Stephen Hawking

Stephen Hawking was an English scientist, **cosmologist**, teacher and author. He used a wheelchair to move around and a computer with a voice synthesiser to talk, after being diagnosed with a degenerative motor neurone disease called ALS when he was at university. He is best known for discovering how the universe was formed and predicting what might happen to it in the future.

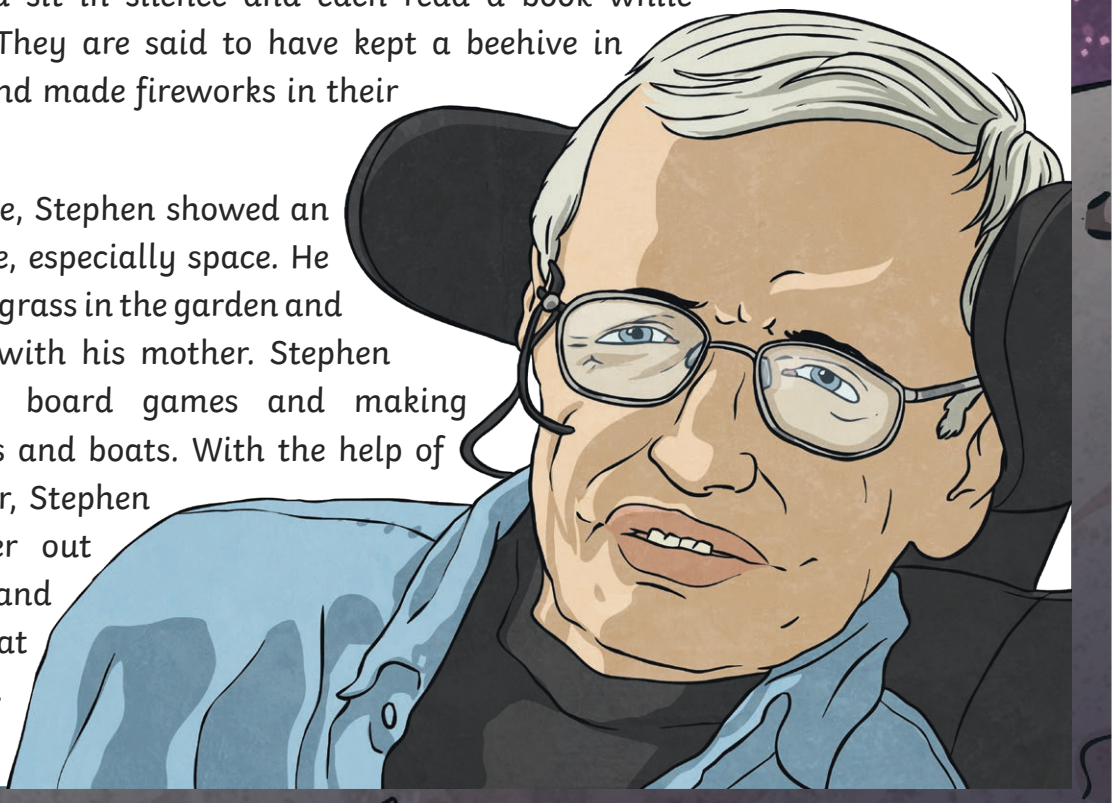
Early Life

Stephen William Hawking was born on 8th January 1942 in Oxford, England. He was born exactly 300 years after the death of the famous **astronomer** Galileo – a fact that Stephen was very proud of. He was the eldest child of Frank Hawking, a medical researcher, and Isobel Walker, a Scottish secretary. His parents loved learning and both went to the University of Oxford. His father studied medicine, while his mother studied **philosophy** and **politics**.

Stephen was born during the Second World War. At this time, London was a very dangerous place. To make sure that Stephen would be safe when he was born, his mother moved from their home in Highgate, London to Oxford. During the time that they lived in Oxford, Hawking's parents had more children so he gained three siblings: two sisters named Philippa and Mary and an adopted brother named Edward.

Childhood

In 1950, the Hawking family moved to St Albans in Hertfordshire. People who knew the family thought that they were rather odd; instead of talking or watching television, the family would sit in silence and each read a book while they ate meals. They are said to have kept a beehive in their basement and made fireworks in their greenhouse!



From an early age, Stephen showed an interest in science, especially space. He loved to lie on the grass in the garden and watch the stars with his mother. Stephen enjoyed playing board games and making model aeroplanes and boats. With the help of his maths teacher, Stephen built a computer out of old clock and telephone parts at just 16 years old.

Scientific Discoveries

Just like his parents, Stephen went to the University of Oxford at just 17 years old, passing his exams a year early. He was said to find the work 'ridiculously easy' and he received the highest award possible for his degree in natural sciences.

Stephen then moved on to study at the University of Cambridge. While he was there, Stephen studied black holes. At the time, people thought that black holes were places in space where gravity pulls so much that even light cannot get out. Yet, Stephen discovered that one thing could escape from a black hole: **radiation**. This type of radiation, now known as Hawking radiation, was named after him and, using what he had learned, Stephen helped to prove the idea that the universe began with the Big Bang. Stephen's work, along with his incredible sense of humour, inspired millions of people to become interested in science.

Glossary

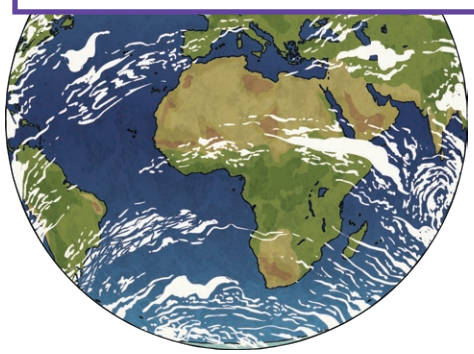
astronomer – Somebody who studies the position of the sun, moon, stars and planets.

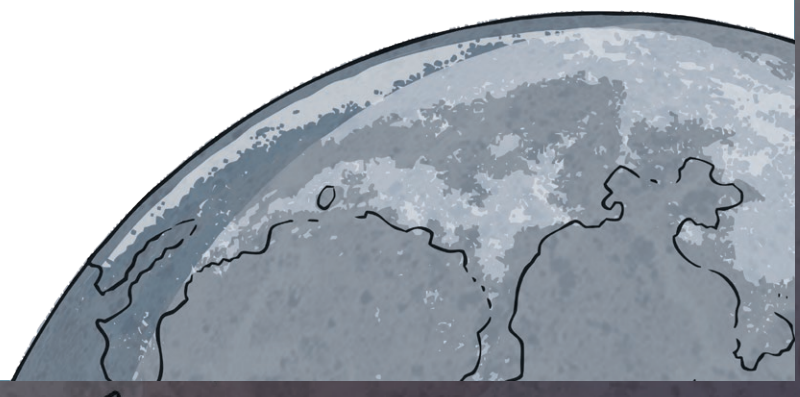
cosmologist – Somebody who studies how the universe was made and what will happen to it.

philosophy – The study of how we exist and how we know things.

politics – The study of how countries are led and what governments do.

radiation – Waves of energy that come out of or off something.





Questions

1. Which two subjects did Stephen's mother study at university? Tick **two**.

   - ○ astrology
   - ○ medicine
   - ○ politics
   - ○ philosophy

2. In which year did Stephen's family move to St Albans? Tick **one**.

   - ○ 1942
   - ○ 1947
   - ○ 1950
   - ○ 1955

3. Who helped Stephen to build a computer when he was 16 years old?

   _____

4. Why did Stephen go to university a year earlier than normal?

   _____

5. Find and copy a phrase which shows that Stephen was older than his brother and sisters.

   _____

6. Sum up the importance of Stephen's scientific discoveries.

   _____

   _____

   _____

   _____

7. Explain why you think people thought the Hawking family were unusual.

   _____

   _____

8. Explain what was significant about the day Stephen was born.

   _____

   _____

Answers

1. Which two subjects did Stephen's mother study at university? Tick **two**.

   ○ astrology
   ○ medicine
   ✓ **politics**
   ✓ **philosophy**

2. In which year did Stephen's family move to St Albans? Tick **one**.

   ○ 1942
   ○ 1947
   ✓ **1950**
   ○ 1955

3. Who helped Stephen to build a computer when he was 16 years old?

   Stephen's maths teacher helped him to build a computer.

4. Why did Stephen go to university a year earlier than normal?
   Stephen went to university a year earlier than normal because he passed his exams a year early.

5. Find and copy a phrase which shows that Stephen was older than his brother and sisters.

   eldest child

6. Sum up the importance of Stephen's scientific discoveries.
   Pupils' own responses, such as: Stephen's scientific discoveries were important because people learned something about black holes they had never known before and it gave an answer as to how the universe was created.

7. Explain why you think people thought the Hawking family were unusual.
   Pupils' own responses, such as: People thought that the Hawking family were unusual because the family would sit in silence and each read a book while they ate meals. They are also said to have kept a beehive in their basement and they made fireworks in their greenhouse.

8. Explain what was significant about the day Stephen was born.
   Pupils' own responses, such as: The day Stephen was born was significant because it was exactly 300 years after the death of the famous astronomer Galileo.