# Escape the Planetarium

Answers to the Clues

twinkl.com

# Escape the Planetarium – Clue 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**

Number 4 shows the planets in the correct order.
The **first** digit on the padlock is four.

4

twinkl.com

# Escape the Planetarium – Clue 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. **False**

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

The Sun does not rotate or revolve. **True**

The sun rises in the west and sets in the east. **False**

The Earth revolves round the Sun. **True**

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

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

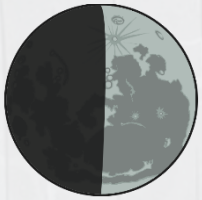
There are three false statements.
The **second** digit on the padlock is three.

3

twinkl.com

# Escape the Planetarium – Clue 3

Read these statements.

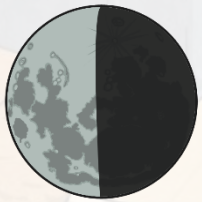


waxing half moon

waxing crescent

new moon

waning crescent



waning half moon

waning gibbous

full moon

waxing gibbous

There are six incorrect labels.
The **third** digit on the padlock is six.

6

twinkl.com

# Escape the Planetarium – Clue 4

Certain things mean an object in our solar system can 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. X | It has to orbit the Sun. |
| It must not orbit another planet. | It must not be made of gas. X | It must have at least one moon. X |
| 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. X | It must once have had water on it. X |

There are four things needed in order for a body to be classed as a planet. The **fourth** digit on the padlock is four.

4

twinkl.com

# Escape the Planetarium – Clue 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. **water**

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

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

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

The letters e, n, s, e, v rearranged spells 'seven'.
The ***fifth*** digit on the padlock is seven .

**7**

twinkl.com

# Escape the Planetarium – Clue 6

The number of months it takes for the Earth to orbit the Sun **12**

+

The number of days it takes for the Moon to orbit the Earth **28**

+

The number of hours it takes for the Earth to rotate on its axis **24**

Divide this total by 8

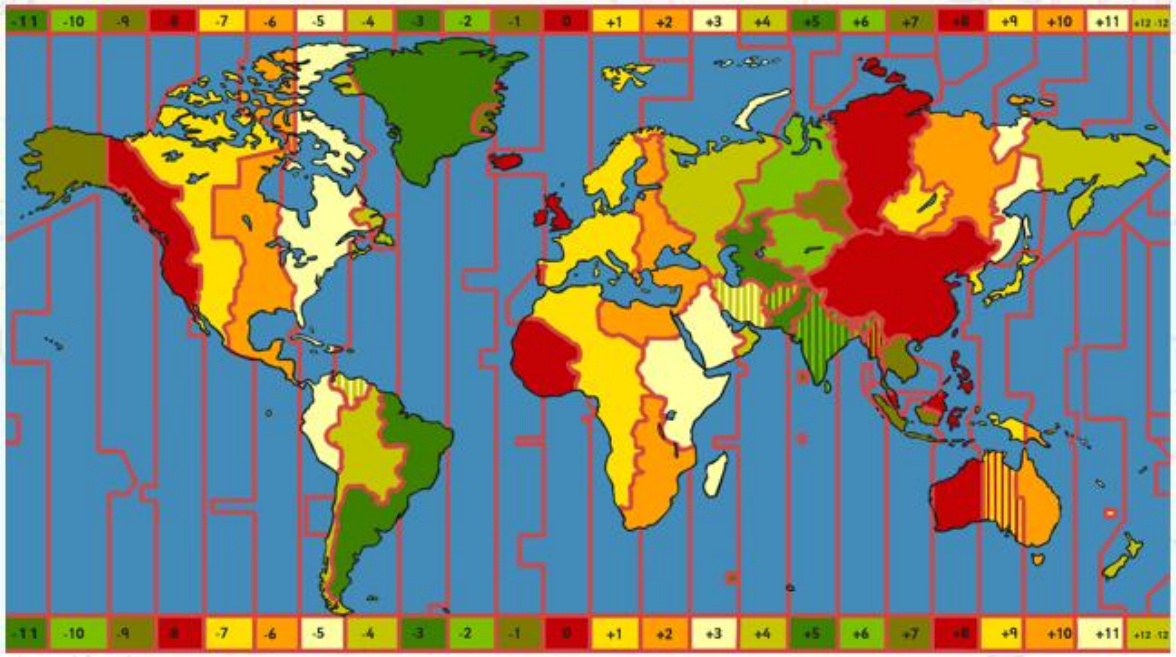
12 + 28 + 24 = 64
64 ÷ 8 = 8
The **sixth** digit on the padlock is eight.

**8**

twinkl.com

# Escape the Planetarium – Clue 7

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



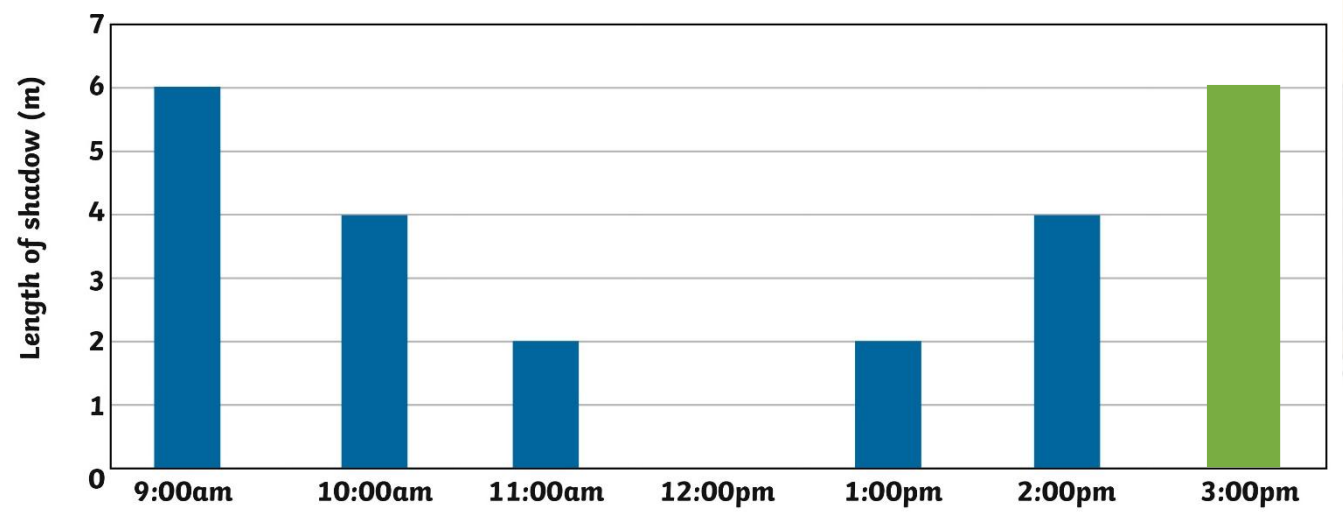

Sydney is 10 hours ahead of London. So if it is 11pm in London, it is 9am in Sydney.
The **seventh** digit on the padlock is nine.

9

twinkl.com

# Escape the Planetarium – Clue 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 shadow should be 6 metres, based on the way the shadow changed during the rest of the day.
The **eighth** digit on the padlock is six.

6

twinkl.com

# Escape the Planetarium – Clue 9

_____Gravity_____ 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.

The missing word is gravity and it has seven letters.
The **ninth** digit on the padlock is seven.

7

twinkl.com

# Escape the Planetarium – Clue 10

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

| | | | |
|---|---|---|---|
| Jupiter | Earth | Mars | Pluto |
| Uranus | Venus | Mercury | Saturn |

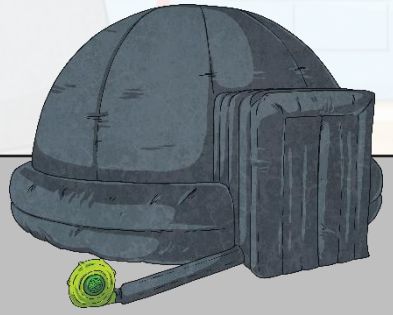
Pluto isn't classified as a planet. There are five letters in Pluto. The **tenth** digit on the padlock is five.

5

twinkl.com

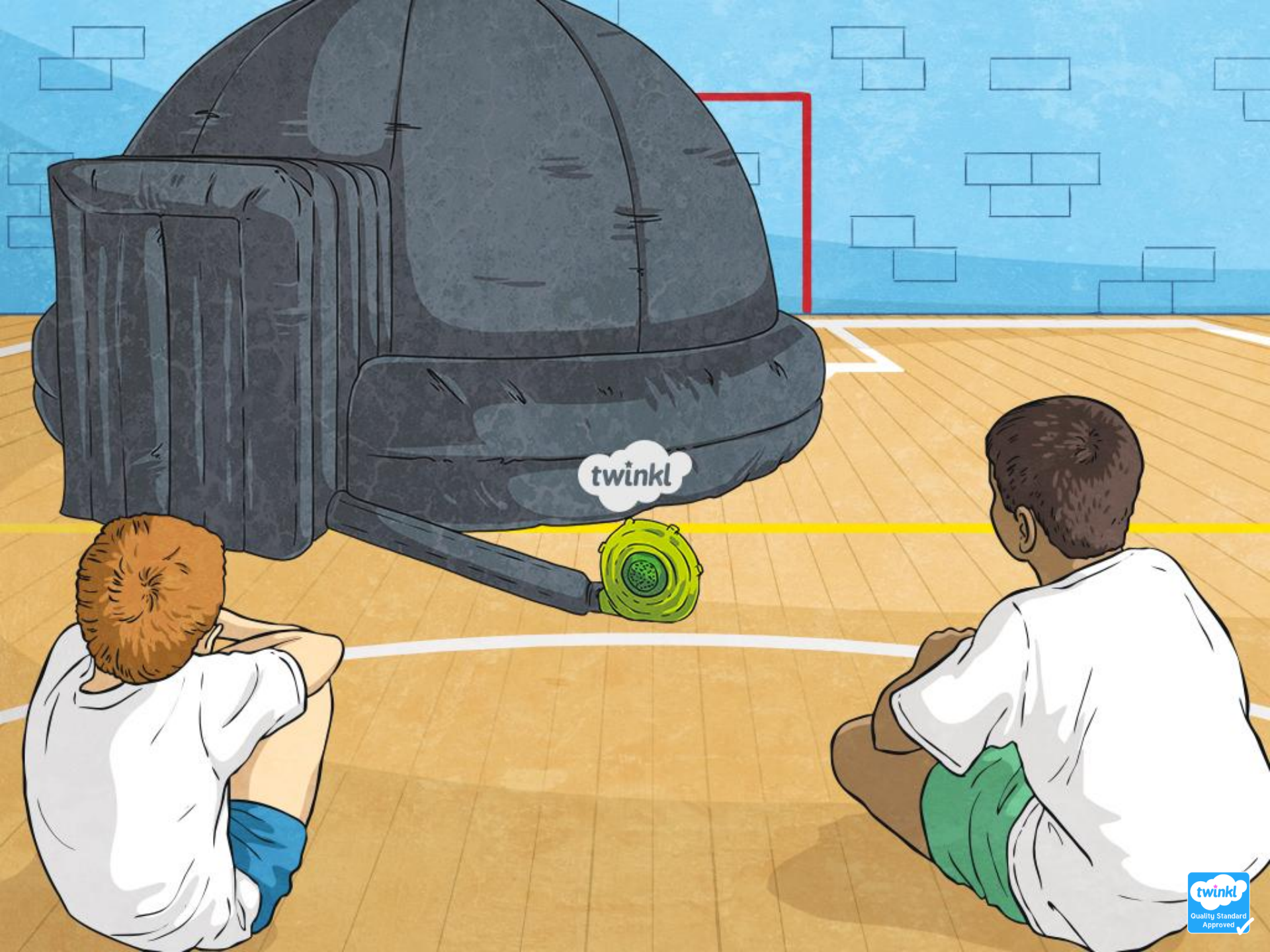
# Escape the Planetarium

Now you've solved all the clues, it's time to enter the code into the padlock and escape the planetarium!



| Digit 1 | Digit 2 | Digit 3 | Digit 4 | Digit 5 | Digit 6 | Digit 7 | Digit 8 | Digit 9 | Digit 10 |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 6 | 4 | 7 | 8 | 9 | 6 | 7 | 5 |

twinkl.com


twinkl
twinkl
Quality Standard
Approved