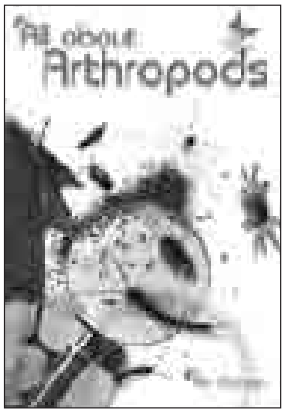
All about Arthropods



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Book Summary

Arthropods are creatures that have jointed legs and an exoskeleton. Examples include a scorpion, a grasshopper, and an ant. Arthropods are found just about everywhere – even on the human body!

Features of the Book

- Nature photography
- Chapter headings that reflect features of reports
- Comparisons
- Unconventional visual supports and charts
- Use of large numbers in both numeric and word form
- Scientific names

Purpose

All about Arthropods can be used to introduce and reinforce the following skills and understandings:

- **S** interpreting and analysing graphic sources of information;
- **S** identifying, analysing, and categorising the characteristics of organisms;
- **S** exploring word derivations;
- **S** determining importance.

Investigation Tools

- What's the Background? – Scientific Names, pages 6–7
- Weighing Both Sides – Friend or Foe?, page 13
- Digging Deeper – Surviving the Extremes, page 18
- Making Connections – Suit of Armour, page 20
- **Step by Step – Moulting, pages 22–23**
- Looking Closer – The Jumping Spider, page 28

The Guided Reading Lesson

- **S** Interpreting and analysing graphic sources of information
- **S** Identifying, analysing, and categorising the characteristics of organisms

Introducing the text

Ask the students to identify the animals on the cover.

– *What do these creatures have in common?*

Encourage a discussion of their differences and similarities.

– *Can you name other creatures that might be included in this group?*

Ask the students to look at the chapter headings on the contents page.

– *What can you guess about arthropods?*

– *What questions can you ask based on what you've seen so far?*

– *Which chapter heading relates most closely to the illustration on page 3?*

– *Why has the artist shown the images as a jigsaw?* (to show that arthropods link all these environments together)

– *Read the first sentence on page 3. How does it help you interpret the photograph on page 2?*

Reading and discussing the text

Ask the students to read to the end of page 7, asking themselves why each illustration and caption has been included.

- *Why is a grasshopper a good example of an arthropod?* (Its jointed legs and exoskeleton are obvious.)
- *Tell me in your own words why scientists use Greek and Latin names for animals.*

Ask the students to read pages 8 and 9, using the text to help them interpret the images.

- *How do the images on page 8 support the text?*

Check to ensure that the students can interpret the pie graph. (It refers to numbers of species, not total numbers of animals.)

- *Where would humans fit into the pie graph? Why is the "others" section smaller?*
- *What information in the text can help you interpret the chart?*

Ask the students to read to the end of chapter 2, looking for how the photographs support the text.

- *What is the easiest way of telling which category an arthropod belongs to?* (count its legs)

Ask the students to read "Friend or Foe?" on page 13.

- *What is the man on page 13 doing?* (spraying to kill insects)
- *What are some good things about arthropods?*
- *What are some bad things?*

Ask the students to read to the end of the text, looking for why arthropods are successful survivors.

- *Why are arthropods so plentiful?*
- *What has contributed to their success?*

Ask the students to turn to a partner and examine pages 22 and 23, then discuss the advantages and disadvantages of having an exoskeleton.

- *What did you notice about exoskeletons?*
- *How does this help arthropods adapt to different environments?*
- *How has this book made you revise your thoughts about "creepy-crawlies"?*

Revisiting the Text

The activities below can be used immediately after the guided reading lesson, during later reading sessions as mini-lessons, or as independent activities.

S Interpreting and analysing graphic sources of information

Ask the students to study "Moulting" on pages 22 and 23. Write on the board:

egg ➜ caterpillar ➜ cocoon ➜ adult

They can use the Step by Step investigation tool on page 91 to describe the life cycle of a butterfly. Provide the students with resources for further research if necessary.

S Exploring word derivations

Write on the board "arthropod", "exoskeleton", "chordate", "insect", "arachnid", "crustacean", and "myriapod". Ask the students to use a dictionary to find their Latin or Greek derivations and their definitions. They can use the text or the derivations to help them find and record mnemonics for arthropod (jointed feet), myriapod (multiple feet), exoskeleton (outer-skeleton), and chordate (having a spinal cord).

S Determining importance

Help the students to list the features that contribute to arthropods' success, such as their body structure, their size and shape, their reproductive capacity, their ability to adapt to diverse environments, and their ability to protect themselves.

The students can then complete the blackline master on page 64 to prioritise these features. Ask them to justify their thinking by explaining why they placed them in this order.