

CAN A SKELETON HAVE AN X-RAY?

Kyle Hughes-Odgers

ISBN (PB): 9781925162691

Themes: Curiosity, imagination, science, nature, invention

Year level: Pre-primary–Y4

ABOUT THE BOOK

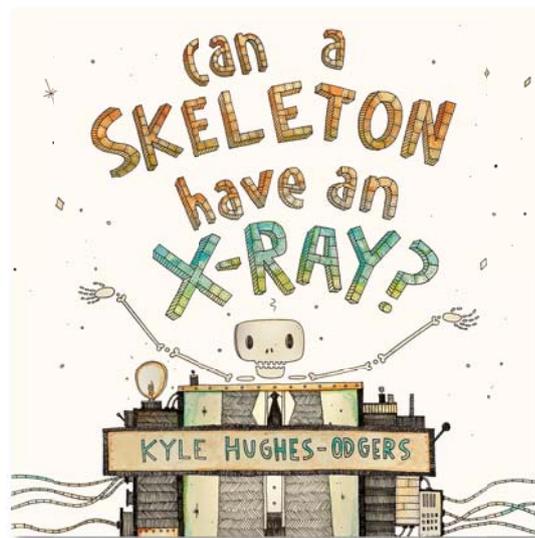
How does sound taste?

Do colours smell?

Why do onions make me cry?

Who builds the wings for birds to fly?

Renowned artist Kyle Hughes-Odgers brings his unique vision to these and many other questions. From the practical to the philosophical, this book is guaranteed to fire young imaginations!



ABOUT THE AUTHOR AND ILLUSTRATOR

Kyle Hughes-Odgers is an Australian artist. He has held exhibitions and created public art extensively throughout Australia and internationally in New York, Los Angeles, Singapore and Berlin. He won a Society of Children's Book Writers and Illustrators Crystal Kite Award for his debut picture book, *Ten Tiny Things* (with Meg McKinlay).



STUDY NOTES

LITERACY: COMPREHENDING TEXTS THROUGH LISTENING, READING AND VIEWING

Predicting

1. Examine the different parts of a book: title, author/illustrator's name, front cover, back cover, spine. Ask students to point to each part of the book.
2. Have students read the blurb aloud to a partner, or read this together as a class. Does the blurb make them want to read the story? Why/why not?
3. Create a class prediction chart detailing what students think may happen in the story. (Note: It is often interesting to keep this chart to look over at the end – amusing false predictions inevitably arise!)
4. Photocopy two pages from the book, showing the illustrations with the text omitted. Have students interpret the images to brainstorm a list of ideas about what is happening on each page. Afterwards, invite them to predict what may happen in the story based on the images alone.

Short story

5. Have students write their own story entitled 'Can a skeleton have an x-ray?' using the cover illustration as inspiration.

Reading strategies

Can a skeleton have an x-ray? can be used for several different reading sessions including:

- Modelled reading as a whole class
- Guided reading in small groups
- Shared reading in student pairs
- Independent reading

Comprehension strategies to practise (Kindergarten–Y3)

- Sounding out words aloud (not only in your head)
- Phonics (blending and segmenting)
- Using illustrations to help predict unknown words
- Predicting words by recognising familiar letter patterns

Depending on the needs of your class, the story can be used to practise finding initial and final sounds (e.g. point to a word on the page that starts with 's') to develop letter/sound awareness. Or they can be used to practise fluency and expression for more advanced readers, who may likely still be challenged by some of the vocabulary (e.g. operates, universe).

Discussion questions

What spins the Earth?

- What does the first illustration suggest causes the Earth to spin?
- What do you think causes the Earth to spin? Discuss with a partner.

Who builds the cranes?

- How do you think cranes are built?
- What kind of things are cranes used for?

What powers the lights?

- What is electricity and how does it work?

Who's awake at night?

- Why might people stay awake at night? Create a list of ideas (e.g. a nurse working nightshift at a hospital, new parents feeding their baby, an astronomer observing the night sky).
- What kinds of animals are nocturnal?

What do ghosts do all day?

- Look carefully at the facial expressions of the ghosts – are they scary?
- Do you believe in ghosts? Discuss with a partner.

Can a skeleton have an x-ray?

- Have you ever had an x-ray? What for? What happened to you?

Who counts the stars?

- How many stars are estimated to be in our solar system? How has this been calculated?
- How are stars formed and what are they made of?
- What are some of the famous constellations visible in the Southern Hemisphere?

What lives on Mars?

- Do you think there is life on Mars? Why/why not? Discuss with a partner.
- Do you think there could be life on other planets in our solar system? Or on other planets in different solar systems altogether? Why/why not? Discuss with a partner.

How does sound taste?

- Do you think sounds have a taste? Why/why not?
- How do the following sounds taste for you? Write a response next to each.
 - piano scales
 - trumpet blasts
 - drums banging
 - a telephone ringing
 - a child crying
 - a car honking

Do colours smell?

- Do you think colours have smells? Why/why not?
- How do the following colours smell to you? Write a response next to each one.
 - red
 - blue
 - purple
 - yellow
 - black
 - white

Why do onions make me cry?

- Have you ever cried when someone was chopping up an onion? Have a guess why this happened, then read to find out the scientific explanation.

Who builds the wings for birds to fly?

- How do wings help birds and aeroplanes to fly?
- Can you fly without wings? (Hint: helicopters do not have wings – how are they able to fly?)

What makes me grow?

- What kinds of things help your body to grow (e.g. food, water etc.)?
- How long does it take for a person to become fully grown?
- Are there parts of your body that continue to grow for your entire life (e.g. hair, nails etc.)?
- How long does it take the following animals to become fully grown?
 - elephants
 - dolphins
 - orangutans
 - blue whales
 - kangaroos?
- What things help plants to grow? How long does it take for different species of trees to become fully grown?

How do boats float?

- How do boats float? Create a class definition for the term 'buoyancy'.
- How are boats designed to harness this scientific principle?
- Conduct a test of everyday classroom objects to see which are buoyant and which are not. Predict the outcome for each before placing it in an ice-cream container filled with water and giving it 10 seconds to float or sink.
- Design a boat out of materials you think will be buoyant. Hold a class competition to see whose boat can float the longest.

What makes the rainbows after rain?

- Have you ever seen a rainbow? When? How did it make you feel?
- Why do you think rainbows sometimes appear after the rain? Have a guess, then read to find out the scientific explanation.

Who operates and steers my brain?

- What functions does the brain control in humans?
- How does the brain send and receive signals to/from the rest of your body?

What lives at the bottom of the ocean?

- What kinds of animals do you think live at the bottom of the ocean? Create a list of ideas.
- Research deep-sea marine life – were you correct?

Who lives on top of the highest mountain?

- Where are the highest mountains on Earth located? Label them on a map of the world.
- Research what kinds of creatures live at the top of these mountains – how are they able to survive there?

Where do shadows go at night?

- Create a definition for the terms 'shadows' and 'light'.
- What causes shadows?
- Experiment with light and shadows using the following website:
http://www.bbc.co.uk/schools/scienceclips/ages/7_8/light_shadows.shtml
- Make shadow puppet theatre and create your own stories to perform for the class:
<http://www.kidspot.com.au/kids-activities-and-games/Nursery-rhymes+15/Make-a-shadow-puppet-theatre+12594.htm>

Who controls a traffic light?

- What are traffic lights for? How do they work?

What does music look like?

- What do you think music looks like? Listen to a variety of songs as a class and with eyes closed. Then discuss with a partner. Draw your experience of one of the songs listened to.

Does the world go on while I'm asleep?

- Does the world continue while you are asleep? Or does it sleep too? How do you know?
- Why is sleep important? How many hours of sleep are recommended for your age group?

Why is water always wet?

- What is a 'state of matter'? What is water called when it's in its solid state? What is it called as a gas?
- Why do liquids feel wet? What properties of the liquid are we actually experiencing?

Who keeps my memories so I don't forget?

- What is the earliest memory that you can recall?
- Why do you think you forget some things and not others?

Who teaches the teachers?

- Do teachers know everything there is to know about the world?
- Do grownups continue learning their entire life?
- Name some resources or places where grownups can go to learn, e.g. university, TAFE, the library, books, the internet.
- What are other important ways we can learn that are not in books or classrooms?

What grows the food?

- How/where is food grown in Australia? Discuss a range of foods and where they come from.
- What is your favourite food and how is it produced?

Who makes all the minutes and hours?

- Create a definition for the term 'time zone'.
- How many time zones are there across the globe?
- How many time zones are there in Australia? Which one does your school operate in?
- Research the history of telling the time – what methods did ancient civilisations use to measure time (e.g. sundials)? How did they work? Why don't we use them anymore?
- Teach students how to read an analogue and digital clock, and explore the difference between am/pm and 24-hour time.

What gives the internet its powers?

- What is the Internet? Where/when was it created and by whom?
- How does it work?
- What are some of the positive and negative aspects of the internet and the way we use it today?

What is the universe made of?

- What do you think the universe is made of?
- Create a definition for each of the following terms:
 - atom
 - proton
 - neutron
 - electron
 - dark matter
 - dark energy

How does the future look?

- With a partner, discuss how you think Australia will look in ...
 - five years
 - fifty years
 - five hundred years

- With a partner, discuss how you think planet Earth will look in ...
 - five years
 - fifty years
 - five hundred years
- What do you hope to become in the future? Research your dream career.

What happens underneath my bed? Where do dreams go once they're out of my head?

- What are dreams?
- How and why do humans dream?
- Can you recall a dream you had recently? Discuss with a partner.
- What do you think happens to your dreams when you wake up? Discuss with a partner.

LITERACY: COMPOSING TEXTS THROUGH SPEAKING, WRITING AND CREATING

Spelling and vocabulary

6. Have students keep a personal dictionary (adding new words they encounter under the letter of the alphabet with which they start). Students can then refer back to this resource to spell the word correctly in their own writing. Have students add the following words to their personal dictionaries:
- | | | |
|------------|------------|------------|
| • builds | • Mars | • shadows |
| • controls | • memories | • skeleton |
| • cranes | • minutes | • steers |
| • dreams | • mountain | • teachers |
| • Earth | • music | • traffic |
| • future | • ocean | • universe |
| • ghosts | • onions | • x-ray |
| • hours | • operates | |
| • internet | • rainbows | |

Punctuation – the question mark

7. *Can a skeleton have an x-ray?* Is structured through a series of questions. It's perfect for introducing students to the question mark. Have children change the following statements into questions by moving the verb to the beginning of the sentence, and adding a question mark at the end. The answer to each is italicised below.
- a. Statement: My sister is an artist.
Question: Is my sister an artist?
 - b. Statement: Jacob bought a telescope last week.
Question: Did Jacob buy a telescope last week?
 - c. Statement: She spends a lot of time working on the computer.
Question: Does she spend a lot of time working on the computer?
8. Challenge – can you change the questions in the book into statements? The title has been done for you.
Question: Can a skeleton have an x-ray?
Statement: A skeleton can have an x-ray.

Inquiry-based learning

9. Set up a 'Question Box' in your classroom where students can post questions similar to those raised in the book. Every Friday, empty this box and read all the slips of paper. As a class, select the questions students would like to investigate further in Science, Design and Technologies and Literacy sessions.

Visual literacy

10. In groups of four, have students examine the illustrations in detail.
- a. What style has the illustrator used to draw the characters – realistic, cartoon, abstract, fantasy?
 - b. What medium has he used – collage, black and white, watercolour etc.? What effect does this create?

- c. What colours has he used? Why do you think he chose this colour palette?
- d. What 2D and 3D shapes can students see (e.g. semicircles, circles, triangles, squares, rectangles, diamonds, cubes etc.)?
- e. Where has the illustrator positioned objects on the page and what effect does this create?
- f. What patterns can students identify (e.g. textile patterns, tiling, repetition of colour sequences)?

Creative writing: practising simple punctuation, planning, editing and redrafting

11. Invite students to choose one of the following ideas to plan and draft a short story.
 - a. *What lives on mars?* Write a short story set on this planet.
 - b. *How does the future look?* Write a short story set at least one hundred years in the future.
 - c. *What do ghosts do all day?* Write your own ghost story.
 - d. *Where do dreams go once they're out of my head?* What kind of things can we do in dreams that we can't in real life? Write a story about a day at school where you had the powers you can have in a dream!
 - e. *What lives at the bottom of the ocean?* Imagine you are a deep-sea explorer. Write a short story about your adventures – research the equipment you will need, the environmental conditions you will face, the animals you will encounter etc.
 - f. *What lives on top of the highest mountain?* Imagine you are an alpine explorer. Write a short story about your adventures – research the equipment you will need, the environmental conditions you will face, the animals you will encounter etc.

Grammatical elements to explore during short story writing

- past tense
- descriptive language to create imagery – adjectives
- connectives

Punctuation skills to model, practise and assess

- capital letters
- full stops
- question marks
- speech marks (for more advanced writers)

Fascinating questions!

12. Invite students to choose the question from *Can a skeleton have an x-ray?* that they are most fascinated by. Then, using the KWL template below, have them research this question and present their findings as either a poster, a PowerPoint presentation, a pamphlet or a report.

K: *What I already know*

W: *What I want to know*

L: *What I have learned*

Step 1: Planning

- What do I already know about my topic?
- What more do I want to find out?
- Can I create four focus questions to guide my research?
- What are the key words for each of these focus questions?
- How will I record the information I find?

Step 2: Locating

- Where can I find the information I need?
- What kinds of sources will be best?
- How will I record the references to make a bibliography later? (older students)

Step 3: Selecting

- How useful is the information I have found?
- Do I need to use all of the information?
- What information can be discarded?

Step 4: Organising

- What subheadings will I use to structure my report / presentation / poster / pamphlet?
- What photos/maps should I include?

Step 6: Presenting and assessing

- What did I learn from this task?
- How well did I present my work? (i.e. did I edit carefully for spelling and grammatical errors?)

Speaking and listening

13. Have students create their own 'fascinating question' in the style of *Can a skeleton have an x-ray?* Students can then research this question and make a short presentation to the class on their findings. Note children may like to bring in props, photographs, models etc. as part of their presentation.

CROSS-CURRICULAR LINKS

Art

14. Students come up with their own question and add a page to *Can a skeleton have an x-ray?* Hold a class exhibition and invite other classes and parents.
15. As a class, discuss your understanding of the term 'artist'. Create a list of different kinds of artists, e.g. painters, sculptors, graffiti artists, photographers, mixed-media artists, print artists, illustrators etc.
16. Who is your favourite artist? Why do you admire this individual's work? Discuss in class.
17. Visit Kyle Hughes-Odgers's website: <http://kylehughesodgers.com/about>
 - a. What type of artist does Kyle Hughes-Odgers identify as?
 - b. List three cities in which his work has been exhibited. Locate these on the world map.
 - c. List three sites in Perth where you can view his work.
 - d. Before working full-time as an artist, Kyle Hughes-Odgers designed and illustrated textile patterns. What are textile patterns? View some examples as a class.
 - e. Can students find any influence of textile design on the front cover and in the book?
18. As a class, view and discuss one of the short clips on the author's website (time-lapse videos of the artistic process), e.g. *The Giant's View* or *A Thousand Lights from a Hundred Skies*:
<http://kylehughesodgers.com/video>
19. Undertake a class excursion to one of the following:
 - A site of street art by Kyle Hughes-Odgers
 - An exhibition at your state gallery
 - An exhibition at a contemporary art gallery in your area

Science

20. *Can a skeleton have an x-ray?* lends itself to a variety of science topics appropriate for the pre-primary–Y4 age group such as:
 - Space
 - Shadow and light
 - How does my body work?
 - Basic Chemistry – what is the universe made of?
 - Electricity
 - Buoyancy
 - Water
 - Basic Biology – deep-sea marine life, alpine environments

Mathematics

21. Kyle Hughes-Odgers uses the repetition of many common 2D and 3D shapes in his illustrations, e.g. squares, triangles, semicircles, circles, rectangles, cubes etc. The book can be used in exploring the differences between 2D and 3D shapes, as well as learning the names and properties of common shapes (e.g. 'How many sides does a triangle have?' 'Can you make a square from two triangles?').
22. The can be used in conjunction with the study of patterns, symmetry and tessellation.

History

23. Research a famous artist of your choice and write a biography of the artist using the following subheadings: family and background, early career, career highlights, mediums and techniques, influences and movements.
24. Research famous scientists and inventors. Who invented the light bulb? The x-ray? Who discovered that the universe is expanding? What inventions and scientific discoveries have been important in changing the way humans live and view their world?

Design and Technologies

25. What could you invent that would make your day-to-day life easier, or be useful to others? In groups of four, brainstorm things you find frustrating or difficult. Is there a form of technology you could design to help? In your group, go through the following steps:
 - a. brainstorm
 - b. design
 - c. construction
 - d. trial and testing
 - e. advertising and marketing for your product
 - f. considering feedback from your customers
 - g. modifying your product (if necessary)

ADDITIONAL RESOURCES

- Visit the author's website: <http://kylehughesodgers.com/about>
- Visit the author's blog: <http://kylehughesodgers.com/blog>
- ABC Arts: <http://www.abc.net.au/arts>
- *East Editions* interview with Kyle Hughes-Odgers: <http://easteditions.com/edition-002-kyle-hughes-odgers-interview>



Find us on Facebook



@FremantlePress



fremantlepress.com.au



Sign up to our enews