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Wild Dog Books
Teachers' Notes

How Far is Deep Space?

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Synopsis

Our Solar System is an immense place. It is Earth's home within the Universe, along with the Sun, planets, moons, comets and asteroids. Whilst some of these objects are relatively close to Earth, many of them are billions of kilometres away.

Humans have long been fascinated by the vastness of deep space; for centuries they studied it with telescopes, and more recently with the help of spaceships, rovers and probes. A greater understanding of space has captivated human imagination for decades and led to many important milestones, discoveries and achievements.

How Far is Deep Space? is a comprehensive guide to the contents of the Solar System and the natural phenomena that influence life on Earth, as well as a catalogue of human achievement and the technologies we have created. It measures how far and high these aspects are from Earth, beginning at the bottom of the ocean and extending all the way to the edge of the Solar System–into deep space and beyond…

Writing style

How Far is Deep Space? 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 celestial bodies.

Photographic style

How Far is Deep Space? has been beautifully and artfully laid out by graphic designer and author Guy Holt. Colourful photographs and graphics are vividly set against the stark blackness of space, while a handy measurement device runs the entire 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.

Study notes

Themes:

- Descriptive words
- Space
- Exploration
- Technology
- Relationship between Sun and Earth; Sun and Solar System

- The Universe
- The notion of systems within systems

Curriculum link: Literacy

Before reading *How Far is Deep Space?*:
- Brainstorm what students know about the Solar System.
- What is their first response when they look at the cover of the book?
- What do they think deep space is? Where does it begin?
- How big do they think the Solar System is? How big is Earth?
- Where do they think humans have travelled in space?

While reading *How Far is Deep Space?*:
- Ask the students to take turns reading an entry aloud to the rest of the class. Where appropriate, ask the students what they think certain words may mean.

After reading *How Far is Deep Space?*:
- Ask the students to reflect on the words they would use to describe deep space and the words that have been used in the book. Ask them to draw up a list of words that can be used to describe deep space.

Curriculum Theme: Critical and Creative Thinking

After reading *How Far is Deep Space?* ask the students the following questions:
- Where does deep space begin? What is the difference between deep space and outer space?
- How big is our Solar System?
- How long would it take to travel from one side to the other?
- Where have humans travelled in the Solar System?
- Have human-made objects travelled further? Where?
- How far can living things travel from Earth?
- Could humans survive on any planets/objects other than Earth?
- Is there life anywhere else in deep space?

Curriculum link: ICT Capability

After reading *How Far is Deep Space?*:
- Organise the class into groups. Assign each group a human-made object (probe, plane, spaceship etc) 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 high/far into space did it go? Is it still in space? Will it return? When?
- Ask the children to look for and print images relating to their chosen object. Specifically, look for images that show the object in space, or images that the object has taken while in space.
- 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.

Curriculum Theme: Personal and Social Capability

After reading *How Far is Deep Space?*:

- Organise the class into two groups. In one group, ask the students to work as a team to construct a word finder puzzle. Ask each student to suggest an appropriate word about deep space and the Solar System using words they have learned from the book. (e.g. stratosphere, probe, ozone etc). Once completed, print copies for the other group to complete.
- In the second group, students should work as a team to create a trivia bingo game. Ask each student to suggest a fact they found surprising or interesting. Combine these facts into a game for the whole class.

Find out more

- http://www.kidsastronomy.com/solar_system.htm
- http://science.nationalgeographic.com.au/science/space/solar-system
- http://www.exploratorium.edu/ronh/weight/
- http://voyager.jpl.nasa.gov/
- http://iss.jaxa.jp/kids/en/life/

Marketing and promotion

How Far is Deep Space? is a one-off title, though it shares many elements with the successful *Going Supernova* series, which includes *The Solar System* and *Space Exploration*. Future space-related one-off titles are planned, such as *The Book of the Sun and the Stars*, along with a *Journey to the Centre of the Earth*.