

# The Moon

Do you ever look at the Moon at night and see the glowing sphere lighting up the night-time town? Do you sometimes ponder what it would be like to visit the Moon or wonder why it shines so bright? Well here's some fact and figures that might interest you.

## The Moon and The Sun

The Moon shines extremely brightly but it is only reflecting the rays of the Sun whilst it is round the other side of the Earth. The Moon cannot make its own light as it is not a star like the Sun. When we rotate back towards the Sun for our daytime, people used to believe that Moon had disappeared or moved. However, it's just harder to see because the sky is so bright. Sometimes, if you look carefully, you can see the Moon in the sky during the daytime.

## Orbit

The Moon is the Earth's only natural satellite (that means something that orbits a larger object). It takes the Moon approximately 28 days to go around the Earth once; this is referred to as a lunar month. During this time, we only ever see the same side of the Moon as it rotates slowly while it moves around us. The Moon is not quite spherical and is slightly heavier on one side so gravity keeps the heavier side facing us.

During its orbit, the angle between the Earth, Moon and Sun changes so the part of the Moon that is lit up cannot always be seen from Earth. This is what gives us the phases of the moon, when it is waxing (growing bigger) and waning (getting smaller) with shapes including crescent and gibbous.

The eight phases of the Moon are:

			
First Quarter	Waxing Crescent	New Moon	Waning Crescent
			
Third Quarter	Waning Gibbous	Full Moon	Waxing Gibbous



### **Moon Facts**

- The average temperature on the Moon in the day is 107°C and at night-time is -153°C.
- The distance between the Moon and the Earth is 238 857 miles (384 403km) and the distance from one side of the Moon to the other is 2160 miles (3476km).
- The length of one day on the Moon is 708 hours.

### **What Is It Like On The Moon?**

Conditions on the Moon are extreme. It is desperately hot during the day but extremely cold at night. The surface of the Moon is covered in craters caused by collisions with comets and asteroids. The Moon has many mountains, the tallest of which is Mons Huygens that stands at 4700 metres tall; half the height of Mount Everest.

The Moon does not have an atmosphere like Earth does and therefore it is not possible to breathe on the moon without a suit and tanks containing oxygen. Scientists also once believed that the Moon was completely arid. However, about a decade ago, small traces of water were discovered. As a result, some people now believe that humans may one day be able to live on the Moon.

#### **Did You Know...?**

'Selenophobia' is the fear of the Moon.

Only 12 people have ever walked on the Moon! The first person to do this was Neil Armstrong on 20<sup>th</sup> July 1969. This record-breaking event was watched on television by an estimated 600 million people around the world. When he first walked on the Moon, Armstrong famously said, 'That's one small step for man, one giant leap for mankind.' On this mission, known as Apollo 11, there were two other crewmen: Edwin 'Buzz' Aldrin and Michael Collins. It took them just over three days to get there after blasting off from the Kennedy Space Centre on 16<sup>th</sup> July in a Saturn V rocket. When the astronauts returned to Earth, they had to be placed in quarantine for 21 days to make sure that they were not carrying any micro-organisms from the Moon that could be dangerous.

You may have seen a film of people bouncing, rather than walking on the Moon. It isn't quite the same as walking on the Earth because the Moon's gravity is weaker than the Earth's gravitational force so people take longer to return to the surface when they go up in the air. Astronauts are required to always be tethered, otherwise there is a risk of drifting off into space.

# Questions

1. Why do you think the author chose to start the non-chronological report with rhetorical questions?

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2. **Find** and **copy** a word that means **dry**.

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3. How long does a day on the Moon last? Tick **one**.

- ☐ 107 hours  
☐ 708 hours  
☐ 153 hours  
☐ 2016 hours

4. What does the word waxing mean?

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5. How many days did Neil Armstrong and his colleagues have to spend in quarantine? Tick **one**.

- ☐ 11  
☐ 600  
☐ 28  
☐ 21

6. Explain why the Moon has different phases during its cycle.

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7. Read the following sentence:

‘Only 12 people have ever walked on the Moon!’

Why do you think an exclamation mark has been used at the end of this sentence?

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8. Name one way in which the Moon is similar to Earth and one way in which it is different.

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9. Why do you think so many people tuned in to watch the Moon landing?

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10. **Find** and **copy** a word that means ‘**attached**’.

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# Answers

1. Why do you think the author chose to start the non-chronological report with rhetorical questions?

**Pupil's own response, such as: The report opens with rhetorical questions to hook the reader in and to make them think about the Moon and what they already know or don't know about it.**

2. **Find** and **copy** a word that means **straight towards**.

**arid**

3. How long does a day on the Moon last? Tick **one**.

- ☐ 107 hours  
☒ **708 hours**  
☐ 153 hours  
☐ 2016 hours

4. What does the word waxing mean?

**getting bigger**

5. How many days did Neil Armstrong and his colleagues have to spend in quarantine? Tick **one**.

- ☐ 11  
☐ 600  
☐ 28  
☒ **21**

6. Explain why the Moon has different phases during its cycle.

**Pupil's own response, such as: The Moon has different phases because the angle between the Earth, Moon and Sun changes so the part of the Moon that is lit up cannot always be seen from Earth.**

7. Read the following sentence:

'Only 12 people have ever walked on the Moon!'

Why do you think an exclamation mark has been used at the end of this sentence?

**Pupil's own response, such as: An exclamation mark has been used to show that this is an impressive and surprising fact.**

8. Name one way in which the Moon is similar to Earth and one way in which it is different.

**Pupil's own response, such as: One way in which the Moon and Earth are similar is that they both have mountains.**

**One way in which the Moon and Earth are different is...**

**Accept any of the following points:**

- **that there is hardly any gravity on the Moon whereas we are pulled to Earth by gravity.**
- **that there is very little water on the Moon but Earth is made up of more water than land.**
- **that it is extremely hot in the daytime on the Moon (107°C) and extremely cold at night (-153°C). The temperatures on Earth are nowhere near as hot or cold as that.**
- **that the length of one day on the Moon is 708 hours and on Earth it is 24 hours.**
- **that the moon has no atmosphere and we would not be able to breathe without oxygen tanks unlike Earth which has a rich atmosphere which we can breathe.**

9. Why do you think so many people tuned in to watch the Moon landing?

**Pupil's own response, such as: I think so many people tuned in to watch the Moon landing because it was a ground-breaking moment and people would have wanted to see it with their own eyes in order to believe it. No one had ever reached the Moon before let alone walk on it. People did not know what the Moon's surface looked like before now and this allowed them to actually see the surface up close.**

10. **Find and copy** a word that means 'attached'.

**tethered**