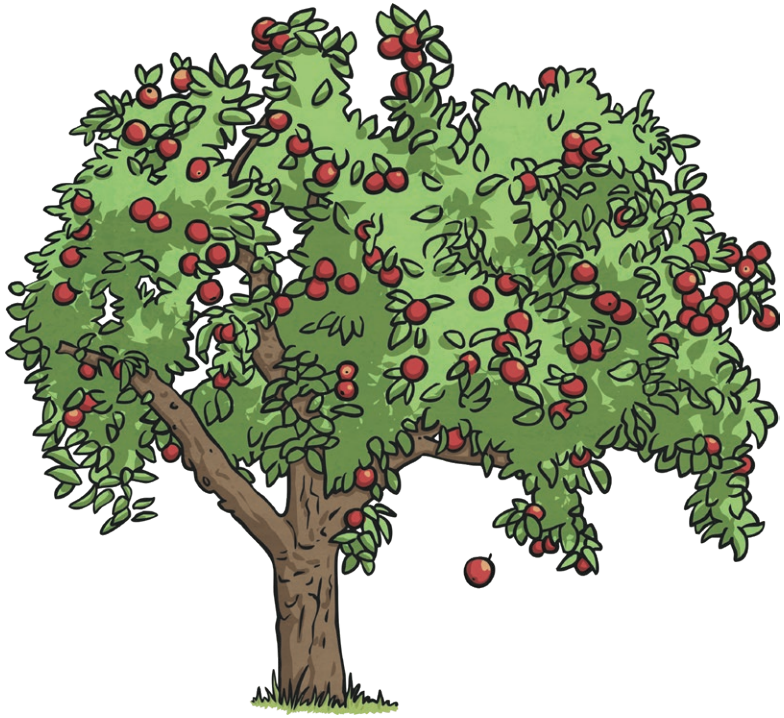
This is the eighth digit for the combination on the padlock.

Earth and Space

Clue for Digit 9

_____ is a force that pulls objects towards its centre.

It is measured in newtons and the strength of it changes with the mass of a planet.



The number of letters in the missing word is the ninth digit of the combination for the padlock.

Earth and Space

Clue for Digit 10

Which of these bodies isn't classed as a planet?

Jupiter	**Earth**	**Mars**	**Pluto**
Uranus	**Venus**	**Mercury**	**Saturn**

The final digit for the padlock is the number of letters in the word which is not a planet.