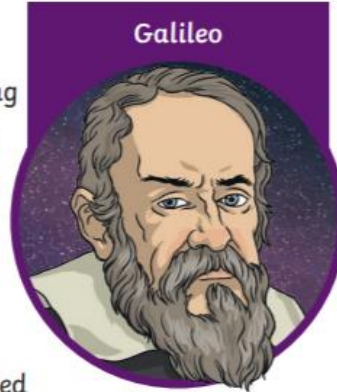


# Stephen Hawking

Stephen Hawking was an English scientist, **cosmologist**, teacher and author. He is best known for discovering how the universe was formed and predicting what might happen to it in the future.

## A Star Is Born

Born on 8<sup>th</sup> January 1942, Stephen William Hawking was born exactly 300 years after the death of the famous **astronomer** Galileo – a fact that Stephen was very proud of. He was born during the Second World War, in Oxford, England, where his parents, Frank Hawking and Isobel Walker, had moved to from London to ensure Stephen's safety.



Stephen had three younger siblings: two sisters named Philippa and Mary and an adopted brother named Edward.

His family placed a high value on education and his parents studied at the University of Oxford; his father studied medicine and became a medical researcher while his mother studied **philosophy** and **politics**.

## Childhood

Stephen's fascination with space began at an early age when he would enjoy spending time with his mother; lying together on the grass in the garden to watch the stars.

In 1950, the family moved to St Albans in Hertfordshire. At school, Stephen's classmates often called him 'Einstein'. Stephen took the eleven-plus exam a year early and attended St Albans School, where he remained throughout his secondary education. With close friends, he enjoyed playing board games and making model aeroplanes and boats. With the help of their maths teacher, Stephen and his friends built a computer from clock parts and various other recycled objects.

## University

Stephen went on to study **physics** and **chemistry** at the same college that his father had attended in Oxford. He took the entry exams a year early, meaning that he was only 17 years old when he started university.

Stephen became a lively, witty and popular member of his class and joined the college boat club, where he became **cox** for a rowing crew – he was said to be a daredevil because of the risks he took in the boat!

## Stephen Hawking

Following the completion of his first degree, Stephen attended Cambridge University where he studied **cosmology** and made some incredible discoveries.

It was at Cambridge that Stephen first developed problems with his health. He became very clumsy, regularly falling or dropping things. His speech became slurred and hard to understand.

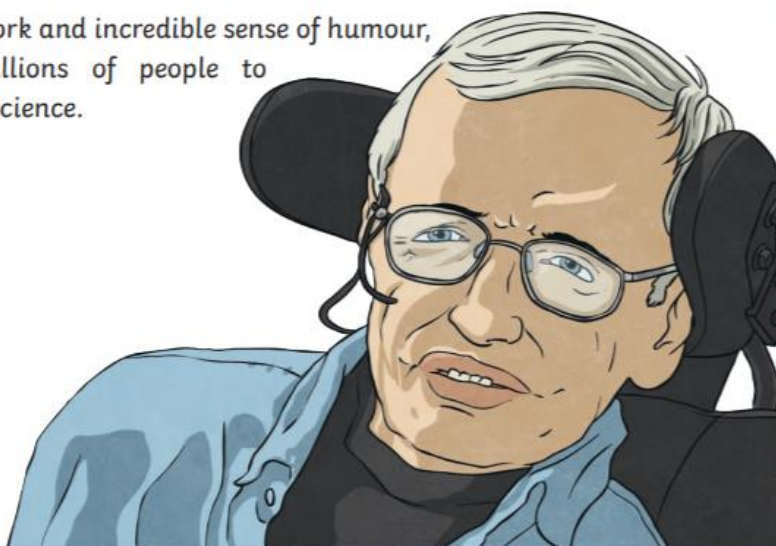
Doctors diagnosed Stephen with Amyotrophic Lateral Sclerosis, or **ALS**, and he was given just two years to live. However, his disease progressed more slowly than doctors had imagined, meaning he was able to return to his studies. In later years, his ALS meant that he used a wheelchair and spoke using a computer voice synthesiser.

### Scientific Discoveries

While at Cambridge University, Stephen studied black holes. At the time, people thought that black holes were a place where gravity pulled so strongly that it pulled everything down into it and nothing could escape. Yet, Stephen discovered that a type of **radiation** was able to elude black holes. This type of **radiation** was named after him and, using what he had discovered about black holes, Stephen was able to show that the universe had started with a Big Bang and would end in black holes.



Due to his amazing work and incredible sense of humour, Stephen inspired millions of people to become interested in science.





## Glossary

**ALS** – A motor neurone disease that causes muscle weakness, paralysis and respiratory failure. It is a degenerative disease, which means it gets worse over time. There is no cure.

**astronomer** – A person who studies the positions of the sun, moon, stars and planets.

**chemistry** – The branch of science concerned with the substances which make up everything.

**cosmologist** – A person who studies cosmology.

**cosmology** – The science of the origin and development of the universe.

**cox** – The person who directs the rowers in a boat.

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

**physics** – The branch of science concerned with the properties of matter and energy.

**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. 'However, his disease progressed more slowly than doctors had imagined, meaning he was able to return to his studies.'

What does **progressed** mean? Tick **one**.

- improved
- finished
- developed
- changed

2. Draw three lines to match the event to where it happened.

Stephen was a cox for a rowing crew.

St Albans School

Stephen built a computer.

Cambridge University

Stephen was diagnosed with ALS.

Oxford University

3. Name two things that Stephen did 'a year early'.

1. \_\_\_\_\_
2. \_\_\_\_\_

4. Fill in the missing words.

With the help of their \_\_\_\_\_, Stephen and his friends  
built a \_\_\_\_\_ from clock parts and various other \_\_\_\_\_.

5. Find and copy a word or phrase from the second section which shows that Stephen was interested in space as a child.

\_\_\_\_\_

6. What was special about the day that Stephen was born? Explain your answer.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. Summarise Stephen's famous discovery in one sentence.

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8. Why do you think Stephen has inspired many people?

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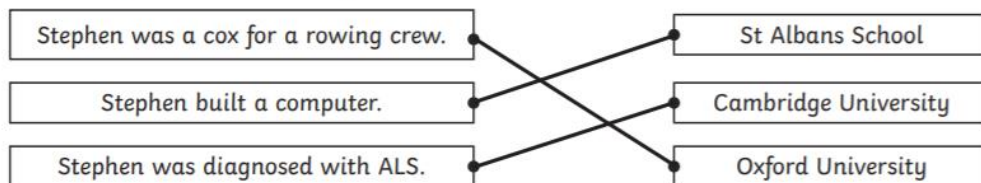
# Answers

1. 'However, his disease progressed more slowly than doctors had imagined, meaning he was able to return to his studies.'

What does **progressed** mean? Tick **one**.

- improved  
 finished  
 **developed**  
 changed

2. Match the event to where it happened:



3. Name two things that Stephen did 'a year early'.

**Accept: took the eleven-plus; took university entrance exams; went to university.**

4. Fill in the missing words.

With the help of their **maths teacher**, Stephen and his friends built a **computer** from clock parts and various other **recycled objects**.

5. Find and copy a word or phrase from the second section which shows that Stephen was interested in space as a child.

**Accept: 'Stephen's fascination with space began at an early age' only.**

6. What was special about the day that Stephen was born? Explain your answer.

**Accept any reasonable explanation linked to the text, e.g. Stephen was born exactly 300 years after Galileo died, a fact that he was very proud of because Galileo was a famous astronomer.**

7. Summarise Stephen's famous discovery in one sentence.

**Accept any reasonable summary linked to the text, e.g. Stephen discovered a type of radiation that is able to escape from black holes, despite the fact that nothing else can.**

8. Why do you think Stephen has inspired many people?

**Children's own responses, e.g. Many people are interested in space from a young age, as Stephen was, so it is inspiring for them to see that he was able to pursue his dreams, becoming an amazing cosmologist.**