



EK BOOKS TEACHER NOTES & RESOURCES

Title: Stephen Hawking

Series: Scientists Who Changed the World

Author: Anita Croy

Publisher: EK Books

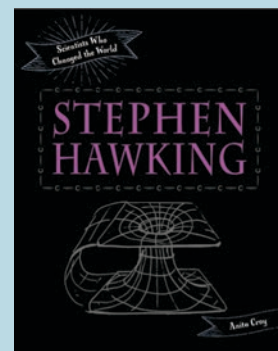
Price: ANZ \$24.99

ISBN: 9781925820720

Publication date: Aug 2021

Audience age: 8-13+ years

Key Curriculum Areas: Science, Social Science, English Literacy, The Arts, Writing



SYNOPSIS:

A guide to the life of well-known scientist Stephen Hawking. This book looks at his biography, his reputation, how his legacy has changed the world. It also explores the origins of the universe, studying space, and spreading ideas.

This colourfully illustrated, beautifully designed biography will captivate young readers and teach them what Hawking learned about black holes and time, how he discovered how the universe began, and why he believed that humans must leave Earth to live on other planets. Through his life, it gives an insight into how Hawking's discoveries have changed our understanding of the world around us forever!

SELLING POINTS:

- Stephen Hawking altered our understanding of the universe with his extraordinary pursuit of a 'Theory of Everything'. Find out all about his work, from learning about black holes to discovering that humans need to live on other planets.
- Stephen Hawking's life and research have had a huge impact on society, from his bestselling book that aimed to explain science to everyone, to his inspirational battle with disability. Learn about how he shaped the world around us through his extraordinary existence.
- Will enthral any child with an interest in space and the universe, and may even inspire this interest in those who haven't yet come to appreciate the wonder of 'Everything'.
- An excellent way to introduce children to non-fiction, and to teach them about society in the past, present and future.

TEACHER ACTIVITIES/NOTES:

This book may be used in whole class, small group or independent learning activities in schools.

Please note, the following suggestions and activities are suited to a variety of year levels spanning from Year 5 primary aged children up to Year 7 (13+). Where possible, Australian Curriculum goal codes have been included which address learning outcomes and apply directly to the targeted audience intended for this book.

KNOWLEDGE AND LITERAL UNDERSTANDING

Before Reading (Interpreting, analysing, evaluating)

- Brainstorm as a class or in groups (only use prior knowledge, don't research):
 - o Who is Stephen Hawking?
 - o When and where was he born?
 - o What is he well known for?
 - o List any other information you know about him

INFERENTIAL AND CRITICAL THINKING

After Reading (Responding to text)

- What are your impressions of Stephen Hawking's life?
- Did anything surprise or shock you?
- What would life be like if Hawking had never researched and shared his theories?
- If you met Hawking, what questions would you ask him?
- Using the Venn diagram (attached), compare Hawking and another scientist in the 'Scientists Who Changed the World' series. What were their differences and similarities?

CROSS-CURRICULAR DISCUSSION AND IDEAS

ENGLISH LITERACY SKILLS

Vocabulary

Expressing and developing ideas

Understand the use of vocabulary to express greater precision of meaning, and know that words can have different meanings in different contexts.

- Look at the glossary.
 - o List the words that you have learnt for the first time today, and their definitions. Include a small image or code to help you remember what the words mean.
 - o Choose 5-10 words and use a thesaurus or a thesaurus online to write 5 synonyms for each word.

Literature

Literature and context

Identify aspects of literary texts that convey details or information about particular social, cultural and historical contexts.

- How did Newton and Einstein influence Hawking's work?
- Using the content in the book, create a timeline of Hawking's life and achievements.
- On pages 20-21 you will see five of Hawking's contemporaries. Choose one scientist and learn more about them. Display this information in any way you choose.

SCIENCE SKILLS

Science Understanding

Biological Sciences

Living things have structural features and adaptations that help them to survive in their environment.

- How did Hawking overcome his disability?

Earth and space sciences

The Earth is part of a system of planets orbiting around a star (the sun).

- Watch 'Science, Religion, and the Big Bang' <https://www.youtube.com/watch?v=q3MWRvLndzs> (5.19 minutes) and 'EXCLUSIVE: Stephen Hawking on What Existed Before the Big Bang' <https://www.youtube.com/watch?v=FJ88kC2Nx8M> (1.41 minutes).
 - o Along with the content from the book, explain why you agree or disagree with the big bang.
 - o List reasons why people agree or disagree with this concept.
- Look at the Advances in Astronomy 1900 – 1970 (page 20-21). Present this data in a different format, giving more detail/information.
- Explain the significance of cosmological inflation.
 - o You can use text, images, a slideshow or animation.
- Explain the significance of an endless universe.
 - o You can use text, images, a slideshow or animation.

Science Inquiry Skills

Evaluating

Use scientific knowledge and findings from investigations to evaluate claims based on evidence.

- What were Hawking's key writings? Which one was the most popular? Which one was the most controversial?
- There are still many unanswered questions (pages 60-61). How many years do you think it will take for each question to be answered?

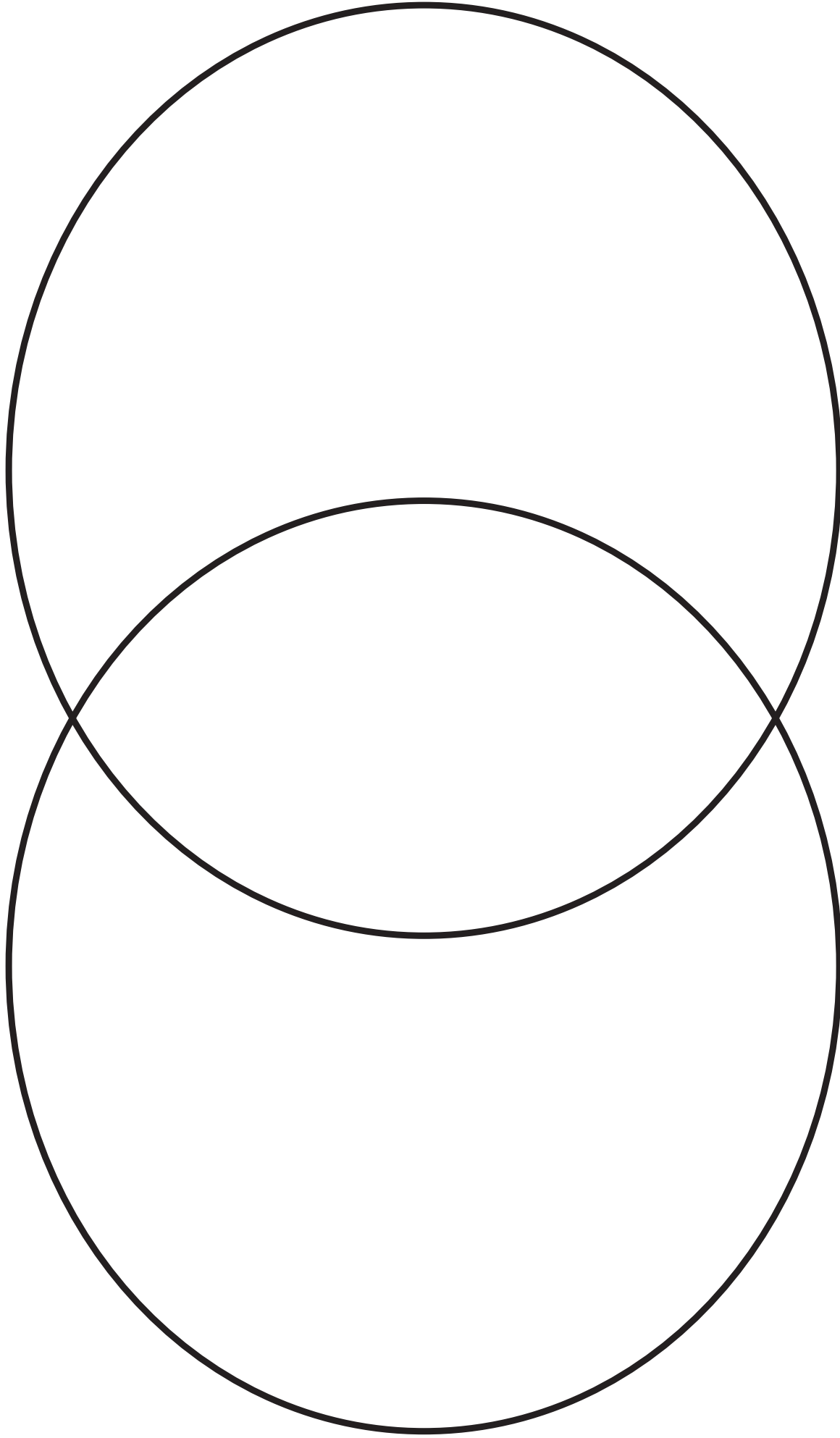
More activities below...

Name: _____

Date: _____

Math Block: _____

Title: _____



Name: _____

Date: _____

Great Scientists

| Scientist | Dates (born, died) | Contributions or Theories |
|-----------------|--------------------|---------------------------|
| Stephen Hawking | | |
| Euclid | | |
| Jane Goodall | | |
| Archimedes | | |
| Robert Hooke | | |
| Plato | | |
| Charles Darwin | | |
| Nikola Tesla | | |

| | | |
|--------------------|--|--|
| Isaac Newton | | |
| Albert Einstein | | |
| Marie Curie | | |

Choose ONE of the Great Scientists from the list above and complete the box:

Scientist: _____

Fun Fact #1: _____

Fun Fact #2: _____

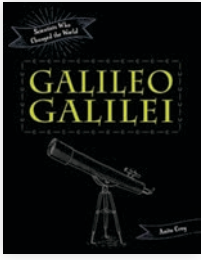
Fun Fact #3: _____

Fun Fact #4: _____

Fun Fact #5: _____



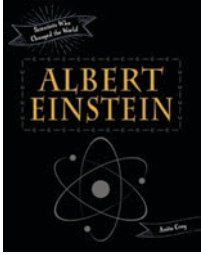
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Galileo Galilei

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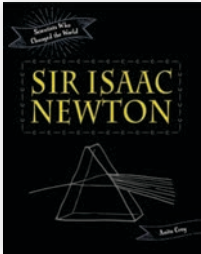
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Albert Einstein

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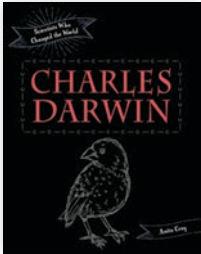
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Sir Isaac Newton

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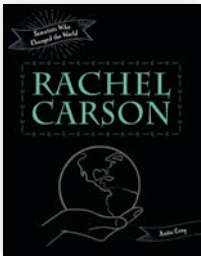
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