The Coprolite Hunters

by Neil Silverwood

School Journal
Level 3, November 2020
Year 6

The Learning Progression Frameworks describe significant signposts in reading and writing as students develop and apply their literacy knowledge and skills with increasing expertise from school entry to the end of year 10.

Overview

Photographer Neil Silverwood has documented the work of New Zealand scientists before. This time, they're hunting for coprolites – fossilised animal faeces. Analysing this "treasure from the past" allows scientists to learn more about our endangered native bird species, including the kinds of habitats that once supported them. This is another useful article about the work scientists do and the many ways in which they continue to learn about our world.

A PDF of the text is available at www.schooljournal.tki.org.nz

Themes

- Scientific research
- Treasure
- Conservation

Related texts

"Journeys of Discovery: The Life of Alfred Wallace" SJ L4 Nov 2020 | **"Science on the Ice?"** SJ L4 Nov 2018 | **"Richard Owen's Giant Mystery"** SJ L3 Aug 2015

Strengthening reading behaviours (what to notice)

Text structure and features	Requiring students to:
• Figurative language *Treasures from the past; like finding an important piece in a puzzle; like the tangled arms of an octopus; no wider than a coathanger*	• use the context, word knowledge, visualisation, and their prior knowledge of literary language to interpret the purpose and meaning of the metaphors and similes
• Additional information in a text box *When Birds Ruled (pages 14–15)*	• integrate the information in the text box with the information provided in the running text to gain understanding about the time period the article refers to.

Vocabulary

Place names	Euphrates, Karamea, Garibaldi Plateau, Kahurangi National Park, Lake Wakatipu, Otago, Christchurch, Westland, Antarctica
Latin names for species	*Rattus exulans*, *Dinornis robustus*, *Harpagornis moorei*
Other possibly challenging words and phrases	coprolite, fossilised, tussock, ringed, shafts, aerial, contaminating, specimen, critically endangered, genetic, introduced species, teeming, overhangs, invasive species, vulnerable, decimated, evolved, diverse, unique, contamination, predatory, talons, grappling, raptors, biological, pipette, extract

Helpful prior knowledge (pre-reading and introducing the text)

- Manaaki Whenua, Landcare Research – who they are and what they do
- Scientists can gain a lot of information about extinct and living animals by analysing fossilised remains.
- Care needs to be taken to ensure that samples are not contaminated.
- Being a scientist can involve fieldwork – gathering and analysing evidence from the environment.

ISBN 978 1 77663 765 2 (WORD) ISBN 978 1 77663 764 5 (PDF)

Possible reading and writing purposes

- Find out about an interesting aspect of scientists' work
- Find out how analysing fossilised animal faeces can provide important information about New Zealand's native birds
- Explore how photographs enhance understanding of an informational text
- Describe how scientists gather, analyse, and store important samples for scientific research.

See *Effective Literacy Practice in Years 5–8* for information about teaching comprehension strategies (Teaching comprehension) and for suggestions on using this text with your students (Approaches to teaching reading).

Possible curriculum contexts

This text has links to level 3 of *The New Zealand Curriculum* in: ENGLISH SCIENCE

Understanding progress

The following aspects of progress are taken from the Learning Progression Frameworks and relate to the specific learning tasks below. See the LPFs for more about how students develop expertise and make progress in these aspects:

- Acquiring and using information and ideas in informational text
- Making sense of text: using a processing system; using knowledge of text structure and features; vocabulary knowledge
- Using writing to think and organise for learning.

Strengthening understanding through reading and writing

Select from the following suggestions and adapt them according to your students' strengths, needs, and experiences.
Note: Most of these activities lend themselves to students working in pairs or small groups.

- Give the students stickies to note any questions they have during the first reading. These can be looked at in subsequent readings.
- Ask questions to prompt the students to make connections: *What did you find most interesting? What could you clearly imagine?* (visualise). *What did you already know?* Discuss topics raised, such as DNA and extinct birds, and clarify anything that the students are unsure about. To deepen the students' understanding of the work of scientists, list things a scientist collecting coprolite samples would do.
- Have the students summarise what they found out about coprolites using a 5Ws & H chart (who, what, when, where, why, and how), returning to sections of text, photos, and maps to help with this task. *Why is finding the droppings and bones from these animals so important? What information can scientists tell from what they find? Find evidence from the text to support your answers*. Ask the students to use their notes to unpack the first two reading purposes.
- Model the strategy of paraphrasing using the **Oral paraphrasing** template at the end of this TSM. Ask the students to work in pairs, using the template to practise orally paraphrasing sentences. When they are confident with the strategy, have them reread the text, paraphrasing alternate paragraphs to their partner. Together share some of their paraphrasing, discussing and clarifying any misconceptions. This strategy can lead to precise note-taking while avoiding plagiarism.
- Briefly review features commonly found in non-fiction writing (such as subheadings, captions, photographs, a map, a text box), finding examples of these in the text. Ask the students to identify the features of the text box on pages 14 and 15. Have them discuss its purpose and analyse how the features work together to convey the information.
- Review the difference between figurative and literal language. Explain that the primary purpose of figurative language is to help the reader to imagine or infer what an author means. Ask the students to find examples of figurative and literal language in this article (for example, "Like finding an important piece in a puzzle", "no wider than a coathanger"). The students could share their examples.
- Ask the students: *What was the author's role with the scientists? Why do you think he joined them? Do you think Neil Silverwood was able to explain what coprolite hunting is through the photos and text? Why or why not?* Give the students copies of the photos from the article. Talk about interesting ways to introduce each image. *Is there a sequence of events to the photos?* Have the students put their own caption on each photo and share these with the group.
- Have the students work in pairs to find words and phrases about what scientists do, the equipment they use, and how they behave when they gather, analyse, and store samples. DIGITAL TOOLS They could use a Word Cloud for this task. Ask questions that explore what being a scientist requires: *What did they have to do? Where did they go? What skills did they need? Would you like to do this? Why? Why not?*
- After reading, write the words from the vocabulary section of this TSM on a whiteboard or on cards. Invite the students to sort them into groups, for example, of words similar in where they are used or how they are used. Some words might not be able to be grouped together and others might be in more than one group. Ask the students to justify why they grouped words together.

“The Coprolite Hunters” Oral paraphrasing

Paraphrasing means to repeat something without changing the meaning but using your own words. Where possible, paraphrasing should make the information shorter and clearer.

Copy and paste in sentences or a paragraph for paraphrasing in the “Original text” box below.

Original text	**Paraphrasing reminders**
	• Reread the sentence or paragraph. • Think about the important ideas. (You could underline some keywords.) • Think about how you could say this using mostly your own words. • Say it out loud to a partner.
Feedback: Self or peer ☐ Mostly used own words ☐ Meaning stayed the same Comment:	

MINISTRY OF EDUCATION
TE TĀHUHU O TE MĀTAURANGA

New Zealand Government

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