



Getting started

In pairs. What is Stephen Hawking famous for?

What is gravity? What do you know about black holes?

Reading

1 6.16 Listen and read *Background* and the text: *Stephen Hawking: A Brief History*. Choose the correct alternative.

- 1 Einstein/Newton discovered gravity.
- 2 Einstein/Schwarzschild showed that gravity can stop light escaping.
- 3 Hawking/Some scientists didn't think that black holes were possible.
- 4 Hawking was/wasn't always diligent at school.
- 5 Hawking was keen on/wasn't interested in sports.
- 6 Hawking became ill early/late in his life.

2 Find six words you don't know in *Background* and the text, and guess their meaning. Check in the Glossary (pp.328–338).

3 Read *Background* and the text again. Complete the table.

Stephen Hawking

Nickname at school	1
Universities attended	2
PhD subject	3
Disease diagnosis	4
Books published	5
Main ambition	6

Background

Einstein's general theory of relativity showed that space and time are relative – space can become bigger or smaller, and time can go faster or slower. It also gave us a new way to understand
 5 Newton's theory of gravity: In 1916, another astrophysicist, Karl Schwarzschild, showed that gravity can become strong enough to stop anything escaping, even light. The astrophysicist John Wheeler later called examples of this
 10 'black holes'. Many scientists believed they were impossible because they didn't obey the rules of Physics. Before Stephen Hawking, no one really understood how black holes could exist.

FACT FILE

Name: Stephen Hawking

Dates: 1942–

Nationality: British

Job: theoretical physicist and cosmologist

Known for: research into relativity and black holes

Stephen Hawking

A Brief History

Stephen Hawking is the world's most famous scientist. At school his nickname was Einstein, but he was lazy and his marks weren't very good. He later got a
 5 scholarship to Oxford University, scoring 100% in his Physics exam.

He said he only worked an hour a day at university, and spent more time in the rowing team. He then went to Cambridge University to
 10 do a PhD in Cosmology.

At Cambridge, Hawking went to the doctor's after he started falling over. The diagnosis was motor neurone disease, and at 21, the doctors gave him two years to live. He proved them
 15 wrong, but lost the ability to walk and speak. He uses movements of his cheek to write one word per minute on his computer keyboard, and puts the words through a speech synthesiser.

Hawking is famous for his work on black holes,
 20 and for his model of the universe with no limits to space or time. He has 12 honorary degrees, and has published many books and scientific papers. His book *A Brief History of Time* was a best-seller. He also wrote a children's book
 25 with his daughter, *George's Secret Key to the Universe*, and he appeared on *Star Trek* and *The Simpsons*.

Hawking's
 30 biggest ambition is to go into space, and he hopes to fly with Richard Branson's
 35 space tourism company, Virgin Galactic.

"Look up at the stars, not down at your feet."