

from
SPACE
to
CORE

A JOURNEY TO THE
CENTRE OF THE EARTH

GUY HOLT



TEACHERS' NOTES

FROM SPACE TO CORE

JOURNEY TO THE CENTRE OF THE EARTH

Synopsis

Come on a journey! Let's start at the International Space Station and travel through the Earth's atmosphere, down past the summit of Mount Everest and into the ocean depths until we reach the centre of the Earth. Along the way learn all about key natural and human-made wonders found at every level from space to core!

Writing style

From Space to Core has been designed with the needs of both early readers and more advanced readers in mind. Various grades of text are used throughout: some entries are simple and succinct, while other entries use detailed text to cover more advanced subjects. Comprehensive facts and figures will appeal to a broad range of readers, along with an emphasis on 'maximum' values achieved by humans, animals and natural phenomenon.

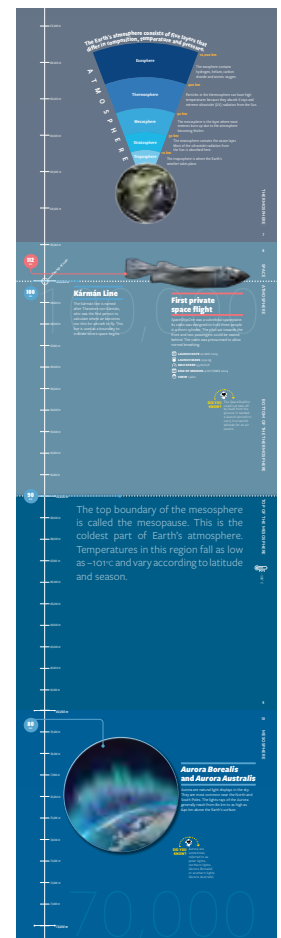
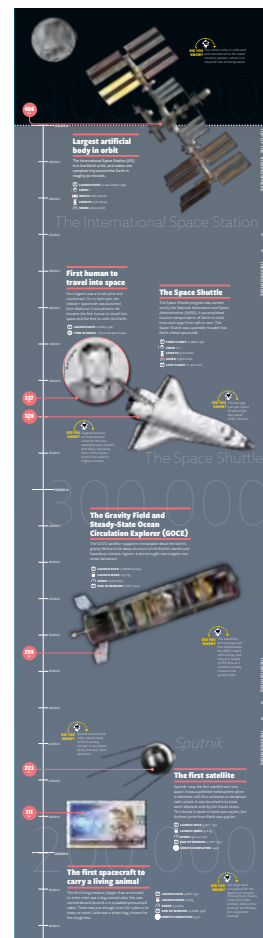
Photographic style

From Space to Core has been artfully laid out by graphic designer and author Guy Holt. Instead of being read from left to right, this book is turned on its side and read from top to bottom. Colourful photographs and graphics are vividly set against gradated backdrops, along with a handy measurement device running the length of the book. (This is particularly useful given the enormous distance the subject matter covers.) The photographs used bring the viewer close to the subject that is being discussed, and also have the advantage of being static, giving the reader the opportunity to explore the image and look at the subject matter and its features in detail. The photographs are also strongly composed and clearly printed with bright strong colours to increase the appeal to visual readers. Readers can explore how photographs are used to convey messages.

Specifications

Author	Guy Holt
ISBN	9781742033792
Format	223mm x 200mm
Extent	48pp + cover
Binding	Hardback
Reading level	6+
Interest level	6+
Category	Junior Non-Fiction

Example pages taken from the book



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Study notes: Themes

- Descriptive words
- Space
- Technology
- Human exploration
- Human achievements
- Natural phenomenon
- Geology
- Geography
- Oceanography
- Atmosphere
- Astronomy
- Records
- Plants and animals
- Extremes and records

Curriculum link: Literacy

Before reading *From Space to Core*:

- What are the student's first thoughts about the cover? Ask them how far they think it is from the ISS to the centre of the Earth.
 - * I.e. 408 kilometres
- How big do they think the Earth is?
 - * I.e. diameter = ~12,742 kilometres, radius = ~6,371 kilometres, circumference = ~40,075 kilometres, weight = ~ 5.97237×10²⁴ kilograms
- Discuss the words *space* and *core*. What do they mean? Brainstorm everything students know about space and the Earth's core. Where does space begin? Is the Earth's core a liquid or solid?
- Where do they think humans have travelled *into* space, the Earth and the oceans? Have humans explored all three areas in equal measure?
- Read the blurb and ask students what they think will be included in the book e.g. mountains, buildings, rocket ships.
- Create a list that the class comes up with of their ideas and any questions that arise. After reading the book, recheck the list.

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Curriculum link: Literacy (cont)

While reading *From Space to Core*:

- Before reading, give each student a few sticky notes. Ask students to note any words, questions or wonderings they hear or have that they'd like to share or ask. These can be collated and displayed on a noticeboard or poster. Their questions, lists and wonderings are an opportunity to assess current knowledge and will provide direction for discussions, investigations or presentations.
- Ask the students to take turns reading a paragraph aloud to the rest of the class. Where appropriate, ask the students what they think certain words may mean.

Curriculum link: Critical and Creative Thinking

After reading *From Space to Core*, discuss:

- Many of the entries in the book are extremes i.e. the highest, the deepest. Do you think it is likely any of these entries will change over time? If yes, which ones and why?
- What drives people to take part in some of the more dangerous activities included in the book?
* I.e. scientific discovery, fame and fortune, a sense of accomplishment etc.
- It could be argued that we know more about space than the ocean (though some would argue the opposite is also true). Can you think of any reasons to support either claim?
- What are the most extreme places humans have been to on Earth and in space? Can humans live permanently in these extreme places, or only for limited amounts of time? Might this change in the future?
- How do the physical qualities of animals that can survive in these extremes compare with humans?
- Are there any places on Earth that have not been explored?
- Have we discovered every type of creature that lives on Earth?
- Is it likely that large human populations will one day live in space or the ocean?

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Curriculum link: ICT Capability

After reading *From Space to Core*:

ACTIVITY: *Going Further*

- Organise the class into smaller groups. Assign each group a human-made object (e.g. probe, plane, submersible) and ask them to research online and answer the following questions: What was the purpose of that object? Was it successful? Where did it travel? How far into space/the Earth/the ocean did it go? Is it still in use?
- Ask the children to look for and print images relating to their chosen object. Specifically, look for images that show the object being used, or images that the object has taken while being used.
- Ask each group to create a poster collage. Ask them to attach the images they found and to write a short sentence detailing what the object is, what it was designed to do, where it travelled, and if it was successful. All members of the group then take turns presenting their findings to the rest of the class.

ACTIVITY: *Explorers*

- Divide your class into groups of three or four. Allocate each group one of the scientists or adventurers mentioned in *From Space to Core* from the list below:

Henri Buisson
Alan Eustace
Charles Fabry
Wang Fuzhou
Ahmed Gabr
Yuri Gagarin

Edmund Hillary
Theodore von Kármán
Judy Leden
Inge Lehmann
Herbert Nitsch
Tenzing Norgay

Kami Rita
Ewa Wisnierska
Gonpo Yinhua
Qu Yinhua

- Students are to create a mini biography. These can take on whatever form the students choose – a poster, media or digital presentation, or booklet.

Projects to include: information about the person's life (including significant dates, achievements and discoveries), any problems they had to overcome, and how the world remembers them.

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Curriculum link: ICT Capability (cont)

ACTIVITY: Exploration

- Investigate how scientists, explorers and adventurers accomplished the extreme achievements that were performed in the book. Before their success, had anyone tried before them a long time ago? If so, how has the technology that was needed to achieve their goals changed from the past?

ACTIVITY: Creative activities

- Imagine you are a passenger on the International Space Station. Write about your experiences in the form of a day-in-the-life narrative.
- Imagine you are about to become the first person in all of human history to travel into space. Write a narrative about your experiences and fears etc.
- Imagine you are a passenger inside the *Nautilus*, DSV *Alvin* or *Deepsea Challenger*. Write a narrative about your experiences as you travel from ocean surface to the depths below.
- Imagine you are about to attempt a record-breaking achievement as experienced in the book e.g. record jump, highest hang glider or paraglider. Write a narrative about your experiences.
- As much as eighty per cent of the ocean remains unexplored. This means there are many animal species that are yet to be discovered. Use your knowledge of the ocean's mammals, fish and other sea life, from the book or otherwise, to create your own sea creature.

Additional resources

- [Live stream from ISS](#) & [Life onboard the ISS](#)
- [Space shuttle launches](#)
- [Yuri Gagarin](#)
- [GOCE satellite](#)
- [Sputnik](#)
- [Aurora Borealis live stream](#) & [Aurora Borealis timelapse](#)
- [Alan Eustace record jump](#) & [Felix Baumgartner POV jump](#)

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Additional resources (cont)

- [Lockheed SR-71 Blackbird](#)
- [Lego in space](#)
- [Concorde](#)
- [Hang glider](#) (approx. 6:40 for release) & [Paraglider](#) (newspaper article with some distressing content)
- [Highest flying birds](#) (Ruppell's vulture, Common crane, Bearded vulture & Bar-headed goose)
- [Airbus A-380](#)
- [Mount Everest](#)
- [Clouds](#) (flying through a hurricane)
- [La Rinconada](#)
- [Hindenburg](#) (footage of it in flight and docking, not of the crash, though does show Nazi swastikas)
- [Seawise Giant](#) (later known as *Jahre Viking*, among other names)
- [Freediving with Herbert Nitsch](#)
- [Swordfish](#), [Anglerfish](#), [Viperfish](#), [Fangtooth](#) & [Hadal snailfish](#)
- [Blue whale](#), [Blue shark](#), [Frimled shark](#) & [Sperm whale](#)
- [Giant spider crab](#), [Yeti crab](#) & [Giant isopod](#)
- [Giant octopus](#) & [Dumbo octopus](#)
- [Titanic](#)
- [Nautilus](#) (video is in French), [DSV Alvin](#) & [Deepsea Challenger](#)

Marketing and promotion

From Space to Core is a one-off title, though it is a follow-up to previous Wild Dog title *How Far is Deep Space?* Both of these share elements with other one-off titles such as *The Colossal Book of Colour*, *Home*, *The Big Book of Antarctica* and *The Giant Book of Germs*. Future one-off titles are planned, such as *Power Up! The Big Book of Energy* and *Migration*.

