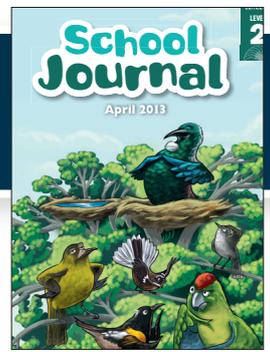


The Bat That Walks on the Ground

by Marlene Bennetts

School Journal
Level 2, April 2013
Year 4



Overview

Who knew that a bat could scuttle across on the ground like a mouse? This short article explains that, like the kiwi, bats didn't need to escape predators before people arrived in New Zealand. The lesser short-tailed bats are able to fly, but they are in danger because of their reduced habitat and the introduction of predators.

The article gives an insight into conservation and, through an additional piece of text, the inter-relatedness of living things.

Texts related by theme

“The Bat Detective” *Connected 1* 2002 | “Bat Maths” *Connected 1* 2002

Text characteristics from the year 4 reading standard

some places where information and ideas are implicit and where students need to make inferences based on information that is easy to find because it is nearby in the text and there is little or no competing information

Changing with the Seasons

In cold weather, the bat's body temperature cools, and the bat doesn't move very much. This helps it to save energy. It starts moving again when the weather gets warmer.

Over winter, the short-tailed bat hibernates for short periods. However, every six to ten days, it becomes active. It may even go in search of food.



Bats and their pups in a nursery roost

In late summer, the male bats put on a show of singing to attract and mate with female bats. The female bats give birth early the following summer.

A young bat is called a pup. The pups stay in a nursery roost with their mothers. Pups can fly when they are four to six weeks old. In eight to twelve weeks, they are fully grown and can look after themselves.

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some words or phrases that are ambiguous or unfamiliar to the students, the meaning of which is supported by the context or clarified by photographs, illustrations, diagrams, and/or written explanations

Key

- Native forest
- Exotic forest



In Danger

Sadly this tiny creature is in danger of becoming extinct.

When people arrived in New Zealand, they began clearing the land. Over time, large areas of native forest, which is the bat's habitat, have been destroyed. People also brought animals such as stoats, rodents, and cats. These animals attack and kill bats when they are searching for food on the forest floor.

The Department of Conservation and other groups are working hard to protect the short-tailed bat. They are trying to make sure that this unusual little animal will be with us for a long time yet.

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some compound and complex sentences, which may consist of two or three clauses

some abstract ideas that are clearly supported by concrete examples in the text or easily linked to the students' prior knowledge

Reading standard: by the end of year 4

Possible curriculum contexts

SCIENCE (Living World)

Level 2 – Ecology: Recognise that living things are suited to their particular habitat.

ENGLISH (Reading)

Level 2 – Purposes and audiences: Show some understanding of how texts are shaped for different purposes and audiences.

ENGLISH (Writing)

Level 2 – Purposes and audiences: Show some understanding of how to shape texts for different purposes and audiences.

Possible reading purposes

- To learn about an endangered native animal
- To understand how living things are suited to their habitats and what can happen when the environment changes.

See Instructional focus – Reading for illustrations of some of these reading purposes.

Possible writing purposes

- To research and write about another endangered creature
- To make a poster highlighting the need to save endangered animals.

See Instructional focus – Writing for illustrations of some of these writing purposes.

 The New Zealand Curriculum

Text and language challenges

VOCABULARY:

- Possible unfamiliar words and phrases, including “actually”, “cut off from”, “evolved”, “suit”, “scuttles”, “burrows”, “leaf litter”, “flightless”, “forearms”, “hollow”, “colony”, “temperature”, “hibernates”, “mate”, “nursery roost”, “extinct”, “clearing the land”, “habitat”, “destroyed”, “stoats”, “rodents”, “Department of Conservation”, “protect”, “Endangered”, “rare plant”, “underworld”, “nectar”, “pollinates”, “dies out”
- The name: “lesser short-tailed bat”
- The use of “Sadly” to introduce a different sub-topic
- The Māori name of a rare plant and its meaning.

Possible supporting strategies

Provide carefully scaffolded opportunities for students to encounter and practise useful low-frequency words such as “scuttles”, “burrows”, “forearms”, and “hibernates” in different contexts before and after reading.

Review students’ knowledge of subject-specific words and terms such as “evolved”, “extinct”, “habitat”, “protect”, “Department of Conservation”, “endangered”, and “dies out” before reading, using a concept map to chart the words they associate with conservation. For examples of concept maps and other vocabulary strategies, refer to ESOL Online at <http://esolonline.tki.org.nz/ESOL-Online/Teacher-needs/Pedagogy/ESOL-teaching-strategies/Vocabulary>

The English Language Learning Progressions: Introduction, pages 39–46, has some information about learning vocabulary.

SPECIFIC KNOWLEDGE REQUIRED:

- Understanding of the concept of a habitat
- Knowledge of species that are endangered and efforts to protect them
- Familiarity with small creatures such as mice.

Possible supporting strategies

Activate and, if necessary, build students’ knowledge of animal survival and changing habitats. Use DVDs, books, articles, and websites to give them exposure to a range of different kinds of animals and the challenges they face. Plan opportunities for students to explain what they know. While exploring the prior knowledge that is needed for reading this text, feed in, explain, and record key vocabulary.

TEXT FEATURES AND STRUCTURE:

- The familiar joke that introduces the article
- Factual information in a report, supported by photographs, captions, and a map
- The comparison between the lesser short-tailed bat and a mouse
- The need to infer that the short-tailed bat does fly
- The need to infer that there could be (or have been) a “greater” short-tailed bat
- The explanation of how the bat moves on the ground
- The additional text about another endangered species that is dependent on the bat
- The background information about why the bat evolved to walk
- Changes in tense that provide historical information (past tense) and the descriptions of the bat and the conservation efforts (present tense and future verb forms).

Possible supporting strategies

Support the students to identify the structure, using the headings as a guide to the content of each section. Prompt them to examine the photographs.

Support the students to identify the parts of the text that give information about the past, present, and future.

During and after reading, check the students’ understanding of why the bat is in danger and how the fate of the wood rose is linked to the bat’s survival.

For students who will find this text challenging (including ELLs), use the headings to preview the content orally so they can call on prior knowledge. After reading page 24, divide the students into four groups. Give each group a sheet of poster paper with one of the four headings from the rest of the article. Tell the groups to read the headings and make predictions about the content. (They can write sentences or single words. Encourage students who have a first language other than English to contribute words from this language.) Then have the groups pass on their poster to the next group. Each group reads and discusses the previous group’s ideas and adds their own. Continue until each group has contributed to all four posters. Display the posters in order and discuss the ideas as a group. During this discussion, feed in key vocabulary and ideas.

 Sounds and Words

Instructional focus – Reading

Science (Living World, level 2 – Ecology: Recognise that living things are suited to their particular habitat.)

English (Level 2 – Purposes and audiences: Show some understanding of how texts are shaped for different purposes and audiences.)

Text excerpts from “The Bat That Walks on the Ground”

Students (what they might do)

Teacher (possible deliberate acts of teaching)

Have you heard the one about the bat that thought it was a mouse? Well, maybe the lesser short-tailed bat doesn't actually think it's a mouse, but sometimes it acts like one.

The students make connections between the opening and jokes they know and predict they are about to read a joke. They read on and use their knowledge of sentence structure and their knowledge of bats to unpack the second sentence. They infer that the writer used the joke to let readers know what was different about the bat.

If the students are not familiar with this kind of joke, tell them one or two so they get the idea.

DIRECT the students to read the whole paragraph.

- What kind of bat will this article be about?
- Why does the bat have this name? What other kinds of bats do you know?
- What do you predict the text will tell us?

When it's on the ground, the bat tucks its wings under flaps of skin. The flaps protect the wings from damage. Then it uses its forearms as front legs. It has a large claw on its thumb and claws on its feet, too. These help the bat to dig, climb trees, and walk along branches to look for food.

The students make connections between the text and their bodies to visualise the arrangement of the bat's legs. They make comparisons between the bat and other animals (including humans) to understand where the bat's claws are and how they are used.

TELL the students to reread this extract. Invite a volunteer to show, using their arms, how the bat moves. Alternatively, demonstrate this yourself. Highlight the relevant vocabulary as you demonstrate. Label copies of the illustrations.

- Where would the wings go? Which part is the forearm?
- Where would you find the large claw? Which feet is the writer referring to?
- What questions do you have about how the bat moves?

PROMPT the students to consider questions such as “Can the bat fly as well as walk?” Remind them that asking questions while reading is a good way to understand a text.

PROMPT the students to make connections and ask questions as they read.

- When you connect your own knowledge with the heading and the first sentence, what inference can you make?
- What do you know about the hibernation of other animals, such as bears?
- Why do you think the bats become active so often?

Changing with the Seasons

In cold weather, the bat's body temperature cools, and the bat doesn't move very much. This helps it to save energy.

Over winter, the short-tailed bat hibernates for short periods. However, every six to ten days, it becomes active. It may even go in search of food.

The students use the heading to predict that this section will tell them about changes in the bat's habits in different seasons. They make connections between the information in the first paragraph and their knowledge of animals that hibernate to infer that this is what the bat is doing. As they read on, they confirm their inference. They ask questions about the way the bat becomes active during hibernation, wondering why it doesn't sleep all winter.

TELL the students to swap questions with a partner, then let their partner know when they find an answer.

- Write your questions down and tick them off when you find answers.
- Where could you find answers for unanswered questions?

See <http://www.doc.govt.nz/conservation/native-animals/bats/short-tailed-bat/> for information.

MODEL the way word families can help us work out words.

- “Pollinates” is part of the “pollen” word family. The “e” has changed to an “i”, but the root word is the same. The “ate” at the end (the suffix) forms the verb. I also know the word “pollination” from this family.

ASK QUESTIONS about the author's purpose.

- Why do you think Marlene Bennetts wrote this article?
- What is her main message?
- How does this extra information about the wood rose help her purpose?
- What have you learnt about the way living things are suited to their particular habitat?

The bat likes to eat the nectar in this plant's flowers. As the bat does this, it pollinates the flowers. If the bat dies out, the wood rose could die out, too.

The students use their vocabulary knowledge to understand “nectar” and “pollinates”. They make connections between their knowledge of pollination and the text to infer that the bat is the only animal that can pollinate the flowers. Students evaluate the significance of the relationship for the flower.

GIVE FEEDBACK

- Sharing your connections helped you both to understand the part about hibernation.
- You've used your prior knowledge to make that inference. See if you can find information in the surrounding sentences to support it.

METACOGNITION

- What strategies did you use to work out what a “nursery roost” was?
- How did your own knowledge of conservation help you to understand this article? Show me a place where you were able to make a personal connection.
- Did you find any parts of this article hard to follow? What did you do then?

Reading standard: by the end of year 4

The Literacy Learning Progressions

Assessment Resource Banks

Instructional focus – Writing

Science (Living World, level 2 – Ecology: Recognise that living things are suited to their particular habitat.)

English (Level 2 – Purposes and audiences: Show some understanding of how to shape texts for different purposes and audiences.)

Text excerpts from “The Bat That Walks on the Ground”

Examples of text characteristics

Teacher (possible deliberate acts of teaching)

Living in the Forest

This little bat scuttles about the forest floor like a mouse. It burrows in the leaf litter to find insects, seeds, and other things to eat.

The short-tailed bat rests and sleeps in hollow trees or in holes that it digs in rotten wood. Sometimes it rests on its own, and sometimes it rests in a group (or colony).

COMPARISONS

The use of comparisons with something familiar is a good way to help your audience make connections with things they already know.

SELECTING DETAILS

Details help readers to understand an important idea. Writers choose details that will engage their readers and will help them see the big picture.

In Danger

Sadly this tiny creature is in danger of becoming extinct. When people arrived in New Zealand, they began clearing the land. Over time, large areas of native forest, which is the bat’s habitat, have been destroyed. People also brought animals such as stoats, rodents, and cats. These animals attack and kill bats when they are searching for food on the forest floor.

CAUSE AND EFFECT

Giving reasons helps readers to understand the causes and effects behind a problem. In this example, the author states the problem (the bat is in danger of becoming extinct) then lists the causes. For example, the cause (clearing the land) led to the effect (the bats’ habitat was destroyed).

ASK QUESTIONS to help the students form their writing intentions.

- If you’re writing about an endangered species, how will you decide which animal or plant to write about? What criteria will you use?
- What is your purpose for writing?
- Who will you write for? What information and style will engage your audience?
- Using “The Bat That Walks on the Ground” as a model, what headings could you use? Will they allow you to cover your topic? What would be a good title?
- What would be a good first sentence to engage your readers?

ASK QUESTIONS to help the students focus their research.

- What information will support your message?
- How can you use comparisons with familiar things to make the facts easier to understand?

MODEL how to add interesting details.

- I’m thinking about the words the author used to describe how the bat moves. “Scuttles” is a great word – it helps me to visualise the bat’s movements. It also helps me understand why she said the bat is like a mouse: this is how a mouse runs about.
- The details that tell where the bat sleeps help me understand the importance of its habitat.

MODEL unpacking the causes and effects.

- The author tells us the bat is in danger of becoming extinct. She describes the causes and effects that led to the problem:
- People who arrived in New Zealand cleared the land (cause).
- This destroyed the bat’s habitats (effect).
- People brought animals (cause).
- Predators killed bats (effect).

ASK QUESTIONS to help the students clarify causes and effects in their writing.

- If you’re writing about a problem, can you help readers to understand it better by explaining the causes and effects?
- What were the causes? What were the effects?

GIVE FEEDBACK

- Your planning showed me that you made a long list of things you could include, then you crossed out until you arrived at the most important and interesting parts of the topic. This shows you’re thinking about what will engage your audience.
- Changing the verb “walked” to “scurried” gives me a better idea of how the animal moved.

METACOGNITION

- How hard or easy was it to find the information you needed? What does that tell you about the topic?
- How did spending some time thinking about your audience help you decide on the writing style?
- How will you know if your writing has made readers think about their actions?

 **Writing standard: by the end of year 4**
 **The Literacy Learning Progressions**