

Teachers' Notes

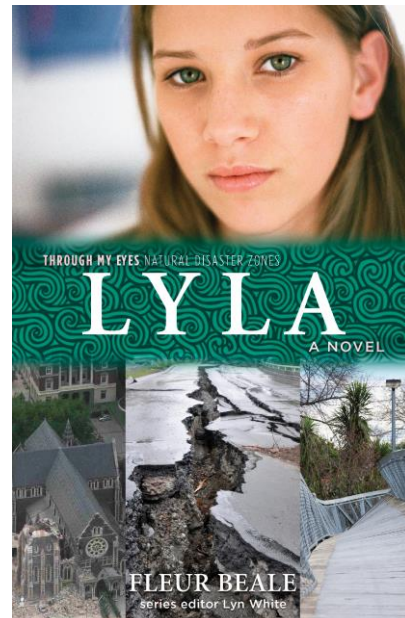
Lyla: Through My Eyes - Natural Disaster Zones

by
Fleur Beale
Series editor: Lyn White

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Recommended for ages 11-14 yrs

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INTRODUCTION

Lyla is the third book in the Through My Eyes – Natural Disaster Zones series. This contemporary realistic fiction series aims to pay tribute to the inspiring courage and resilience of children, who are often the most vulnerable in post-disaster periods. Four inspirational stories give insight into environment, culture and identity through one child's eyes.

www.throughmyeyesbooks.com.au

Advisory Note

There are children in our schools for whom the themes and events depicted in *Lyla* will be all too real. Though students may not be at risk of experiencing an immediate disaster, its long-term effects may still be traumatic. The theme of the 'amygdala hijack' (with symptoms related to post-traumatic stress disorder [PTSD]) and the need for counselling could also trigger strong emotions in some children. Teachers are encouraged to read the text before sharing it with their class. They are also encouraged to monitor student reactions and respond appropriately.

Most of the webpage links in these notes are to educational sites. However, some links are to news sites with changing news stories and ads in sidebars. It is recommended that teachers preview these sites *on the day students will view them*: possibly disturbing or inappropriate material may be headlined in the sidebar for that day.

SYNOPSIS

Lyla by Fleur Beale is based on the true events of the Christchurch earthquakes of 2010-11.

The story opens in February 2011, five months after the September 2010 earthquake hit Christchurch, causing destruction of homes and disruption of services. Aftershocks are still common. Lyla Sherwin is at school with her friends, thinking about how her school has survived the earthquake.

Can you call buildings resilient? ...The whole country kept saying, OMG those Christchurch people, their city is munted but look at them – they're so resilient...

But I was sick of being resilient. In my opinion, the resilient-sayers should try living here in Christchurch, City of Shaky Ground. My message to the God of Earthquakes was: Hey, Rūamoko! It's February now and you've been shaking us for five months. Enough already! Go back to sleep. Please.

pp. 1, 2

Written in the first person, the story is told in Lyla's voice. She is thirteen years old (turning fourteen in the novel) and has a loving family: mother, Clemmie, is a policewoman; father, Geoff is a trauma nurse in the emergency department of the hospital; brother, Blake, is a laid-back university student. Lyla is beginning Year 10, the second year of high school. Like many people, she is jumpy when each aftershock strikes, but is also getting used to this 'new normal' life.

Lyla and her friends regularly estimate the strength of big shocks then turn on the radio to find out whose estimate was the closest. They can tell the difference between a 3.7 and a 4.2 magnitude quake. Already, adult readers might see that this is *not* normal and that, to a greater or lesser extent depending on their personality, the young people are living in a state of hyper-vigilance. However, Lyla expresses this as a normal teenager, complaining about the disruptions but getting on with her school, social and family life in a positive way.

On 22nd February, the family is celebrating Clemmie's birthday. While Clemmie is lunching with friends, other family members are separately occupied. Lyla is in the Christchurch CBD. The first 6.3 magnitude quake occurs about midday, followed after an hour by a 5.8 shock and after another hour by a 5.9 shock. Due to the severity of the earthquake (shallow epicentre with severe quaking and liquefaction of soft earth), this is a level 3 state of emergency. Many buildings in the centre of town are destroyed and hundreds of people are trapped in rubble. It takes days to get an accurate measurement of casualties. [In the end, 185 people died, with many more injured, 100,000 homes

were damaged and 10,000 were instantly listed for demolition. Almost 5,000 students were without schools to attend. Mobile phone systems, electricity, gas, water and sewerage were disrupted.]

The narrative is initially dominated by the emergency. Moments after the quake, Lyla gives first aid to an elderly man. She then spies her shoeless mother working with other police to clear rubble and walks home through liquefied streets. She checks on neighbours and there is the relief of finding Blake safe at home, breaking out the emergency water, food and first aid that all sensible families have acquired since last year's quake.

We then move through the immediate aftermath – locating friends and family, starting on the huge clean-up, digging long-drop toilets in backyards, finding water and food. The Sherwin's house is damaged, but liveable, and in the first few days, thanks to Lyla's generosity and organisation skills, it becomes a kind of neighbourhood centre, with neighbours using the barbeque to cook and share what food they have and sleeping together on mattresses in the lounge room. Her brother Blake joins the Student Volunteer Army.

Throughout the disaster and its immediate aftermath, Lyla is continually anxious about her family and friends. She knows that, due to her parents' occupations, they are likely to be helping in the emergency response and unable to communicate with her. But there is no word of her father for several days. Luckily, there is so much to do that these anxious thoughts can be pushed aside, sometimes for hours at a time. Lyla offers to babysit younger children whose parents must go to work and organises the kids in her suburb to form a clean-up gang. Through this, she meets people and sees kindness and generosity, as well as destruction.

In particular, Lyla rescues a neighbouring boy, Matt, with whom she has always been on bad terms, and takes him to her home for the duration of the emergency. They begin to work together with the younger children and to appreciate good things about each other. Lyla begins to realise that Matt's previous unpleasant behaviour was probably the result of living with his mother's selfish neuroticism and his parents' fights. Family breakdown is accelerated by the disaster and Matt ends up living with the Sherwins until his father finds suitable accommodation.

Lyla is really quite heroic, providing first aid instead of running to safety, rescuing a dog as well as Matt and sensitively managing the little kids' fear and panic over several days. People recognise this and respond in kind, bringing food over etc. But underlying anxiety and resentment are constants in her life. Why can't things just go back to normal? Lyla knows that she has been lucky and thinks she should not complain. She's certain she's not the only person in Christchurch whose heart goes into overdrive when a truck revs unexpectedly close by. Lyla and Matt also undertake an exciting but dangerous and illegal search for a friend's lost laptop.

As the weeks and months pass, emergency accommodation, medical treatment and feeding are established and services are restored. Road repair and demolition of buildings is on-going. Aftershocks and social disruption continue. For months, thousands of people are living in tents, caravans or cracked and tilting homes. Other families evacuate, many never to return. Meanwhile, aftershocks continue, with a large 6.3 shock in June increasing the damage to Christchurch. As Lyla's school has been severely damaged, she only returns to a temporary school in September.

As life settles down a bit, with both parents back home and no fatalities in Lyla's social circles, Lyla's parents gradually find out what Lyla has achieved. They are proud of her, but given her reluctance to talk about her experiences, her continued jumpiness and occasional outbursts of anger, they are also worried about her emotional state. At the end of November, Lyla is compelled to see a counsellor.

It took her about three point five minutes to crack me open. Utter humiliation for an entire hour. I howled and hiccupped and bellowed – I was my own personal earthquake...

Exhausting. By the end of the fifty minutes I couldn't sit up straight.

Dad came in. Through the fog, I heard *battle fatigue* and *complete break somewhere safe*.

If I'd had any energy left I'd have had hysterics – there wasn't anywhere safe. Nowhere. Nothing was ever going to be safe again.

The very next day I was on a plane, winging my way across the Tasman to Brisbane where my grandparents would be waiting for me.

...Wretched counsellor. I was fine until she got stuck into me.

pp. 165-7

In the final three chapters, Lyla displays fearful and hyper-vigilant behaviour while staying with her grandparents in Queensland. When Lyla 'ducks and covers' in response to a loud washing machine, they cut short their country holiday, return with her to Brisbane and arrange emergency counselling. Lyla is lucky: Dr James Moran is the right kind of counsellor for her. He gets around her wisecracks and avoidance tactics in a friendly way and explains her condition to her as a common reaction – *amygdala hijack*.

He talked about how the quakes were hard to deal with because they were ongoing. '...you're always braced for the next shock. That means that anything can set off the amygdala part of your brain...If something triggers it, it goes into the fight-or-flight response. Heart racing, breathing difficult, sick feeling.'

'...what you're experiencing is pretty common and...treatable'

p. 179-180

Contrary to her expectations, Dr Moran doesn't make Lyla tell him about what she's been through. He sees that talking about it is still traumatising; she may want to talk about it sometime in the future, but that will be her choice. Instead, he asks about her feelings *now*. He promises to help Lyla develop her own way of dealing with the instability of her world. Lyla learns to create a safe place in her head where she can go to calm herself down when she has a panic attack.

Over the next weeks in Brisbane, Lyla finds out by texting that Matt has been dealing with depression and that her friends and the neighbourhood kids miss her. They are planning a special project for her street. The novel concludes:

There were things to look forward to. It was time to go back.

p. 185

THEMES

Lyla is an excellent text for exploring relevant themes, including:

- Disaster resilience and survival
- Courage in the face of danger and adversity
- Importance of family, friendship and community
- Role of grass-roots, ad hoc, organisation by locals and other individuals immediately after emergencies
- Role of structured, coordinated response by government and volunteer agencies when emergencies occur
- Ongoing effects of trauma and role of counselling services
- Dependence of families on parents' jobs and necessity to relocate when employment disappears or changes

LINKS TO THE CURRICULUM

These links apply to the Australian curriculum. However, similar links can be made to the New Zealand curriculum.

Lyla is especially suitable for study in the English learning area Years 6 – 9.

The text is highly relevant for integrated learning across learning areas such as HASS – Geography and History. *Lyla* would be an excellent adjunct to the study of natural disasters in Year 9.

Lyla can be studied as a class text and is perfect for a tuning-in resource for Inquiry Units across a range of learning areas. It is also extremely suitable for use in literature circles and guided reading in the upper primary setting and for inclusion on suggested reading lists for lower secondary classes.

More specifically, the activities in these teachers notes provide the opportunity to address the following content descriptions for Years 6, 7 and 8.

Note: a sample only is provided. Cross-curriculum Priorities and General capabilities are listed below the following tables.

Year 6 English

Language	Literature	Literacy
Understand the uses of objective and subjective language and bias (ACELA1517)	Make connections between students' own experiences and those of characters and events represented in texts drawn from different historical, social and cultural contexts (ACELT1613)	Participate in and contribute to discussions, clarifying and interrogating ideas, developing and supporting arguments, sharing and evaluating information, experiences and opinions (ACELY1709)
Investigate how vocabulary choices, including evaluative language can express shades of meaning, feeling and opinion (ACELA1525)	Identify, describe, and discuss similarities and differences between texts, including those by the same author or illustrator, and evaluate characteristics that define an author's individual style (ACELT1616)	Plan, rehearse and deliver presentations... making appropriate choices for modality and emphasis (ACELY1710)
Understand how authors often innovate on text structures and play with language features to achieve particular aesthetic, humorous and persuasive purposes and effects (ACELA1518)	Create literary texts that adapt or combine aspects of texts students have experienced in innovative ways (ACELT1618)	Analyse how text structures and language features work together to meet the purpose of a text (ACELY1711)
		Plan, draft and publish imaginative, informative and persuasive texts, appropriate to purpose and audience (ACELY1714)
		Use comprehension strategies... (ACELY1713)
		Analyse strategies authors use to influence readers (ACELY1801)

Year 6 History and Social Studies (HASS)

Inquiry and Skills
If the unit of work incorporates study of earthquakes, the activities and resources suggested in these notes can meet all the requirements.
Knowledge and Understanding
Year 6 syllabus is based on Australian history and Asian geography. Within this focus, the following are addressed in these activities and resources: The contribution of individuals and groups to the development of Australian society since Federation (ACHASSK137) Australia's connections with other countries and how these change people and places (ACHASSK141) The obligations citizens may consider they have beyond their own national borders as active and informed global citizens (ACHASSK148)

Year 7 English

Language	Literature	Literacy
Understand how accents, styles of speech and idioms express and create personal and social identities (ACELA1529)	Identify and explore ideas and viewpoints about events, issues and characters represented in texts drawn from different...cultural contexts (ACELT1619)	Analyse and explain the ways text structures and language features shape meaning and vary according to audience and purpose (ACELY1721)
Analyse how point of view is generated in visual texts by means of choices, for example gaze, angle and social distance (ACELA1764)	Compare the ways that language and images are used to create character, and to influence emotions and opinions in different types of texts (ACELT1621)	Use prior knowledge and text processing strategies to interpret a range of types of texts (ACELY1722)
Understand how language is used to evaluate texts and how evaluations about a text can be substantiated by reference to the text and other sources (ACELA1782)	Recognise and analyse the ways that characterisation, events and settings are combined in narratives, and discuss the purposes and appeal of different approaches (ACELT1622)	Plan, draft and publish imaginative, informative and persuasive texts, selecting aspects of subject matter and particular language features to convey information and ideas (ACELY1725)
	Create literary texts that adapt stylistic features encountered in other texts, for example, narrative viewpoint, structure of stanzas, contrast and juxtaposition (ACELT1625)	Use a range of software, including word processing programs, to confidently create, edit and publish written and multimodal texts (ACELY1728)

Year 7 HASS

HASS – Inquiry and Skills
<p>Organise, categorise and represent data in a range of appropriate formats using discipline-specific conventions, including different types of graphs, tables, field sketches and annotated diagrams, and maps at different scales (ACHASSI154)</p> <p>Sequence information about events, developments, periods and phenomena using a variety of discipline-appropriate formats and conventions including chronological frameworks that use dating conventions (ACHASSI155)</p>
HASS Geography – Knowledge and Understanding
<p>Factors that influence the decisions people make about where to live and their perceptions of the liveability of places (ACHASSK188)</p> <p>The influence of accessibility to services and facilities on the liveability of places (ACHASSK189)</p> <p>The influence of social connectedness and community identity on the liveability of places (ACHASSK191)</p>

Year 7 Geography

Geographical Knowledge and Understanding
<p>Causes, impacts and responses to an atmospheric or hydrological hazard (ACHGK042)</p> <p>Factors that influence the decisions people make about where to live and their perceptions of the liveability of places (ACHGK043)</p> <p>The influence of accessibility to services and facilities on the liveability of places (ACHASSK189)</p> <p>The influence of social connectedness and community identity on the liveability of places (ACHGK046)</p>
Geographical Inquiry and Skills
<p>Develop geographically significant questions and plan an inquiry, using appropriate geographical methodologies and concepts (ACHGS047)</p> <p>Represent spatial distribution of different types of geographical phenomena by constructing appropriate maps at different scales that conform to cartographic conventions, using spatial technologies as appropriate (ACHGS050)</p> <p>Present findings, arguments and ideas in a range of communication forms selected to suit a particular audience and purpose; using geographical terminology and digital technologies as appropriate (ACHGS053)</p> <p>Reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic and social considerations, and predict the expected outcomes of their proposal (ACHGS054)</p>

Year 8 English

Language	Literature	Literacy
<p>Understand the influence and impact that the English language has had on other languages or dialects and how English has been influenced in return (ACELA1540)</p>	<p>Explore the ways that ideas and viewpoints in literary texts drawn from different historical, social and cultural contexts may reflect or challenge the values of individuals and groups (ACELT1626)</p>	<p>Plan, rehearse and deliver presentations, selecting and sequencing appropriate content, including multimodal elements, to reflect a diversity of viewpoints (ACELY1731)</p>

continued on next page

Understand how conventions of speech adopted by communities influence the identities of people in those communities (ACELA1541)	Share, reflect on, clarify and evaluate opinions and arguments about aspects of literary texts (ACELT1627)	Analyse and evaluate the ways that text structures and language features vary according to the purpose of the text [...] (ACELY1732)
Understand how rhetorical devices are used to persuade and how different layers of meaning are developed through the use of metaphor, irony and parody (ACELA1542)	Recognise and explain differing viewpoints about the world, cultures, individual people and concerns represented in texts (ACELT1807)	Use comprehension strategies to interpret and evaluate texts by reflecting on the validity of content and the credibility of sources, including finding evidence in the text for the author's point of view (ACELY1734)
Recognise that vocabulary choices contribute to the specificity, abstraction and style of texts (ACELA1547)	Create literary texts that draw upon text structures and language features of other texts ...(ACELT1632)	
	Understand and explain how combinations of words and images in texts are used to represent particular groups in society, and how texts position readers in relation to those groups (ACELT1628)	
	Identify and evaluate devices that create tone...(ACELT1630)	

Year 8 Geography

Geographical Knowledge and Understanding – Unit 1
Different types of landscapes and their distinctive landform features (ACHGK048) Geomorphic processes that produce landforms, including a case study of at least one landform (ACHGK050) Causes, impacts and responses to a geomorphological hazard (ACHGK053)
Geographical Inquiry and Skills
Represent data in a range of appropriate forms, for example, climate graphs, compound column graphs, population pyramids, tables, field sketches and annotated diagrams, with and without the use of digital and spatial technologies (ACHGS057) Represent spatial distribution of different types of geographical phenomena by constructing appropriate maps at different scales that conform to cartographic conventions, using spatial technologies as appropriate (ACHGS058) Interpret geographical data and other information using qualitative and quantitative methods, and digital and spatial technologies as appropriate, to identify and propose explanations for spatial distributions, patterns and trends, and infer relationships (ACHGS059) Present findings, arguments and ideas in a range of communication forms selected to suit a particular audience and purpose; using geographical terminology and digital technologies as appropriate (ACHGS061) Reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic and social considerations, and predict the expected outcomes of their proposal (ACHGS062)

Cross-curriculum Priority - Sustainability

These notes can result in students engaging with two of the three concepts of sustainability:

1. the interdependent and dynamic nature of systems that support all life on Earth and our collective wellbeing.
3. building capacities for thinking and acting in ways that are necessary to create a more sustainable future. The concept seeks to promote reflective thinking processes in young people and empower them to design action that will lead to more a more equitable and sustainable future.

General Capabilities:

It is possible to engage students with all the General Capabilities when *Lyla* is taught as part of a cross-curriculum unit based on inquiry learning.

BRIEF BACKGROUND INFORMATION FOR TEACHERS

EARTHQUAKES IN NEW ZEALAND – OVERVIEW

New Zealand teachers will be familiar with this topic, but others will need some background.

New Zealand is known for its volcanic activity, thermal hotspots and earthquakes. New Zealand is located on the boundary of the Australian and the Pacific Plates: the Pacific Plate is subducting under the Australian plate on the eastern side of the North Island; the Australian Plate is subducting under the Pacific Plate on the western side of the South Island. Christchurch is located on the east coast of the South Island.

There are two types of earthquakes, deep and shallow.

- A deep earthquake has its epicentre deep down in the earth's crust where plates are *moving over each other*. The North Island and west coast of the South Island are subject to more of these.
- A shallow earthquake results from *stresses within a plate*. The east coast of the South Island has relatively few of these: the September 2010 earthquake, known as the Canterbury Earthquake, was the first in this location in recorded history. It was followed by the Christchurch Earthquakes of February and June 2011. There have been subsequent earthquakes in this region.

THE 2011 CHRISTCHURCH EARTHQUAKE

A good, simply written, factual account can be found at

<https://www.britannica.com/event/Christchurch-earthquakes-of-2010-2011>

'The Science Behind the New Zealand Quake': a contemporary article published on the day of the earthquake is at

<https://www.livescience.com/12943-zealand-earthquake-christchurch-110222.html>

ABC Behind the News episode: [Deadly Earthquakes Hit New Zealand](#) 1st March 2011, 3.57 mins.

LIQUEFACTION

Some soils are looser than others i.e. there is more air between the molecules of soil. If a loose soil is also holding water (which most soils are – the water displaces the air), shaking it can result in *soil liquefaction*. The soil loses its rigidity and strength and behaves like a liquid. The effect can be localised in its intensity as the picture below shows.



Living with Liquefaction <http://temblor.net/earthquake-insights/living-with-liquefaction-part-1-514/>

When walking on liquefied ground, extreme care must be taken. From one step to the next, you could be up to your waist, or worse. Houses sink into the earth, tip over and subside. After the quake, as the soil dries out, it turns to 'cement' and is difficult to dig through, increasing clean-up cost and time.

Two papers discussing the importance of liquefaction and other secondary results of earthquakes can be found at:

- <https://www.sciencedaily.com/releases/2017/08/170825104002.htm>
- <https://www.sciencedaily.com/releases/2011/02/110222152504.htm>

Small earthquake in Japan: not at all frightening to watch. Filmed on a mobile and narrated by an American, it shows cracks opening up in a park, ground moving and liquefaction beginning.

- <https://www.youtube.com/watch?v=TzlodnjPAuc>

CHRISTCHURCH – AN OVERVIEW

A brief overview:

<https://www.britannica.com/place/Christchurch-New-Zealand#ref1104982>

EMERGENCY RESPONSE

Australian students should learn that in emergencies, Australians tune to ABC radio – local and national – for up-to-the-minute bulletins and instructions. The ABC has a short and very comprehensible set of guidelines for planning for, surviving and responding to an earthquake.

<http://www.abc.net.au/news/emergency/plan-for-an-emergency/earthquake/>

A similar set of guidelines is provided by the New Zealand government for their citizens:

<http://www.getthru.govt.nz/disasters/earthquake/>

Though not recommended for in-depth study, students might be interested to see official emergency response plans. The contents page can give an insight into the levels of bureaucracy involved. Scanning individual sections can reveal what procedures government, utility companies and businesses must have in place. For an example, see Emergency Management Victoria: [State Emergency Response Plan – Earthquake Sub-plan](#).

AMYGDALA HIJACK

See https://en.wikipedia.org/wiki/Amygdala_hijack

A relatively simple explanation of the brain science and psychological theory behind the concept of the 'amygdala hijack'. Ends with an explanation of how to cope with a hijack and gradually decrease inappropriate reactions to stimuli.

<https://www.gostrengths.com/what-is-an-amygdala-hijack/>

A brief explanation for parents or teachers, with tips on how to calm a hysterical child. Easily adapted for kids to use for self-help.

<https://www.gozen.com/stop-the-amygdala-hijack-in-its-tracks/>

THE ROLE OF COUNSELLING

NOTE: *Some students may have already experienced or be experiencing counselling for a variety of reasons. They may want to keep this private.*

Some people may have a negative view of counselling. Lyla's objections to counselling can be construed as a defence mechanism – she absolutely does not want to be forced to revisit the trauma of the earthquake. She also believes that because she hasn't suffered as much as others, she should just 'suck it up' and get on with life. These attitudes are accepted *for the time being* by the second counsellor she sees, but he still insists that she has a problem and needs to learn to deal with it.

"A disaster is an occurrence disrupting the normal conditions of existence and causing a level of suffering that exceeds the capacity of adjustment of the affected community." [World Health Organisation, 2002.](#)

['Common Stages of Disaster Recovery'](#), Australian Institute of Professional Counsellors.

'Psychosocial Support in Disasters: [Recovery](#)' and '[For General Public](#)', Psychosocial Support in Disasters Portal developed by The Australian Centre for Posttraumatic Mental Health after the Black Saturday bushfires in Victoria 2009.

BUILDING RESILIENCE

Australian Institute for Disaster Resilience educational resources

Teachers may find useful information about building disaster resilience in school children at:

<https://schools.aidr.org.au/disaster-resilience-education/what-is-dre/>

The Australian Institute for Disaster Resilience provides a very brief definition of an earthquake at:

<https://schools.aidr.org.au/disaster-resilience-education/teaching-resources/earthquake/>

Teachers may want to use or adapt the AIDR lesson plan, including handouts, at:

https://schools.aidr.org.au/media/4653/00_lessonplan_earthquake_231017.pdf

BEFORE READING

LEARNING ABOUT EARTHQUAKES

If it is not intended to study earthquakes as part of this unit of work, use the 'Find out more about...' section on pp. 198-9 of *Lyla* to fill any gaps in student knowledge or guide background research.

See '[Sections of a Book](#)' activity, below.

Activity: Earthquake quiz

See [BLM1](#). Use students' answers to the quiz to gauge their existing knowledge about earthquakes.

(adapted from <https://www.educationquizzes.com/us/middle-school-6th-7th-and-8th-grade/science/earthquakes/>)

ACTIVITY: Earthquakes – KWL table

- Ask students to complete the first of two columns on a KWL table (either individually, in groups or as a class poster): What I **K**now About Earthquakes and What I **W**ant to Know About Earthquakes.
Discussion starters could include: what causes an earthquake? Where do earthquakes happen? Do you know of any famous earthquakes? What can happen as the result of an earthquake?
[Keep the table and return to it after students have investigated earthquakes to complete the third column, What I Have **L**earnt About Earthquakes.]

What I know about earthquakes	What I want to know about earthquakes	What I have learnt about earthquakes

- Depending on the depth of study of earthquakes intended for this unit of work, use the questions in the What I Want to Know About Earthquakes column as a focus for inquiry learning. Suitable resources are listed [below](#) – but there are numerous available, including your school’s geography textbooks and library books if a quick introduction is all that is required.

ACTIVITY: Tectonic plates

Some knowledge of tectonic plates and the location of New Zealand along the ‘transform boundary’ between the Australian Plate and the Pacific Plate.

- In groups, students assemble the [Tectonic Plates Jigsaw Puzzle](#) (made from 2 sheets A3 paper; fits on student desktop) available from Geoscience Australia website.

ACTIVITY: Earthquake overview

- Depending on the depth of study intended, create word definition cards for the classroom or have students use Wordle or a Word Find puzzle creator with relevant words from the following list. Students could also put these words into groups that ‘go together’ to demonstrate their knowledge of the concepts involved:
 - earthquake, crust, epicentre, inner core, magnitude, mantle, normal fault, outer core, primary waves, reverse fault, secondary waves, seismic waves, seismograph, seismologist, strike-slip fault, continental drift, convection current, plate, plate tectonics, seafloor spreading, surface waves, hot spot, fault, liquefaction, subsidence, subduction, aftershock, mainshock, foreshock
- Students create a news segment on earthquakes. They can use images and information from the resources listed below or the interactive activity on Scootle: World Wonders TV show: earthquake (TLF-IDL1283) which builds a script about earthquakes for a television show and incorporates writing techniques as well as research.

ACTIVITY: Christchurch earthquake overview

Using Google Maps or Google Earth

- Locate Christchurch in the South Island of New Zealand
- Look at the satellite photos to discover the geographical makeup of the area
- Compare the geographical make up of New Zealand with a map of tectonic plates. [[BLM2](#) is a map that clearly shows New Zealand’s position precisely on the border between two plates. Available from US National Parks <https://www.nps.gov/subjects/geology/plate-tectonics.htm>]

EXAMINING THE COVER

ACTIVITY

- What can we learn about the book from the front cover?
 - look at the pictures below the title
 - look at the title
 - look at the picture above the title
- What do you think the girl's name is?
- What is the effect of putting the photo of Lyla on the top half of the cover and her name in the largest type in the title? Is this a fiction book or an information book?
- What is the effect of Lyla's gaze being directed at the viewer?
- Read the blurb on the back cover:
 - list the words that describe the earthquake setting
 - list the words that describe the severity of the situation
 - list the words that describe positive reactions to the situation

GENRE

ACTIVITY

Lyla is an example of the contemporary realistic fiction genre.

- **Discuss:**
 - What is realistic fiction?
 - What other books of this genre have you read?
 - Why are books such as *Lyla* important?

SECTIONS OF A BOOK

ACTIVITY

Flip through the pages of *Lyla*.

- What features suggest this is a fiction text? Describe the design of the chapter headings. [They echo NZ Maori decorative motifs.]
- What layout features suggest this is an information book? [Map, Glossary, Timeline, 'Find out more about...']

Option if no pre-teaching about earthquakes is occurring:

- Use the references on the 'Find out more about...' page to familiarize yourself with the real events and organisations you will be reading about in *Lyla*.

DEVELOPING EMPATHY

ACTIVITY: What were you doing on your last birthday?

Students create a diary of their activities on the day of their last birthday.

A class display can be created using actual photos or depictions of the activities described by the students.

DURING READING

READ-ALoud

Suitable read-aloud sections in *Lyla*:

- *But we didn't get to the food hall... 'I'll wait with you.' I took out my own phone.* (pp. 13-16)
- *I wish the Prof had had time to check on the Nagle's place too... So close – if that beam had fallen just a few centimetres further in...* (pp. 37-39)
- *Dr James Moran was ancient... what you're experiencing is pretty common and that it's treatable.* (pp. 176-180)

Read Aloud Activities

Have a **RALFF Performance** (Read Aloud For Fun) using the sections above. Students could choose their favourite text and read aloud to the class.

CHAPTER DISCUSSION POINTS

The following chapter breakdown and suggested discussion points may be useful in guiding students' initial responses to *Lyla*.

Chapter One

1. The reader doesn't discover Lyla's name until page 2 of this story. But what information does she give us in the first pages to establish the *context* of the story?
2. Lyla uses slang and Maori terms in telling her story. What do you think the following mean?
 - GG Block wasn't *munted*; therefore it must be resilient.
 - "Why aren't you at *kapa haka* practice?"
 - *sprog-sitting*
 - "What's got your *knickers in a knot*?"
 - "*Do the turtle!* Keep safe!"
3. Who is Rūaumoko and what is 'Rūaumoko's guessing game'? How normal do you think it is for kids to be able to guess the magnitude of an earthquake, down to the decimal place?

Chapter Two

1. During the evening before and during breakfast on her mother, Clemmie's, birthday, how many reminders of the earthquake does Lyla have?
2. Describe Lyla's family. Did you notice any special characteristics of the family or its individual members?

Chapter Three

1. Read from 'We were used to aftershocks.' (page 13) to 'Shona was crying. 'There must be people under the rubble.' (page 15)
 - How well-described do you think the earthquake is?
 - Did you learn anything new or surprising about earthquakes?
2. List the helpful actions taken by people directly after the shock and aftershock. Would you stop to help a stranger?

Chapters Four and Five

1. Walking out of the city, Lyla mainly had to worry about falling buildings. In the suburbs, what new danger does she face, just walking down the roads?

2. As Lyla nears her home, she begins to panic. Read from 'I began running.' (p. 30) to 'It was Blake, dirty like I was, worried like I was. I threw myself at him and for the first time in years we hugged, holding each other tight.' (p. 31) How is the sense of panic conveyed in the writing?
3. Even though their house is still standing, what damage must they deal with?
4. What other problems, caused by the earthquake, are going to make life in the house difficult?
5. What precautions against these problems has the family already taken?

Chapter Five

1. After checking they are OK, what is the first thing that Blake and Lyla must do?
2. Was Lyla foolhardy or brave in rescuing Matt by herself?
3. What do the residents of Ireland Street do?

Chapter Six

1. In the afternoon and evening, there is still danger from aftershocks but Lyla has found some comparative safety. What evidence can you find in Chapter Six of Lyla's state of mind? Examine the way that she talks to herself inside her head.
2. What takes her mind off her worries?
3. In this emergency situation, is the presence of young children a burden or a blessing in disguise? Justify your response with evidence from the novel.

Chapter Seven

1. The first and last paragraphs of this chapter reveal Lyla's main worry. What is it?
2. According to an official on the radio, how long will people in the suburbs have to wait for any help? Does this seem reasonable to you?
3. How would you feel sleeping on mattresses on the lounge room floor with all your neighbours?

Chapter Eight

1. What was the Student Volunteer Army?
2. 'Mum tipped my chin up so that she could drill me with her Mother-Gaze' (p. 64). What do you think the 'Mother-Gaze' is? Does your mother or father have a 'look' that means something similar?
3. Lyla has the chance to go to her grandparents in Wellington. Why does she decide to stay?

Chapter Nine

1. Lyla is too young for the Student Volunteer Army and Matt is too injured. What do they do instead?
2. How do they keep the kids motivated and distracted from their fear?
3. Describe the changes that Lyla is noticing in Matt's behaviour.
4. 'No electronic transactions for goodness knows how long.' (p. 73) What does this mean? How is this going to affect people trying to live in their damaged houses?
5. Matt and Lyla are behaving around the kids the way that adults behave: 'Matt did the raised-eyebrow thing. I did the headshake'. (p. 74) What other examples can you find of this 'silent communication'?
6. What great news does Lyla receive?

Chapter Ten

1. Is there any excuse for Mrs Nagel's rudeness on the phone?
2. Blake brings home a copy of the local newspaper and everyone is amazed that it has been published just two days after the earthquake (p. 80). Discuss what logistics would have been involved to get it published under these circumstances.

Chapter Eleven

1. What types of organised relief is Lyla seeing or hearing about?
[Welfare centre for homeless people, morgue at the military camp, airport opened, USAR teams, water collection points, Australian Army field hospital, navy feeding people in Lyttelton]
2. What does she feel about the constant news updates they are hearing?

Chapter Twelve

1. Lyla's friend Shona manages to phone. What is her news?
2. What has Matt promised Geoff, Lyla's father?

Chapter Thirteen

1. Describe Matt and Lyla's adventure in town.
 - What do they do that's sensible and what do they do that's foolish?
 - Is their risk-taking justified?

Chapter Fourteen

2. It is now a few days after the earthquake. What things are conspiring to lower Lyla's mood? What cheers her up?
3. Don arrives back from overseas. He seems to think he's landed in a madhouse. What about 'the new normal' takes him by surprise?

Chapter Fifteen

1. Where does Lyla finally get a shower?
2. What is the Farmy Army?
3. What do you think of the way Matt's mother breaks the news that she and his father are separating?
4. 'Then I heard myself say, 'You can stay here.'" (p. 127) Lyla surprises herself when she makes this offer to Matt. Why is that?
5. What news in particular is Lyla trying to avoid hearing?

Chapter Sixteen

1. Describe the 'new normal' routine that Lyla and the other teenagers settle into.
2. How would you feel if school was closed for months and you had to stay at home and amuse yourself all day?
3. On the morning of Lyla's birthday, Myra and Dave bring a feast and Ian and Beth send her a gift. What does this show about 'the new normal'?

Chapter Seventeen

1. Describe Lyla and Matt's reaction to the shocking news of the tsunami in Japan.

2. What might be some negative and some positive psychological effects on the Christchurch earthquake survivors of:
 - hearing about the tsunami?
 - attending the memorial event in town?
3. Explain Lyla's mother's ambivalent reaction to hearing of Lyla's heroism in rescuing Roger the puppy (p. 147).
4. Give examples of Lyla's angry outbursts about the disruptions to her life that the earthquake and aftershocks are causing.

Note: If you would like to read more about the Japanese tsunami, Hotaka by John Heffernan is a moving account of one boy's experience of this natural disaster.

Chapter Eighteen

1. The Prof's house has been 'red stickered'. What does this mean?
2. In what ways are things returning to normal?
3. How do you think Lyla is faring psychologically at this stage of the recovery? Use evidence from the text to show her strength and her fragility.

Chapter Nineteen

1. Find evidence that Lyla's reaction to her situation is complicated by guilt. Is her guilt justified?

Chapter Twenty

2. Why are Lyla's parents watching her and asking 'Probing Questions'?
3. If you were her parents, what would you deduce from her responses and behaviour?
4. Explain the idiom: 'the wheels fell off the trolley' (p. 164)
5. Why do you think Lyla is so opposed to seeing a counsellor?

Chapter Twenty-one

1. Why did Lyla's grandparents take her to a country house, instead of their own home?
2. Was this a successful strategy?
3. What does Lyla hate about the idea of counselling?

Chapter Twenty-two

1. Explain the effect on Lyla of Lolly the dog.
2. What does Lyla appreciate about the Brisbane counsellor, Dr James Moran?
3. Explain the concept of the 'amygdala hijack'.

Chapter Twenty-three

1. What might be your 'safe and happy' place?
2. Have you ever tried deep breathing when you were upset or angry?
3. What does Lyla learn about Matt that makes her feel better about having counselling?
4. How effective are the last two sentences of the novel? What message do they convey?

ACTIVITY: Earthquake response

- Create an earthquake emergency evacuation leaflet for your school, ensuring that people are made aware of and directed away from dangerous situations or behaviours (i.e. do not gather under electric power lines after evacuation). Work out the main graphic features that apply to such notices.
- If you live(d) in an earthquake-prone area, make a list of precautionary actions your family should take and items that you should have in your house – *just in case!*

ACTIVITY: Glossary

- While reading, students should be adding to a class or individual list any words they need to learn that are NOT in the glossary on page 196.

ACTIVITY: Volunteers

- Lyla and the neighbourhood kids did a lot of volunteer work to help themselves and their neighbours. What things could you and other local kids do in your neighbourhood to improve it, during 'normal' times when there is no emergency?
- Investigate organisations such as Girl Guides or Surf Life Saving Clubs that your age-group can join and where you would learn survival and emergency response skills.
- What volunteer organisations could you join if you were keen to help your local community?

ACTIVITY: 1st person narration

- Choose a short scene from the novel and re-write it as a 3rd person narration.
- How is your reading of the novel influenced by the use of 1st person narration by Lyla?
- What is the effect of hearing the story in the words of a 14-year-old? Can you find passages that, because of the way language is used, are clearly identifiable as the voice of a teenager?

AFTER READING

The MyRead website describes effective strategies for responding to the text:

- <http://www.myread.org/organisation.htm> (page down webpage to select, for example, Jigsaw.

PLOT

ACTIVITY: Table to book trailer

In groups:

- Do you think the main 'complication' of the story shifts from the earthquake emergency to Lyla's state of mind? If so, are there two resolutions to these two major complications of the novel?
- Create a table of the main plot points in *Lyla*, explaining how a problem was resolved and what, if anything, was added to our understanding of characters or issues.

Problem	Resolution	Did the reader learn more about the characters or issues because of the way this problem played out in the book?

- Convert the first two columns of the table to a line graph, showing relative intensity of plot points as peaks on the graph. Where would you put the climax (i.e. highest plot point) of this book? (There is no right answer to this one!)
- Create a book trailer for *Lyla* showing the main plot events. This website provides good ideas: <http://www.booktrailersforreaders.com/>

CHARACTERS

ACTIVITY: Character Grid

After reading *Lyla*, have students in groups find instances in the text that detail the immediate effects of the earthquake on aspects of these characters' lives, using the following table:

CHARACTER	AREA AFFECTED	DETAILS
Lyla	Education	Disrupted for several months
	Family	
	Friendships	
Matt		
Blake		
Shona		
Henry and Leo		

ACTIVITY: Acrostic Poem

- Create an **Acrostic poem** for a selection of characters describing their characteristics.

STYLE

ACTIVITY: Irony and sarcasm

- Find examples in the text of Lyla's rather frequent use of irony and sarcasm. How do these contribute to the 1st person narration and to your understanding of Lyla's character?

RESILIENCE

DISCUSSION:

Lyla introduces the term 'resilience' in Chapter 1. Discuss what this term means.

- Does being resilient mean you don't need any help?
- Is resilience something some people just have, or can it be taught?
- How much stress on a person is too much? How do you know if you are under too much stress?
- What is the difference between resilience and courage?

ACTIVITY: Comic Strips

- Have students create a poem or a cartoon strip using <https://www.canva.com/create/comic-strips/> or <http://www.educatorstechnology.com/2013/11/7-great-ipad-apps-for-creating-comic.html> to describe one situation where they have shown resilience.
- Using one of the cartoon strip generators above, students can re-create one of the situations in the text where one character from *Lyla* has shown resilience.

COUNSELLING

DISCUSSION

- Can you understand Lyla's reluctance to talk about the experience of the earthquakes afterwards? How important is it to talk about traumatic experiences with someone?
- Lyla sees two counsellors: how do their approaches differ?
- What is the 'trick' Lyla learns to calm her down?

ACTIVITY: Poster

Using '[Common Stages of Disaster Recovery](#)' by the Australian Institute of Professional Counsellors, create a poster using **less formal language** that explains the stages of disaster recovery, the emotions and behaviours associated with each stage, and the resources most likely to be available to help survivors.

ACTIVITY for older students: Catastrophising

Catastrophising or *catastrophic thinking* are psychological terms that describe an unrealistic mindset whereby a person (a) can only envisage negative outcomes and (b) imagines these outcomes will have an unrealistically negative impact on their life. By the end of the novel, Lyla seems to have come to this state of mind.

- Find phrases or sentences throughout the book where Lyla refers to the earthquakes in a negative, anxious or angry way. Some examples:

- *A savage wave of earthquake hate hit me with seismic force. Why did this have to happen to my city?* (p. 77)
- *Was Shona buried under rubble? Was that why we couldn't get hold of her?* (p. 91)
- *I dreaded what tomorrow morning would bring.* (p. 95)
- *Would the bad news never stop?* (p. 122)
- *The thing about disasters is...they don't get better...* (p. 135)
- *Nobody knows anything in this city anymore.* (p. 137)
- *What was happening to the world? What catastrophe would hit next?* (p. 141)

Lyla finally arrives at a point where she thinks:

- *...there wasn't anywhere safe. Nowhere. Nothing was ever going to be safe again.* (p. 166)
- Next to each quote from the book, write down if you think it is a realistic response, given the situation that provokes it. Do Lyla's responses show an increase of negative thoughts over time? What does her behaviour show? (see pp. 153, 163-4)
- Many of these insights into Lyla's state of mind occur at the end of chapters or sections of action. Why? What effect on the overall story does this have?

THE AUTHOR

Fleur Beale is the author of many award-winning books for children and young adults — she has now had more than 40 books published in New Zealand, as well as being published in the United States and England. Beale is the only writer to have twice won the Storylines Gaelyn Gordon Award for a Much-Loved Book: with *Slide the Corner* in 2007, and *I Am Not Esther* in 2009. She won the Esther Glen Award for distinguished contribution to children's literature for *Juno Of Taris* in the 2009 LIANZA Children's Book Awards. *Fierce September* won the YA category in the 2011 NZ Post Children's Book Awards and the LIANZA Young Adult Award in 2011. In 2012 she won the Margaret Mahy Medal for her outstanding contribution to children's writing. In 1999, Beale was Dunedin College of Education's Writer in Residence. A former high-school teacher, Beale lives in Wellington.

ACTIVITY: Classroom Display

- Create a **classroom display** of the author Fleur Beale featuring photos and information sourced from her website and her books.

ACTIVITY: Author Article

- Based on their research of Fleur Beale, students can create an information text, newspaper article or class blog from the information they discover.

INSPIRATION FOR THE BOOK

Fleur Beale says:

I grew up on a dairy farm in Taranaki, New Zealand. We had an excellent view of the extinct volcanic cone of Mt Taranaki which was about 12 km away up the road. Every so often there would be big headlines in the paper – *Mt Taranaki isn't extinct! What to do when the mountain erupts!* Well, it didn't erupt and it still hasn't and I hope it never does. But in NZ you get used to other mountains erupting from time to time. On our way to school, there was a point where we could see the mountains on the volcanic plateau and the plumes of ash rising when they got busy.

When the first of the big Christchurch earthquakes happened in the darkness of early morning in 2010 I woke up shortly afterwards and turned the radio on. I couldn't believe what I was hearing – a devastating quake in Christchurch? I live in Wellington where we are always on the alert for earthquakes but nobody ever talked about Christchurch suffering such devastation.

Then the horrible 6.3 quake struck five months later in February. People died, many lost their homes and the country rallied round to support. There were stories of tragedy, heroism and near misses. But the trouble with disasters is that those in the middle of them have to keep going when all the helpers leave. It was the stories and the on-going struggle that dug into my head so those are what I've tried to put in *Lyla's* story.

The quake stories in the book are all based on true events – real stories about true things that happened to real people. Allen & Unwin gave me the opportunity to write the book. I was very conscious, though, that it wasn't my story. I hadn't been in the middle of that terrible event and so I wanted to honour those whose story it was and be very respectful of them in the way I told *Lyla's* story.

I write straight on to my computer. I love my computer! I like how the words flow out of my fingers and turn up on the screen. I get bored if I do happen to write by hand first and then put what I've done on the computer. I work upstairs in my study with my fingerless gloves on in the winter to keep my hands warm.

Writing is pretty much my hobby so I don't have a whole list of exciting things I do. I like doing school visits and giving talks. It's great fun too to meet up with other writers and talk about what we're doing. I travel a bit because both my children are currently living in the UK. Travel is pretty fascinating, especially when you get to go to places very different from where you live. Okay, Australia possibly isn't that different from New Zealand but it was still interesting to find a place for *Lyla* to go to when she needed a break. Thank you, Australia.

ACTIVITY: Book Reviews

- Write a book review for *Lyla*. The following website has helpful hints: <http://www.booktrust.org.uk/books/teenagers/writing-tips/tips-for-writing-book-reviews/>
- Create a book review trailer for *Lyla* to be displayed on screen in the school library

MAKING A DIFFERENCE

After reading *Lyla* and researching the issues facing communities in emergency disaster situations, students may want to know how they can help.

ACTIVITY: Taking Action

- **Discuss** how *Lyla* and her friends helped overcome the adversities faced when their community was disrupted by earthquake.
- **Research** how organisations and individuals have helped during times of earthquake.
 - [How the Community Sector Helped Post-Earthquake Christchurch Help Itself](#) (Victorian Council of Social Service)
 - [Australia's Earthquakes: Response of Individuals, Community based groups & the Government](#) (personal website built after the Newcastle, Australia, earthquake of 1989)
- Have students **create** posters, classroom or library displays or performances for a school assembly to raise awareness of earthquakes and the importance of earthquake readiness in earthquake zones.
- Have students create posters and video trailers for earthquake response in schools using the 'Drop, Cover, Hold' manoeuvre used in the story.
- **Monitor** earthquakes around the world for the period of study of *Lyla*. This can become a mapping or spreadsheet exercise.
 - US Geological Survey provides a constantly [updated map of all earthquake reports](#) in the world. NOTE: Map must be resized to show whole world.
 - [Recent earthquakes](#) – updated regularly by Geoscience Australia

- There are many ways that students can **raise funds** for an aid organisation or project. It doesn't have to be money – books, toothbrushes, pencils, soap are easily collected and passed onto organisations that can help.
- **Explore** how aid agencies such as Save the Children, the Australian Red Cross, RedR, UNICEF and Caritas provide on the ground relief when earthquakes strike throughout the Asia Pacific region.

<https://www.savethechildren.org.au/>

<https://www.redcross.org.au/>

<https://www.redr.org.au/>

<https://www.unicef.org.au/>

<https://www.caritas.org.au>

ENRICHMENT ACTIVITIES

ACTIVITY: Story building

- **Browse** Google Images for images of earthquakes and relief work at earthquakes. Select one photo to base a story on.
 - Choose one person in your photograph and **create a character profile** of that person.
 - Use this character profile to **build a story** about the character's earthquake experience.
 - Does this character survive?
 - What did they do during the earthquake?
 - What did they witness?
 - How did they feel six weeks later?

ACTIVITY: study of book series

- Examine other books in the Through My Eyes series and the Through My Eyes—Natural Disaster Zones series. What about the cover designs shows that these are series? What do you think are primary considerations in creating a cover design template for a series?
- Research cover designs of other book series you know of – both fiction and non-fiction.
- In groups, come up with an idea for a series of books on any topic, in any genre. Create a template of the cover design for the books in your series OR write the brief for the designer who will create the template.

FURTHER READING

INFORMATION ABOUT FLEUR BEALE

- <https://fleurbeale.com/about/>
- <http://www.bookcouncil.org.nz/writer/beale-fleur/>
- <https://www.flash-frontier.com/2012/09/21/interview-fleur-beale/>
- <https://www.penguin.com.au/authors/fleur-beale>
- https://en.wikipedia.org/wiki/Fleur_Beale

BOOKS BY FLEUR BEALE

Fleur Beale may be best known outside NZ for her two series written for students older than 12 or 13 years:

The Juno series:

- *Juno of Taris* (2008)
- *Fierce September* (2010)
- *Heart of Danger* (2011)

I Am Not Esther series:

- *I Am Not Esther* (1998)
- *I am Rebecca* (2014)
- *Being Magdalene* (2015)

She has also written many stories for readers aged 9 to 14 years, including:

- *Ambushed* 2001, Scholastic
- *Saving Mr Spender* 2006, Mallinson Rendel
- *Deadly Prospect* 2000, Scholastic NZ
- *Rockman* 1996, HarperCollins
- *Lucky for Some* 2002, Scholastic
- *Lacey & the Drama Queens* 2004, Scholastic NZ (sequel to Lucky for Some)
- *The Fortune Teller* 1995, HarperCollins
- *My Life of Crime* 2007, Mallinson Rendel
- *End of the Alphabet* 2009, Random House NZ
- *Driving a Bargain* 1994, HarperCollins
- *Against the Tide* 1993, HarperCollins

* * * * *

The following recommended books are appropriate for readers aged 8 -15, though some are definitely for the older readers in that group.

NOVELS ABOUT THE CHRISTCHURCH EARTHQUAKE

De Goldi, Kate *From the Cutting Room of Barney Kettle* 2015, Longacre (Penguin Random House NZ)

Navarro, Gonzalo *The Awakening* 2014, Switch Productions. Graphic novel focusing on Maori identity.

Sessions, Laura *Quake Dogs: Heart-warming Stories of Christchurch Dogs*. Illustrated with photographs. 2013, Random House New Zealand. (Information book, not a novel)

Wallace, Desna *Canterbury Quake: Christchurch 2010-11*. Illustrated with photographs. 2014, Scholastic NZ. My New Zealand Story series.

NOVELS ABOUT EARTHQUAKES

Harris, Christine *Jamil's Shadow* 2001, Penguin Books Australia (set in Turkey)

Thiele, Colin *Shatterbelt* 1987, Walter McVitty Books (set in Adelaide)

Thiele, Colin *Aftershock* 1992, Walter McVitty Books (sequel to *Shatterbelt*)

Frances, Helen *The Devil's Stone* 1983, Omnibus Books (set in Adelaide. Historical fantasy utilising Aboriginal mythology)

Novels about earthquakes set in New Zealand

Broadbent, Adele *Just Jack* 2011, Random House

Hunt, Des *Frog Whistle Mine* 2006, HarperCollins

Hunter, Eirlys *The Quake* 1999, Scholastic New Zealand

McVeagh, Janine *Earthquake! the Diary of Katie Bourke, Napier, 1930-31* 2004 & 2011, Scholastic NZ. My New Zealand Story series.

OTHER BOOKS ABOUT DISASTERS

Buck, Pearl S. *The Big Wave* 1947, Curtis Publishing Co, NY. (It may be interesting to read an early example of this genre, set in Japan, by a very famous writer in her time.)

Colbert, June *Volcano* 2007, Hachette Livre Australia

Epstein, June *When Tracy Came for Christmas* 1982, Oxford University Press. (Cyclone Tracy)

McAllan, Kate *Disaster!* 2006, Scholastic Australia. Non-fiction. (Mix of natural and man-made disasters focussing on survival stories.)

Saxby, Maurice and Glenys Smith *Dangers and Disasters* 1986, Methuen. (Anthology of extracts, poems and short stories)

Other books about disasters set in New Zealand

Dunmore, Helen *The Tide Knot* 2006, HarperCollins Children's Books

Novels by David Hill based on NZ disasters:

- *The Sleeper Wakes* 2001, Puffin
- *No Safe Harbour* 2003, Mallinson Rendel
- *Journey to Tangiwai* 2010, Scholastic NZ (My New Zealand Story series)

Knox, Elizabeth *Mortal Fire* 2013, Gecko Press

O, Jessie *Staying Home: My True Diary of Survival* 2010, Penguin Group NZ

RESOURCE FOR ANXIETY IN CHILDREN

Hey Warrior: A Book for Kids about Anxiety by Karen Young, Little Steps Publishing, 2017. Talks about the amygdala in a child friendly way.

OTHER BOOKS IN THE SERIES, 'THROUGH MY EYES: NATURAL DISASTER ZONES'

Hotaka (2011 Tsunami in Japan) by John Heffernan, March 2017

Shaozhen (2014 drought in Henan, China) by Wai Chim, August 2017

Angel (2013 Cyclone [or Typhoon] Haiyan in the Philippines) by Zoe Daniel, August 2018

RESOURCES

SCIENCE OF EARTHQUAKES

Downloadable materials from Geoscience Australia website, Classroom Resources section:

- [Tectonic Plates Jigsaw Puzzle](#) (made from 2 sheets A3 paper; fits on student desktop)
- [Earthquakes - Teacher Notes and Student Activities](#) by GB Lewis and CDN Collins. Excellent classroom resource, focusing on Australia and adaptable for Yrs 6 – 9.

Australian Curriculum Grade 6 printable worksheets for unit of work on earthquakes and tsunamis. The first six worksheets relate to earthquakes.

- [Extreme Weather Detectives – A 13-Page Resource of Earth and Space Science Worksheets](#)

US Geological Survey. [Understanding plate motions](#). Explanatory worksheet with diagrams explaining:

- Divergent boundaries—where new crust is generated as the plates pull away from each other.
- Convergent boundaries—where crust is destroyed as one plate dives under another.
- Transform boundaries—where crust is neither produced nor destroyed as the plates slide horizontally past each other.
- Plate boundary zones—broad belts in which boundaries are not well defined and the effects of plate interaction are unclear.

ABC Splash video: [Some mountains are still growing!](#) 2005, 7.27 mins. For older students; discusses mountain formation in New Zealand and Australia. Contains some excellent demonstrations and experiments to show faulting and folding, suitable for Grade 5 and up.

Tes Global. Free downloadable units of work, but you must register:

- <https://www.tes.com/teaching-resource/earthquakes-6013849>

YouTube videos are many but some can be quite frightening to watch and others are of little educational value. Two non-threatening videos are:

- Stability of earthquake-resistant Japanese high-rise buildings during a 9.0 earthquake can be seen at <https://www.youtube.com/watch?v=64PEo29hBGY&feature=youtu.be>
- Small earthquake in Japan, not at all frightening to watch. Filmed on a mobile and narrated by an American. Shows cracks opening up in a park and liquefaction beginning. <https://www.youtube.com/watch?v=TzlodnjPAuc>

ABOUT THE WRITER AND SERIES EDITOR

FLEUR BEALE

Fleur Beale is the author of many award-winning books for children and young adults — she has now had more than 40 books published in New Zealand, as well as being published in the United States and England. Beale is the only writer to have twice won the Storylines Gaelyn Gordon Award for a Much-Loved Book: with *Slide the Corner* in 2007, and *I Am Not Esther* in 2009. She won the Esther Glen Award for distinguished contribution to children's literature for *Juno Of Paris* in the 2009 LIANZA Children's Book Awards. *Fierce September* won the YA category in the 2011 NZ Post Children's Book Awards and the LIANZA Young Adult Award in 2011. In 2012 she won the Margaret Mahy Medal for her outstanding contribution to children's writing. In 1999, Beale was Dunedin College of Education's Writer in Residence. A former high-school teacher, Beale lives in Wellington.

LYN WHITE

Series editor and series creator Lyn White has extensive experience as a primary school teacher-librarian and EAL teacher and in 2010 completed postgraduate studies in Editing and Communications at the University of Melbourne. Lyn is passionate about children's literature and has great expertise in engaging students with quality texts. Her work with refugee children motivated her to create the acclaimed Through My Eyes series of books set in contemporary war zones. Lyn created and edited the Through My Eyes - Natural Disaster Zones series to pay tribute to the courage and resilience of children who are often the most vulnerable in post-disaster situations. Lyn continues to teach EAL and is an education consultant and conference presenter.

EARTHQUAKE QUIZ

Multiple choice: circle the letter of the answer – a, b, c or d.

Earthquakes are this kind of occurrence:

- a. Frequent
- b. Geological
- c. Atmospheric
- d. Supernatural

Earthquakes cause a series of waves called...

- a. Seismic waves
- b. Tsunamis
- c. Tidal waves
- d. Electro-magnetic pulses

What is a fault?

- a. A break in the rocks that make up the Earth's crust
- b. Where two plates come together
- c. Where seismic activity is recorded
- d. A bulge in the Earth's surface

What is the 'magnitude' of an earthquake?

- a. The amount of energy that is released by a quake
- b. The duration of a quake
- c. The length of a quake
- d. The destruction caused by a quake

What is a tsunami?

- a. A volcanic eruption on the ocean's floor
- b. The point at which the ocean reaches the shoreline
- c. Turbulent waves caused by a hurricane
- d. A chain of fast moving waves in the ocean caused by powerful earthquakes

What are three main causes of earthquakes?

- a. Volcanoes, movement of the tectonic plates, tsunamis
- b. Volcanoes, the moon's gravitational forces, tectonic plate movement
- c. Volcanoes, the sun's gravitational forces, tectonic plate movement
- d. Volcanoes, movement of the tectonic plates, human activity such as bombs

