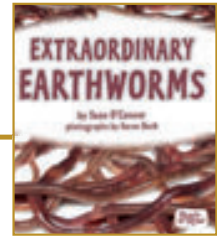


# Extraordinary Earthworms



by Sean O'Connor  
photographs by Aaron Beck

This text is levelled at Gold 2.

## Overview

This report reveals some surprising facts about earthworms, but its focus is on how earthworms improve the soil and help plants grow.

This text has close links to the science curriculum and includes some use of the more formal language of report writing. It provides opportunities for students to find and summarise information and to think critically in order to identify the main idea. There is an audio version of the text on the Ready to Read CD *Readalong 2010*.

## Related texts

- Texts about worms: “Make a Mini Worm Farm” (JJ 39, Purple), “Our Recycled Worm Farm”, “The Pet Day Problem” (both JJ 40, Gold)
- Texts with a similar structure (reports that convey a particular point of view) at Gold: *The White-tailed Spider*, *Sun Bears Are Special*, *The Greatest Race on Earth* (all RTR).

## Cross-curriculum links

- Science (levels 1 and 2, life processes) – Recognise that all living things have certain requirements so they can stay alive.

## Text characteristics

Key text characteristics as described in the reading standard for after three years at school are shown in the boxes with a solid outline. Other boxes indicate additional characteristics.

A mix of explicit and implicit information that supports students to infer:

- the author’s purpose (to persuade the reader that earthworms are extraordinary)
- the main idea (that earthworms make the soil healthy, which is first stated on page 2 and returned to several times)

### Small but important

In your garden, there could be more than a quarter of a million earthworms! Earthworms might be small, but they are very important. They make the soil healthy for plants to grow.



The structure of the text as a report, with an introduction, a series of main points (organised under headings), and a conclusion

Some unfamiliar (and fascinating) facts about earthworms

Visual language features such as a contents page, headings, photographs, and captions, which provide supporting information

Some use of the more formal vocabulary and language structures of report writing, for example, “is harmful to them”, “allow”, “create”, “found in the soil”, “produce”, “provide”, “can be added”, “improve”, “are among”, “prefer”

### Below the surface

We don’t see earthworms very often because sunlight is harmful to them and they live underground. Below the surface, they are quietly tunnelling and eating their way through the soil. Their tunnels allow air and water to move through the soil more easily. This helps plants to grow strong and healthy.



The conversational style, created through using the second person (“you”), questioning the reader, making dramatic comparisons, using exclamation marks, and including personal opinions

### Moving along

The earthworm’s body is made up of sections. These sections are called **segments**. Some earthworms have more than five hundred segments! Earthworms don’t have arms, legs, feet, long, narrow shape helps them move through the soil easily. Without legs, how can an earthworm move? Earthworms move by stretching and shortening the **muscles** in their bodies. In some earthworms, the **setae** on each segment. The setae provide grip as the earthworms move through the soil.

For their size, earthworms are among the strongest animals on Earth!

Information organised in paragraphs

The pronunciation guide for “setae”

Some common words with multiple meanings, for example, “rich”, “casts”, “grip”

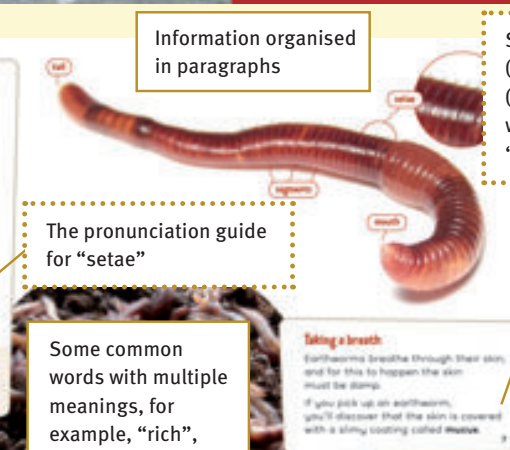
Some words with suffixes (“harmful”, “powerful”) and prefixes (“extraordinary”) and compound words (“earthworms”, “sunlight”, “underground”, “whatever”)

A variety of sentence structures, including complex sentences

The use of bold print for some subject-specific words, with definitions close by

### Taking a breath

Earthworms breathe through their skin, and for this to happen the skin must be damp. If you pick up an earthworm, you’ll discover that the skin is covered with a slimy coating called **mucus**.



Some unfamiliar words and phrases, the meaning of which is supported by the context or illustrations, for example, “surface”, “tunnelling”, “rich”, “rotting plants”, “compost heaps”, “casts”, “weight”, “kitchen and garden waste”, “sections”, “segments”, “muscles”, “Bristles”, “setae”, “grip”, “breathe”, “slimy coating”, “mucus”, “species”

## Suggested reading purpose

- To find out about earthworms and why this writer thinks earthworms are extraordinary

## Setting a learning goal

*(What opportunities does this text provide for students to learn more about how to “read, respond to, and think critically about” texts?)*

To meet the reading purpose, students need to draw on a range of comprehension and processing strategies, often simultaneously. The strategies, knowledge, and skills below link to *The Literacy Learning Progressions*. Select and adapt from them to set your specific learning goal. Be guided by your students’ particular needs and experiences: who they are, where they come from, and what they bring (*Reading and Writing Standards for Years 1–8, Knowledge of the learner, page 6*).

This text provides opportunities for students to:

- make connections to their prior knowledge, between sections of the text, and between the body text, photographs, and other visual language features in order to identify and summarise main points
- identify the main idea (what the author thinks is most important)
- use clues in the text to help visualise the information
- use word-solving strategies and knowledge of punctuation and syntax to decode and/or work out the meaning of unfamiliar words and phrases.

## Introducing the text

- Look at the title. Ask the students to share what they know about earthworms.
- *What does extraordinary mean?* (If the students don’t know, you could use the reading as an opportunity to find out.)
- Read through the headings and ask the students to predict what the text will tell them.
- Share the reading purpose and the learning goal (how they will achieve the purpose), for example, to make connections and summarise. Review the sorts of things that students can look for and use to help them do this, for example, the headings, topic sentences within paragraphs (particularly in the introduction and conclusion), key words, photographs, and captions. Tell the students that, as they are reading and summarising the text, you also want them to be looking for clues about what the author thinks is most important about earthworms.

## Reading the text

- Below are some behaviours you could expect to see as the students read and discuss this text. Each example is accompanied by instructional strategies to scaffold their learning. Select and adapt from the suggestions according to your students’ needs and experiences.

### **The students make connections to their prior knowledge, between sections of the text, including visual language features, in order to identify and summarise the information about earthworms.**

- As you follow the lesson below, you could assign pages to pairs and then have the students work in groups to complete the chart. One person from each pair could share their information with the group. They could then reread and discuss their findings. This is particularly supportive for English language learners because of the opportunities for oral language links, repetition, and clarification.
- On page 2, prompt the students to notice the heading and then read to find out what seems to be the most important point. Encourage discussion, for example, the exclamation mark and large number (“quarter of a million”) have impact and draw the reader’s attention, but the words “but” and “important” in both the heading and the second paragraph suggest that the idea of making the soil healthy is the main point here. Leave the discussion open-ended, to return to as the students read further. *Let’s look out for other main points and any other information about the points we’ve already noticed.*
- Record both main points on a chart, leaving lots of room to add supporting information. An example of what a completed chart might look like is provided below. Some points may belong in more than one place. Main ideas are in bold.
- Have the students read page 3 and prompt them to make connections between the text and photographs on pages 2 and 3. *How do the page 3 photo and caption help you to understand the information on these pages?*
- You can continue in this way, stopping after each section or double-page spread to summarise and add to the chart together, noticing connections between the information. For example, how earthworms improve the soil (pages 3, 4, 5) or why sunlight is harmful to earthworms (pages 3 and 7). Use arrows or colours to organise the information.
- On page 6, you may need to support the

students with visualising the description of how the earthworms move. Prompt them to search for useful clues and make connections to their prior knowledge: *Show me the paragraph that tells you how an earthworm moves. What does it look like as it stretches and shortens? Think about a time when you've seen a worm moving.* You could have the students try stretching and shortening their hands (or whole bodies) to move along the floor.

#### lots of earthworms

- many earthworms in a garden but we don't see many – they live underground – sunlight is harmful to them – earthworms breathe through their skin, which has to be damp – has mucus – (sunlight would dry them out)
- lots of species – for example, grey, tiger, North Auckland
- tiger worms in worm farms
- some worms can be very long

#### make the soil healthy (rich) for plants to grow

- earthworms make tunnels – good because tunnels let air and water move through the soil and help plants grow – they eat rotting plants (and kitchen and garden waste – recycle)
- they make casts and worm wee – good for the soil (improve)
- they eat a lot (so they make a lot of casts and worm wee)
- some people have worm farms

#### earthworms are unlike many other creatures

- body is made up of segments – they stretch and shorten the segments to move along
- they have bristles to help them grip
- no arms or legs
- very strong
- breathe through their skin

#### The students form an opinion about the main idea of the text and give reasons for their opinion.

- Review the summary chart together and discuss the connections the students have discovered between the main ideas. *We've found a lot of extraordinary facts, but what do you think the author thinks is **most** important about earthworms?*
- Discuss the sorts of clues that will help students decide the main idea. For example, checking the main points in the introduction and conclusion, looking for key words (for example, “extraordinary”, “important”) and

direct statements, and noticing which ideas are mentioned most often. For this last point, the summary chart should be a visual prompt because the main idea should be the one that has the most points written about it.

- Have the students think, pair, and share, referring to the chart and the text, to come to a conclusion about the main ideas (how earthworms improve the soil). The idea of there being large numbers of earthworms and that they are strong are also repeated, but the key sentence in the text is in the second paragraph on page 2.
- Revisit the learning goal and support the students to track how they met it. *How did summarising help you to form an opinion about earthworms?*

#### The students look for and use clues such as context, definitions, and explanations to clarify or confirm the meanings of some unfamiliar topic words or phrases and can explain what they did.

- Model a think-aloud: For example, on page 4: *I can see the word “casts” in bold print here, and there are words in brackets next to it, so I'm inferring that the bracketed words are saying what casts are – earthworm poo.*
- Alternatively, tell the students what to look out for: *When you see a word in bold print, look for a definition or explanation of its meaning close to it in the text.*

#### The students search for linking words and notice and use punctuation to clarify the connections between ideas in longer or more complex sentences.

- Rewrite a sentence or section on a chart or group reading book to demonstrate ways of clarifying meaning. For example, the first two lines on page 3 could be taken to mean that we don't see worms often because sunlight is harmful to them. Students need to read on and notice that the word “because” relates to lines 2 and 3 – worms live underground because sunlight is harmful to them and that's why we don't see them – there is a “mini-chain” of connected ideas.
- In the first sentence on page 4, the linking word “found” and the commas clarify that the rotting plants that the worms eat are found in the three places mentioned.

## After reading

- The students can reread the text silently while listening to the audio version on the Ready to Read CD *Readalong 2010*.
- Explore the meaning of “extraordinary”. Discuss how the word “extra” means “more” but that, when it is used as a prefix, it means “more than” or “beyond”. If it is known to the students, you could refer to the word “extraterrestrial” meaning “beyond earth”. Have the students generate some synonyms for “extraordinary”, or they could refer to a thesaurus.
- Identify some subject-specific vocabulary in the text and discuss the meanings of the words and how the students worked them out, for example, by noticing suffixes or words within compound words or by looking for contextual clues. You could focus on some of the topic words that have more than one meaning (rich, casts, grip). *What helped you work out the right meaning?* Note if you need to follow up on any decoding strategies, particular words, or features of words.
- Explore how the writer tries to convey her point of view and persuade the reader. *What tells you that the author thinks earthworms are extraordinary and wants you to agree?* For example, the title, the conversational style (addressing the reader directly and asking questions), her language choices (for example, “Small but important”, “very important”, “Making rich soil”, “full of good things”, “improving”), the exclamation marks, the use of humour, the informal headings, and the closing word.
- Study some of the examples of the language of report writing, for example, “is harmful to them” and “allow” on page 3. Have the students practise substituting less formal language, such as “is dangerous for them” and “let”, in order to clarify the meaning. Draw out the idea that although report writing may also be friendly, as in this text, it is more formal than personal writing.
- Encourage the students to think beyond the text. Using what you’ve found out from this text plus anything else you know about earthworms, what would happen if we didn’t have earthworms? They could revisit this question after reading other texts about earthworms.