

# World Space Week

Every year, between 4<sup>th</sup> and 10<sup>th</sup> October, the world celebrates World Space Week. This is an opportunity to celebrate the contributions that space science and technology have made to understanding and improving life within our solar system. The theme changes each year and the focus for 2019 is 'The Moon: Gateway to the Stars'. This is particularly relevant because it marks the 50<sup>th</sup> anniversary of the historic first Moon landings back in 1969.

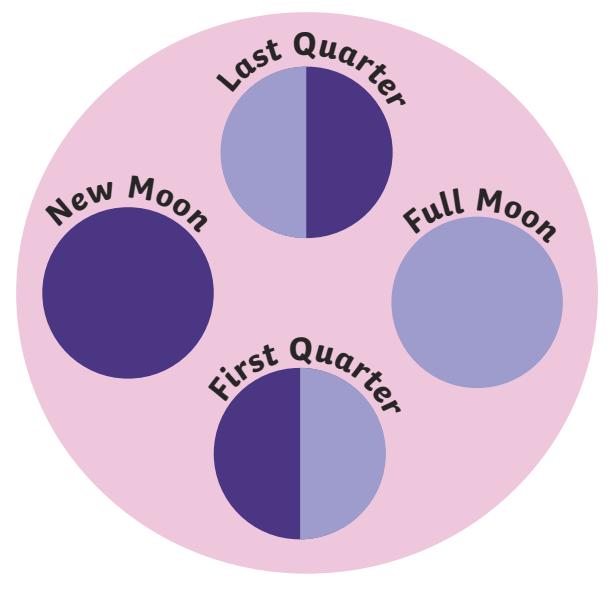
## The Moon

When the Sun comes up for our daytime, it appears as though the Moon goes away, but it doesn't. 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 day.

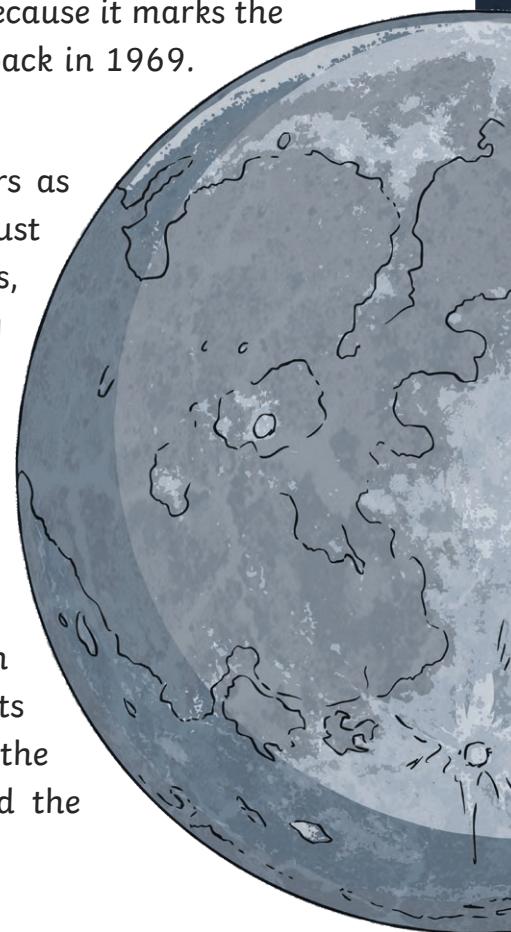
The Moon is the only thing that naturally goes around (orbits) the Earth (this is known as a satellite). It takes the Moon about 28 days to go around the Earth once. This is called a lunar month.

The phases of the Moon depend on its position in relation to the Sun and Earth. As the Moon makes its way around the Earth, we see the bright parts of the Moon's surface at different angles. These are called the 'phases' of the Moon.

**There are eight phases including:**



The atmosphere on the Moon is very different from the atmosphere on Earth. The average temperature in the daytime is 107°C and this drops to -153°C at night. There is no oxygen and the surface is very dry and arid. Therefore, the conditions on the Moon make it a difficult place for humans to exist.



**Did You Know...?**

About a decade ago, traces of water were discovered on the Moon. Some people now believe that humans may one day be able to live on the Moon!

**Making History**

In 1961, the Soviet Union sent the first man into space. President Kennedy of the USA wanted to beat this achievement and promised that America would land a man on the Moon before the end of the decade. The race was on. Eight years later, Apollo 11 (the first manned mission to the moon) was set. Neil Armstrong, Edwin "Buzz" Aldrin and Michael Collins were launched into space on 16<sup>th</sup> July 1969 and on the morning of 20<sup>th</sup> July, they reached the Moon. As Armstrong set foot on the surface of the Moon, he famously said, 'That's one small step for man, one giant leap for mankind.' He and Aldrin spent several hours exploring the Moon, collecting samples to take back to Earth and performing experiments. Collins remained on the spacecraft to take photographs. Nearly 600 million viewers tuned in from around the world to watch the landing and saw Armstrong and Buzz plant an American flag on the Moon. They also revealed a metal plaque which said:

Here men from the planet Earth first set foot upon the Moon July 1969, A.D.  
We came in peace for all mankind.

The three astronauts returned to Earth on 24<sup>th</sup> July as American heroes.



# Questions

1. How many years ago did the first Moon landings take place? Tick **one**.

- 20
- 50
- 100
- 30

2. Fill in the missing words:

The Moon shines very \_\_\_\_\_ but it does not make its own light. Instead, it \_\_\_\_\_ the light of the sun.

3. On average, how cold does it get on the Moon at night? Tick **one**.

- 107°C
- 153°C
- 153°C
- 100°C

4. Find and copy a word which means to go around something.

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5. Explain what happens to the Moon in the daytime.

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6. How many days is a lunar month?

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7. Explain what Neil Armstrong and Buzz Aldrin did while they were on the Moon.

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8. Why do you think the astronauts returned to Earth as 'American heroes'?

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# Answers

1. How many years ago did the first Moon landings take place? Tick **one**.

- 20
- 50
- 100
- 30

2. Fill in the missing words:

The Moon shines very **brightly** but it does not make its own light. Instead, it **reflects** the light of the sun.

3. On average, how cold does it get on the Moon at night? Tick **one**.

- 107°C
- 153°C
- 153°C
- 100°C

4. Find and copy a word which means to go around something.

## Orbits

5. Explain what happens to the Moon in the daytime.

Pupil's own response, such as: In the daytime, the Moon does not disappear. It just cannot be seen when the Sun is up because the sky is too bright.

6. How many days is a lunar month?

**28**

7. Explain what Neil Armstrong and Buzz Aldrin did while they were on the Moon.

Pupil's own response, such as: Armstrong and Aldrin spent several hours collecting samples, carrying out experiments and exploring the Moon. They also planted an American flag and revealed a plaque.

8. Why do you think the astronauts returned to Earth as 'American heroes'?

**Pupil's own response, such as: I think that the astronauts returned to Earth as American heroes because they had won the race to land a man on the Moon as President Kennedy had promised that they would do.**

# World Space Week

Every year, between 4<sup>th</sup> and 10<sup>th</sup> October, the world celebrates World Space Week. This is an opportunity to honour the contributions that space science and technology have made to understanding and improving human life within our solar system. The theme changes year on year and the focus for 2019 is 'The Moon: Gateway to the Stars'. This is particularly significant because 2019 marks the 50<sup>th</sup> anniversary of the historic first Moon landings back in 1969.

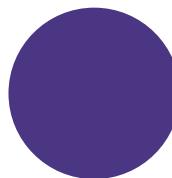
## The Moon

The Moon shines very brightly but it is only reflecting the light of the Sun because it cannot make its own light. When the Sun comes back up for our daytime, it appears as though the Moon has disappeared, but it doesn't. 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 day.

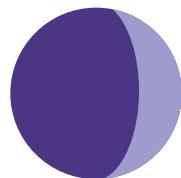
The Moon is the Earth's only natural satellite (something that orbits a larger object). It takes the Moon about 28 days to go around the Earth once; we call this a lunar month. During this time, we only ever see the same side of the Moon as it rotates slowly whilst it moves around us. The side we see is called the 'near side'.

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.

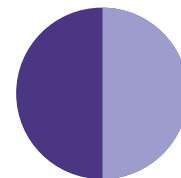
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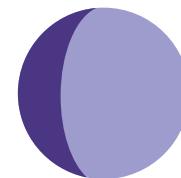
New Moon



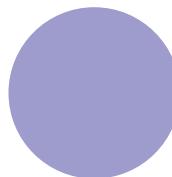
Waxing Crescent



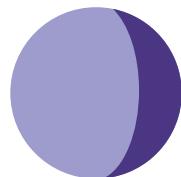
First Quarter



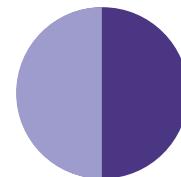
Waxing Gibbous



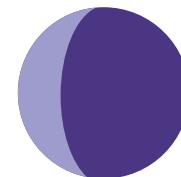
Full Moon



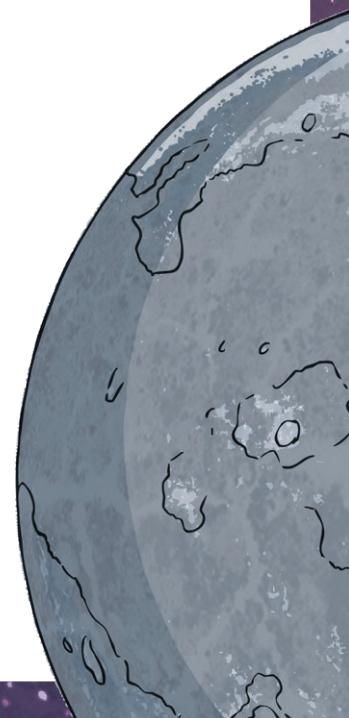
Waning Gibbous



Third Quarter



Waning Crescent



The atmosphere on the Moon is very different from the atmosphere on Earth. The average temperature in the daytime is 107°C and drops to -153°C at night. There is no oxygen on the Moon and therefore it is not possible to breathe without a special suit and tanks containing oxygen. The Moon also has a very arid surface and was thought to be completely without water. However, about a decade ago, traces of water were discovered. Some people now believe that humans may one day be able to live on the Moon. However, presently, the conditions on the Moon make it a difficult place for humans to exist.



### Did You Know...?

Because there is no wind on the Moon, the footprints of the 12 people who have walked on the surface of the Moon will still be there today.

### Making History

In 1961, the Soviet Union launched the first man into space. President Kennedy of the USA wanted to better this achievement and vowed that America would land a man on the Moon before the end of the decade. The race to the Moon was on. Eight years later, the first manned mission to the moon (Apollo 11) was set. Neil Armstrong, Edwin "Buzz" Aldrin and Michael Collins were launched into space on 16<sup>th</sup> July 1969 and on the morning of 20<sup>th</sup> July, they finally reached the Moon. As Armstrong set foot on the surface of the Moon, he famously said, 'That's one small step for man, one giant leap for mankind.' He and Aldrin spent several hours exploring the Moon, collecting samples to take back to Earth and performing experiments. Collins remained on the spacecraft to take photographs. Nearly 600 million viewers tuned in from around the world to watch the landing and saw Armstrong and Buzz plant an American flag and reveal a metal plaque which said:

Here men from the planet Earth first set foot upon the Moon July 1969, A.D.  
We came in peace for all mankind.

The three astronauts returned safely to Earth on 24<sup>th</sup> July as heroes and will forever be remembered for their part in this monumental moment in history.

# Questions

1. What word can be used to complete the sentence below? Tick **one**.

The Moon cannot make its own...

- gravity
- water
- light
- heat

2. Explain what a lunar month is.

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3. What word is used to describe when the Moon appears to be getting bigger?

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4. Why can humans not live on the Moon (at the moment)? Use evidence from the text to support your answer.

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5. Who was the first man to walk on the moon? Tick **one**.

- Neil Armstrong
- Buzz Aldrin
- Yuri Gagarin
- President Kennedy

6. Find and copy a word which means **set off in motion**.

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7. Explain in your own words what you think Neil Armstrong meant when he said, 'That's one small step for man, one giant leap for mankind'.

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8. Fill in the missing words:

The three \_\_\_\_\_ returned safely to Earth on the 24<sup>th</sup> July as heroes and will forever be remembered for their part in this \_\_\_\_\_ moment in history.

9. Would you like to visit the Moon? Explain your answer fully using evidence from the text to support your answer.

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# Answers

1. What word can be used to complete the sentence below? Tick **one**:

The Moon cannot make its own...

- gravity
- water
- light
- heat

2. Explain what a lunar month is.

Pupil's own response, such as: A lunar month refers to the time it takes (28 days) for the moon to orbit (go around) the Earth once.

3. What word is used to describe when the Moon appears to be getting bigger?

## Waxing

4. Why can humans not live on the Moon (at the moment)? Use evidence from the text to support your answer.

Pupil's own response, such as: Humans cannot live on the Moon because there it is extremely hot in the day and very cold at night, there is no oxygen so we couldn't breathe without special suits and tanks of oxygen and it is very dry with only small traces of water.

5. Who was the first man to walk on the moon? Tick **one**.

- Neil Armstrong
- Buzz Aldrin
- Yuri Gagarin
- President Kennedy

6. Find and copy a word which means **set off in motion**.

## Launched

7. Explain in your own words what you think Neil Armstrong meant when he said, 'That's one small step for man, one giant leap for mankind'.

**Pupil's own response, such as: I think that Neil Armstrong meant that as he was physically stepping foot on to the Moon, mankind was actually discovering new things about the universe and gaining a better understanding of it.**

8. Fill in the missing words:

The three **astronauts** returned safely to Earth on the 24<sup>th</sup> July as heroes and will forever be remembered for their part in this **monumental** moment in history.

9. Would you like to visit the Moon? Explain your answer fully using evidence from the text to support your answer.

**Pupil's own response, such as: Yes, I would like to visit the Moon because only 12 people have stepped foot on it so far so it would be a unique experience. It would be fascinating to look down on Earth from the Moon.**

**OR**

**No, I would not like to visit the Moon because the conditions would be very difficult and dangerous. It is very hot in the day and very cold at night and it would be difficult to find something to drink.**

# World Space Week

Annually, between 4<sup>th</sup> and 10<sup>th</sup> October, the world celebrates World Space Week. This is an opportunity to honour the contributions that space science and technology have made to understanding and improving human life within our solar system. The 2019 World Space Week theme is 'The Moon: Gateway to the Stars' which is particularly pertinent because 2019 marks the 50<sup>th</sup> anniversary of the historic first Moon landings back in 1969.

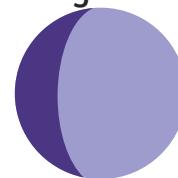
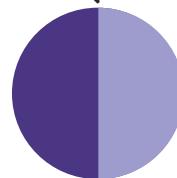
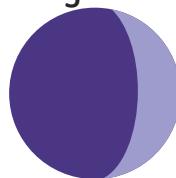
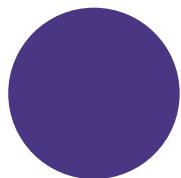
## The Moon

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 the 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.

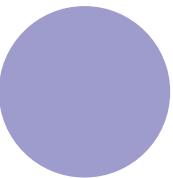
The Moon is the Earth's only natural satellite (something that orbits a larger object). It takes the Moon approximately 28 days to go around the Earth once; this is referred to as a lunar month. During this time, we only ever see the same side of the Moon as it rotates slowly whilst it moves around us.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

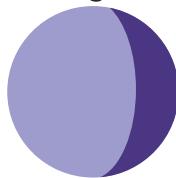
New Moon      Waxing Crescent      First Quarter      Waxing Gibbous



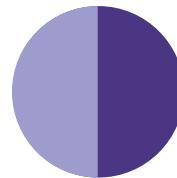
Full Moon



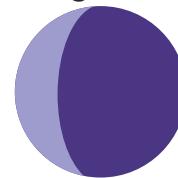
Waning Gibbous



Third Quarter



Waning Crescent



Conditions on the Moon are extreme. The temperature ranges from 107°C in the daytime to -153°C at night. There is no oxygen on the Moon and therefore it is not possible to breathe without a special suit and tanks containing oxygen. The Moon also has a very arid surface and was thought to be completely without water. However, about a decade ago, traces of water were discovered. Some people now believe that humans may one day be able to live on the Moon. However, presently, the conditions on the Moon are uninhabitable for humans.



## Did You Know...?

Edwin Aldrin was called "Buzz" because his little sister could not pronounce the word 'brother' and instead said, 'buzzer'. His family shortened it to 'Buzz' and the nickname stuck. Aldrin made it his legal name in 1988.

## Making History

In 1961, the Soviet Union made history by launching the first man, Yuri Gagarin, into space. The president of the USA at that time, John Kennedy, wanted to better this achievement and vowed that America would land a man on the Moon before the end of the decade. The race to the Moon was on. Eight years later, the first manned mission to the moon, Apollo 11, was primed. Neil Armstrong, Edwin "Buzz" Aldrin and Michael Collins were launched into space on 16<sup>th</sup> July 1969 and on the morning of 20<sup>th</sup> July, they finally reached the Moon. As Armstrong set foot on the surface of the Moon, he famously said, 'That's one small step for man, one giant leap for mankind.' He and Aldrin spent several hours exploring the Moon, collecting samples to take back to Earth and performing experiments. Their footprints will still be on the surface of the Moon because there is no wind to unsettle the soil. Collins remained on the spacecraft to take photographs. Nearly 600 million viewers tuned in from around the world to watch the landing and saw Armstrong and Buzz plant an American flag and reveal a metal plaque which said:

Here men from the planet Earth first set foot upon the Moon July 1969, A.D.  
We came in peace for all mankind.

The three astronauts returned safely to Earth on 24<sup>th</sup> July as heroes and will forever be remembered for their part in this prodigious moment in history.

# Questions

1. How often does World Space Week occur? Tick **one**.

- every month
- every year
- every decade
- every week

2. Find and copy a word which means **relevant**.

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3. What does the word waning mean?

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

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5. Fill in the missing words:

However, about a decade ago, \_\_\_\_\_ of water were discovered. Some people now believe that humans may one day be able to live on the moon. However, presently, the \_\_\_\_\_ on the Moon are \_\_\_\_\_ for humans.

6. Who was the first man to go to space? Tick **one**.

- Neil Armstrong
- Buzz Aldrin
- Yuri Gagarin
- Michael Collins

7. Explain how the Moon is different from the Earth. Use evidence from the text to support your answer.

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

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9. Why do you think it says, 'We came in peace for all mankind' on the plaque that the astronauts revealed on the Moon?

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10. Explain why you think that this year's World Space Week theme is 'The Moon: Gateway to the Stars'?

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# Answers

1. How often does World Space Week occur? Tick **one**.

- every month
- every year**
- every decade
- every week

2. Find and copy a word which means **relevant**.

**Pertinent**

3. What does the word waning mean?

**getting smaller**

4. 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.

5. Fill in the missing words:

However, about a decade ago, **traces** of water were discovered. Some people now believe that humans may one day be able to live on the Moon. However, presently, the **conditions** on the Moon are **uninhabitable** for humans.

6. Who was the first man to go to space? Tick **one**.

- Neil Armstrong
- Buzz Aldrin
- Yuri Gagarin**
- Michael Collins

7. Explain how the Moon is different from the Earth. Use evidence from the text to support your answer.

**Pupil's own response, such as:** The Moon is different from Earth because the temperatures are a lot more extreme (it is very hot in the day and very cold at night), there is no oxygen and there is very little water.

8. 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 it up close.

9. Why do you think it says, 'We came in peace for all mankind' on the plaque that the astronauts revealed on the Moon?

**Pupil's own response, such as:** I think that the plaque said, 'We came in peace for all mankind' so that if there is another species in the solar system, they will know that mankind are peaceful and were not wanting to attack or take over. It also says 'for all mankind' which means that they were doing it for the whole world, not just for Americans.

10. Explain why you think that this year's World Space Week theme is 'The Moon: Gateway to the Stars'?

**Pupil's own response, such as:** I think that this year's World Space Week theme is 'The Moon: Gateway to the Stars' because it is the 50<sup>th</sup> anniversary of such an important moment in history. It is meant to remind people of this achievement and all that we have learned about the Moon and the solar system since that famous day.