

Literal comprehension

Stage 4

Overview

Purpose

This literacy teaching strategy supports teaching and learning for Stage 4 students across all key learning areas. It targets specific literacy skills and suggests a learning sequence to build skill development. Teachers can select individual tasks, or a sequence, and embed into their teaching and learning program according to their students' needs. While exemplar texts are provided throughout this resource, it is recommended that teachers select texts which are relevant to their students and curriculum.

Learning intention

Students will learn to use a range of texts to locate and interpret directly stated information, including multimodal and digital texts. Students will use skimming and scanning strategies to identify key words to respond to tasks.

Syllabus outcomes

The following teaching and learning strategies will assist in covering elements of the following outcomes:

- EN4-RVL-01: uses a range of personal, creative and critical strategies to read texts that are complex in their ideas and construction
- EN4-URA-01: analyses how meaning is created through the use of and response to language forms, features and structures
- EN4-1A: responds to and composes texts for understanding, interpretation, critical analysis, imaginative expression and pleasure
- EN4-2A: effectively uses a widening range of processes, skills, strategies and knowledge for responding to and composing texts in different media and technologies
- EN4-3B: uses and describes language forms, features and structures of texts appropriate to a range of purposes, audiences and contexts.

[NSW English K-10 Syllabus \(2022\)](#)

Visit the [Leading curriculum K-12 website](#) for more information on the syllabus implementation timeline.

Success criteria

The following Year 7 NAPLAN item descriptors may guide teachers to co-construct success criteria for student learning.

- analyses the meaning of a quotation
- interprets directly stated information in a narrative
- locates directly stated information in a narrative
- interprets directly stated information in a persuasive text
- interprets directly stated information in an information text
- interprets information in an information text.

Literacy Learning Progression guide

Understanding Texts (UnT9-UnT11)

Key: C=comprehension P=process V=vocabulary

UnT9

- summarises the text identifying key details only (C)
- identifies different interpretations of the text citing evidence from a text (C)
- analyses texts which have more than one purpose and explain how parts of the text support a particular purpose (C)
- selects reading/viewing strategies appropriate to reading purpose (e.g. scans text for evidence) (P)

UnT10

- reads and views complex or some highly complex texts (see *Text complexity*) (C)
- synthesises information from a variety of complex texts (C)
- integrates automatically a range of processes such as predicting, confirming predictions, monitoring, and connecting relevant elements of the text to build meaning (P)
- navigates extended texts including complex digital texts (P)

UnT11

- reads and views sophisticated texts (see *Text complexity*) (C)
- identifies relevant and irrelevant information in texts (P)

[National Literacy Learning Progression](#)

Evidence base

- Centre for Education Statistics and Evaluation (2017). [Effective reading instruction in the early years of school](#), literature review.
- Oakhill, J., Cain, K. & Elbro, C. (2015). Understanding and teaching reading comprehension: A handbook. Routledge.
- Quigley, A. (2020). Closing the reading gap. Routledge.
- Scarborough, H.S. (2001). Connecting early language and literacy to later reading (dis)abilities: Evidence, theory and practice. In S. Neuman & D. Dickson (Eds.), Handbook for research in early literacy (pp. 97-110). New York, NY: Guilford Press

Alignment to system priorities and/or needs: [Five priorities for Literacy and Numeracy](#), [Our Plan for NSW Public Education](#), [School Excellence Policy \(nsw.gov.au\)](#).

Alignment to School Excellence Framework: Learning domain: Curriculum, Teaching domain: Effective classroom practice and Professional standards

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Teaching strategies

Task	Appendices
Skimming and scanning	Appendix 1 - Australian convict sites
Summarising and linking main ideas	Appendix 1 - Australian convict sites
Fact-question-response	Appendix 2 - Fact-question-response on photosynthesis
Locating directly stated information	
Locating and interpreting directly stated information	Appendix 3a – ‘Ripples’ Appendix 3b – ‘Ripples’ - annotated
Interpreting directly stated information	Appendix 4 – ‘Out at Midnight’ Appendix 5 - Graphic organiser
Restating information located in texts	Appendix 6 - ‘RSPCA’ Appendix 7 - Graphic organiser

Background information

Literal comprehension

Literal comprehension is often referred to as the ‘on the page’ comprehension; it is what the reader can see and hear from the page. Surface level comprehension is the simplest form of comprehension and requires students to locate directly stated information. Finding the main idea, summarising, identifying key facts and understanding vocabulary are key building blocks of literal comprehension.

Questioning before, during and after reading a text is the key component of building comprehension skills (Singer, 1978).

Literal comprehension questions are the “how, what, who, when, where” types of questions in their most basic form. The answer is clearly evident, for example, who did Little Red Riding Hood visit? Where did her grandmother live? What was in Little Red Riding Hood’s basket? Readers will use decoding skills, as well as syntax and semantic skills to recognise and remember directly stated information.

Skimming

Skimming happens when the reader is unfamiliar with a text and skims to find out what type of text it is to get the general idea. Some strategies to use include:

- read the first and last paragraphs
- look for general information
- use headlines, page layout, graphs, diagrams and charts, pictures, highlights.

Scanning

Scanning happens when the reader knows something about what the text is about but wants to find out more and scan to find specific information and key words. Strategies to use include:

- look over the text quickly to locate words and sentences that link to what you need to find out
- use contents pages, first and last sentences in a paragraph, subheadings, captions, bold key words, hyperlinks and others.

Reference: English K-10 Syllabus © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2012 and 2022.

Where to next?

- Inference
- Main idea
- Text features

Overview of teaching strategies

Purpose

These literacy teaching strategies support teaching and learning from Stage 2 to Stage 5. They are linked to NAPLAN task descriptors, syllabus outcomes and literacy and numeracy learning progressions.

These teaching strategies target specific literacy and numeracy skills and suggest a learning sequence to build skill development. Teachers can select individual tasks or a sequence to suit their students.

Access points

The resources can be accessed from:

- NAPLAN App in Scout using the teaching strategy links from NAPLAN items
- NSW Department of Education literacy and numeracy [website](#).

What works best

Explicit teaching practices involve teachers clearly explaining to students why they are learning something, how it connects to what they already know, what they are expected to do, how to do it and what it looks like when they have succeeded. Students are given opportunities and time to check their understanding, ask questions and receive clear, effective feedback.

This resource reflects the latest evidence base and can be used by teachers as they plan for explicit teaching.

Teachers can use classroom observations and assessment information to make decisions about when and how they use this resource as they design teaching and learning sequences to meet the learning needs of their students.

Further support with [What works best](#) is available.

Differentiation

When using these resources in the classroom, it is important for teachers to consider the needs of all students, including [Aboriginal](#) and EAL/D learners.

EAL/D learners will require explicit English language support and scaffolding, informed by the [EAL/D enhanced teaching and learning cycle](#) and the student's phase on the [EAL/D Learning Progression](#).

Teachers can access information about [supporting EAL/D learners](#) and [literacy and numeracy support](#) specific to EAL/D learners.

Learning adjustments enable students with disability and additional learning and support needs to access syllabus outcomes and content on the same basis as their peers. Teachers can use a [range of adjustments](#) to ensure a personalised approach to student learning.

[Assessing and identifying high potential and gifted learners](#) will help teachers decide which students may benefit from extension and additional challenge. [Effective strategies and contributors to achievement](#) for

high potential and gifted learners helps teachers to identify and target areas for growth and improvement. A [differentiation adjustment tool](#) can be found on the High potential and gifted education website.

Using tasks across learning areas

This resource may be used across learning areas where it supports teaching and learning aligned with syllabus outcomes.

Literacy and numeracy are embedded throughout all syllabus documents as general capabilities. As the English and mathematics learning areas have a particular role in developing literacy and numeracy, NSW English and Mathematics syllabus outcomes aligned to literacy and numeracy skills have been identified.

Text selection

Example texts are used throughout this resource. Teachers can adjust activities to use texts which are linked to their unit of learning.

Further support with text selection can be found within the [National Literacy Learning Progression](#) Text Complexity appendix.

The [NESA website](#) has additional information on text requirements within the NSW English syllabus.

Teaching strategies

Skimming and scanning

1. Teacher to review student understanding of literal comprehension by creating and referring to a KWL chart on the topic of literal comprehension: what we know, what we want to know and what we learnt during the lesson.
2. *Skimming*: Teacher explicitly teaches students how to skim a text relevant to a current unit of learning, or refer to 'Australian convict sites' ([Appendix 1 - Australian convict sites](#)), to identify the general idea by: reading the first and last paragraph; looking for general information; and using structural features such as headings and sub-headings. Teacher displays Appendix 1 for students to practise skimming to find the general idea or gist of the text. Students record the main idea of the text on whiteboards, paper or sticky notes to display. Compare interpretations of main idea and sum up with a whole-class collaboration on the overarching idea of the text.
3. *Scanning*: Teacher demonstrates scanning a text for the answer to a literal question, such as 'What are some World Heritage-listed Australian convict sites in NSW?' Teacher highlights or circles key words and demonstrates how to navigate the text by using a think aloud and noticing the supporting graphics, headings and sub-headings to locate and interpret information. Using the same text, the teacher asks literal questions for students to race to find the information by using key words from the question, for example, how many sites are in Tasmania?

Summarising and linking main ideas

1. Students are given a paragraph or section from a text relevant to a current unit of learning, or refer to 'Australian convict sites' ([Appendix 1 - Australian convict sites](#)), to analyse. Students develop their own coding system to identify key vocabulary, main idea and supporting ideas. Students add these to a class anchor chart (paper, smartboard, Google Doc).

Students could select and use a [graphic organiser](#) to best represent their information.

Paragraph	Key vocabulary	Supporting ideas	Main idea
1			
2			
3			
4			

2. Using the information on the anchor chart or poster, teams are given one row of information (paragraph, key vocabulary, area addressed and main idea) to create a summary. The summary may be in the form of dot points or in a paragraph.

Fact-question-response

1. Teacher to lead brainstorm using the word 'photosynthesis' to build background information and predict vocabulary. Students are given [Appendix 2 - Fact-question-response on photosynthesis](#) and use the text analysis guide to annotate. (This task can be adapted to a text relevant to a current unit of learning.)
2. Text analysis guide:

What to look for	How to identify
Discipline-specific terms/vocabulary	highlight with one colour
unknown terms	highlight with a second colour
repeated words	circle
topic sentences	underline
key messages or ideas	highlight with a third colour
cause and effect	circle with arrows connecting

3. Students complete the fact-question-response chart using the information from the text excerpt on photosynthesis in [Appendix 2 - Fact-question-response on photosynthesis](#).

Locating directly stated information

1. Teacher selects a range of fiction and non-fiction texts, websites, short videos, journal articles. Students devise a set of literal comprehension questions using question stems: who, what, when, where, how. Questions can be put on sticky notes and attached to the text. Students walk around and add answers to the questions.
2. Students watch Behind the News or a TED-Ed Talk linking to a current area of learning before being issued with a transcript of the text. On the second view, teacher pauses for students to create literal comprehension questions. These are shared, ensuring they can be answered using the information presented. Students swap their questions with a partner, referring to the transcript to locate the answers. Students should discuss where they found the answer and any reading strategies they used to locate them. For example, 'I rememberd that he speaker used key words when talking about...' 'I skimmed the text to see if there were any headings to break up the text...' 'I scanned the first sentence of each paragraph to see if there were any key words...' Repeat throughout viewing where appropriate.

Locating and interpreting directly stated information

1. Using a text relevant to a current unit of learning, or refer to [Appendix 3a – ‘Ripples’](#) explain to students that today we are learning to understand the surface level of a text by answering literal comprehension questions. This means we are finding answers that can be found within the text itself. We are about to read a text that was written in response to a question ‘How do ripples form and why do they spread out across the water?’ Before you begin reading the text explain that when we are asked to read a text we need to read the words on the page while simultaneously making meaning of what we have read; this is hard and requires lots of thinking and practice. A great strategy is to ask ourselves questions before, during and after reading. This helps us monitor understanding and to build meaning. One of the challenges in reading is to determine whether the answers to these questions can be found in the text or whether we will need to infer and/or consider another source. Today we are going to be learning how to understand the surface level of a text. We are going to be answering questions about the text that we can immediately recall or by using the exact words and sentences that are on the page. This skill is an initial step in meaning making and having deep comprehension. It is called literal comprehension.
2. Before reading the text, activate students background knowledge by asking: Have you thrown a rock or stone in some water? Did you notice the ripples? What shape do they make? What else did you notice? What do you know about the properties of water? To build background knowledge students could also be shown a practical demonstration of the effects of dropping objects in water, or they could view a short clip of water ripples.
3. Provide a copy of the text to students and display a copy to show your annotations. Using the think aloud strategy, model how to skim over the whole text to get the general or main idea and purpose of the text. Remind students that we are looking for the answer to the question: ‘How do ripples form and why do they spread out across the water?’ Note the headings and subheadings and discuss the image. Read the first section of the text and explain that you know this text is an informative text that was written in response to a curious kid’s question. Pause at key points and model how to monitor understanding.
4. Explain to students that you want to check your surface level understanding and will now ask questions to monitor this. Explain that you are able to check your literal comprehension by asking ‘who, what, when, why and how questions’ (where appropriate). Go through each question and identify where in the text the answer can be found. As you highlight sections of the text explain how each example addresses the question and the strategy you used to find it. (Refer to [Appendix 3b – ‘Ripples’ - annotated](#))
 - What causes a ripple in the water? Suggested ‘I recall the boy mentioned throwing a rock in the water. If I skim back over the text I will find where the author restates the phrase ‘throwing the rock’ if I move onto the next sentence further explanation was given that the rock has given ‘the water some energy’. If I continue reading I will confirm that the water wants to return to being still so it will spread that energy out, this is what causes the ripples.

- How does the water change when a rock is thrown in?
 - What principle is being followed?
 - How does energy move around?
 - Where else can energy moving in waves be found?
5. Read the next section of the text 'Up and down'. [Think Pair Share](#) - at the end of the section invite students to generate their own 'who, what, when, where, why, how' types of questions. Students annotate their copy of the text, highlighting where the information is directly stated. As a class, discuss the questions, prompting students to consider why they asked particular questions, and how their questions helped them understand the text.
 6. In the final section of the text 'Rippling out' have students read the text together and independently generate three key questions to support understanding. Students then swap questions with a partner and answer the questions. They may respond to the question orally or record their answers, justifying their responses to their partner.

Interpreting directly stated information

1. Teacher reads aloud text relevant to a current unit of learning, or refer to [Appendix 4 – 'Out at Midnight'](#). Teacher models how to skim a text for overall purpose and structure and scan for directly stated information, 'who'. (Refer to skimming and scanning tasks for explicit teaching strategies).
2. Students then skim and scan the text, highlighting in different colours the directly stated information: *what, when, where* in the narrative. Teacher leads a class discussion on any challenges experienced locating the who, what, when, where in the text.
3. Teacher explains to students that when texts become more complex, the identification of literal information becomes more challenging. In particular, the 'why' and the 'how' may be more difficult to locate. Students will need to identify and understand textual clues presented in the text to help interpret information.
4. Using the question stem, 'why', and 'think aloud' strategy, teacher models how to interpret directly stated information to answer the question, 'Why can't Thomas read?' Teacher models how to skim and scan for the 'why' information in the text before focusing on interpreting the information.

Suggested 'think aloud':

'The term 'ZOOLOGICKA ZAHRAR', which appears on the sign in the text, is very unfamiliar to me - it is actually in another language. We know this because Andrej has to read **and** translate the meaning for Thomas. Note that Andrej doesn't just read 'ZOOLOGICKA ZAHRAR' he actually translates it to 'Zoological Garden.' This helps the reader to understand why Thomas can't read. This information is directly stated; however, I need to interpret other evidence to find the correct answer. So, why can't Thomas read? Thomas cannot read because the writing is in another language.'

Graphic organiser to directly locate and interpret evidence

Information directly stated in the text:	Textual clues	Other textual clues	What we have learnt?
Thomas couldn't read	ZOOLOGICKA ZHRARA	Andrej read it for him: "It says Zoological Garden. It's a zoo".	Thomas cannot read because the writing is in another language.

- Teacher then guides students in using the graphic organiser ([Appendix 5 - Graphic organiser](#)) to answer the question: How does Thomas feel at the beginning of the narrative? Teacher guides skimming and scanning for the 'how' question and fills in the graphic organiser with the class.
- [Think-Pair-Share](#): Students create 'where' and 'when' questions based on their skimming and scanning, then complete the table independently or with further guidance.

Restating information located in texts

- Present students with the following text:
The player opposed the decision made by the umpire. The umpire decided to take the decision to the video referee as she opposed what the player was saying. The video referee did not oppose the umpire and decided to discount the goal.
What do they notice in the text? What would help the reader to enjoy and understand the text?
Discuss how authors will use synonyms and similar phrases instead of repeating a key word. When we are finding details in text, we need to be aware of synonyms so we can maintain the meaning of the text.
- Using the text 'RSPCA' ([Appendix 6 - 'RSPCA'](#)) teacher models how to skim over the text and scan to locate information on the question, 'How does the RSPCA feel about the hunting of crocodiles?'
Add any relevant words to a word bank, discuss and display.
- Explain to students that understanding information in a text might involve locating and interpreting a range of synonyms for key words. Restating these synonyms in your own words shows we have understood the text.
- Using the graphic organiser ([Appendix 7 - Graphic organiser](#)), the teacher models how to identify synonyms to answer the following direct-locate question: 'How does the RSPCA feel about the hunting of crocodiles?' The teacher re-reads the opening section of the text, 'The RSPCA is strongly opposed to the introduction of safari style hunting in the Northern Territory' and identifies the key word 'opposed'. Teacher discusses what the word means and what it suggests about the RSPCA's 'feelings' towards hunting before making a direct connection to a key quotation in the text.

What is the key word?	Other words that mean the same? Synonym in the text	What do these words mean? State in your own words.	Quotation which reveals RSPCA's attitude towards hunting crocodiles.
Opposed	Unacceptable Rejected Not a suitable approach No ...justification		'The RSPCA believes that allowing crocodiles or any Australian native wildlife to be hunted for trophies and commercial gain is unacceptable.'

5. Students then use the graphic organiser to locate synonyms and quotations which answer the question: 'Why is the RSCPA opposed to crocodile safari hunting in the NT?'

Appendix 1

Skimming and scanning

Australian convict sites

Australia's newest World Heritage Site

Eleven Australian convict sites, spread over three states and Norfolk Island, constitute one single World Heritage Site. The sites were selected as pre-eminent examples that show Australia's rich convict history. There are more than 3000 convict sites around Australia.

What is World Heritage?

'World Heritage is the designation for places on Earth that are of outstanding universal value to humanity and as such, have been inscribed on the World Heritage List to be protected for future generations to appreciate and enjoy.' (UNESCO)

Worldwide, there are over 900 World Heritage Sites, including Stonehenge, Venice and Kilimanjaro National Park. Australia has eighteen Sites, including Kakadu and the Sydney Opera House.

Why were the Australian convict sites granted World Heritage status?

To be selected for World Heritage listing, a site has to meet at least one of UNESCO's ten criteria, of which six are cultural criteria and four are natural criteria. The Australian convict sites were awarded World Heritage status on the basis of these two criteria:

- i. to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history
- ii. to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria.)

More than 160000 men, women and children were condemned to transportation from Britain to Australia between 1787 and 1868. The Australian convict sites - steeped in this history - have no equivalent elsewhere in the world, so they are unique in their ability to improve our knowledge and understanding of the convict era. The forced migration of prisoners represented a shift in global ideas and beliefs about punishment and reform. Transportation as a form of psychological punishment was a new way to deter crime and reform criminals through hard labour: labour upon which a new colony and a new society would be built.

World Heritage-listed Australian convict sites

Tasmanian sites

- Brickendon-Woolmers Estates
- Cascades Female Factory
- Coal Mines Historic Site
- Darlington Probation Station
- Port Arthur Historic Site

NSW sites

- Cockatoo Island
- Hyde Park Barracks
- Old Government House and the Government Domain
- Old Great North Road

WA site

- Fremantle prison

Norfolk Island site

- Kingston and Arthur's Vale historic area

Year 7 NAPLAN Reading Magazine 2012, ACARA

Appendix 2

Student copy: Fact-question-response

Fact	Question	Response
Fungi do not 'do' photosynthesis but plants do.	Do both fungi and plants use the process of photosynthesis?	Only plants, not fungi, use the process of photosynthesis
In 1771, English chemist Joseph Priestly conducted the first experiments with photosynthesis.		
Oxygen was discovered after 1771.		

Student text for fact-question-response

Photosynthesis

The big difference between 'plants' and 'fungi' is that plants can do 'photosynthesis', but fungi cannot.

It was way back in 1771 when the English chemist Joseph Priestly did the first experiments with photosynthesis. This was even before oxygen had been discovered. Priestly burned a candle inside a closed jar. Sure enough, once the oxygen inside the jar had been consumed, the flame went out. He then inserted a sprig of mint into the narrow mouth of the jar. After a few days, the sprig of mint had made enough oxygen to again support a flame.

Photosynthesis is the process where a plant captures the energy of sunlight. It uses this energy to turn water and carbon dioxide into carbohydrates (simple sugars) and oxygen.

Speaking of 'carbon', all life on our planet is based on the element carbon. This element is present in practically every chemical in our body. (But not in water, which is made only from the elements 'hydrogen' and 'oxygen'.)

More than 2.7 billion years ago, there was no photosynthesis. The cyanobacteria were able to grab carbon dioxide from the air around them and split it into carbon and oxygen. They kept the carbon for themselves to incorporate in their body. The oxygen was released into the atmosphere. Plants evolved from the early cyanobacteria. And this is how we got oxygen.

But fungi are different from plants, even though they grow in the same soil. They can't do photosynthesis. So the only way they can get carbon is by 'eating' some organic chemicals in the soil and breaking them down. These organic chemicals can come from rotting wood and leaves, animal droppings and compost.

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Curious and Curiouser: Burping cows, bending spoons, beer goggles and other scintillating scientific stories – Dr Karl Kruszelnicki (Macmillan, 2010).

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Appendix 3a

Ripples

How do ripples form and why do they spread out across the water?

By Simon Cox, Aberystwyth University (*‘Curious Kids’*, *The conversation*, October 29, 2019)

When I was playing “splash rocks”, I noticed that when I threw the rock into the river it made a circle shape, which got bigger. How does it make the ripple? Why do the circles spread out further and further? Why do they stop? – Rowan, aged six, UK.

Hi Rowan, these are good questions, and a fun experiment to do.

When you throw a rock into a river, it pushes water out of the way, making a ripple that moves away from where it landed. As the rock falls deeper into the river, the water near the surface rushes back to fill in the space it left behind.

The water usually rushes back too enthusiastically, causing a splash – and the bigger the rock, the bigger the splash. The splash then creates even more ripples that tend to move away from where the rock went into the water.

When water is in its calmest, lowest energy state, it has a flat surface. By throwing the rock into the river, you have given the water some energy. That causes the water to move around, trying to spread out the energy so it can go back to having a still, flat surface.

This follows a powerful principle of physics, which is that everything seeks to find a state where its energy is as small as possible.

One way energy can move around is by forming waves. For example, the waves you see at the beach are formed by energy from the wind. Light and sound also move in waves, though we can't see that directly. And the ripples that you see in the river are small waves carrying away the energy from where you threw the rock.

Up and down

You might already know that everything you can touch is made up of lots of tiny molecules, which are themselves made up of even smaller parts called atoms.

Water is also made of molecules. But during a ripple, the water molecules don't move away from the rock, as you might expect. They actually move up and down. When they move up, they drag the other molecules next to them up – then they move down, dragging the molecules next to them down too.

That's what creates the peaks and troughs you see on the surface of the water. And that's how the ripple travels away from your rock – a bit like a human wave around a stadium.

Dragging neighbouring water molecules up and down is hard work, and slowly uses up energy, so the ripples get smaller as they get further away. Eventually, the ripples use up all the energy from the rock and the splash, and shrink until we can no longer see them.

Rippling out

Ripples often spread out in circles, but this isn't the only possibility. If you throw a stick into the water it will create straight ripples on the sides, and round ripples near the ends. So your rock probably made circular ripples because the rock itself was quite round.

But something else is happening too: different waves move at different speeds. Waves with a lot of energy move more quickly. For example, really big tidal waves, or tsunamis, race across the ocean as fast as a plane flies (up to 800 kilometres per hour).

When you throw a stick into the water, the ripples from the middle of the stick eventually catch up with the ripples from the ends, because of the different ways they spread out. So far away from the stick, the ripples are round ... just like they were for your rock.

(For the full article with images refer to link below.)

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Simon Cox, [Curious kids: How do ripples form and why do they spread out across the water? The Conversation](#) 29

October, 2019

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Appendix 3b

Ripples – annotated copy

(Accessible version is on page 20.)

- What causes a ripple in the water?
- How does the water change when a rock is thrown in?
- What principle is being followed?
- How does energy move around?
- Where else can energy moving in waves be found?

How do ripples form and why do they spread out across the water?

By Simon Cox, Aberystwyth University (*‘Curious Kids’*, *The conversation*, October 29, 2019)

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The water usually rushes back too enthusiastically, causing a splash – and the bigger the rock, the bigger the splash. The splash then creates even more ripples that tend to move away from where the rock went into the water.

When water is in its calmest, lowest energy state, it has a flat surface. By throwing the rock into the river, you have given the water some energy. That causes the water to move around, trying to spread out the energy so it can go back to having a still, flat surface.

This follows a powerful principle of physics, which is that everything seeks to find a state where its energy is as small as possible.

One way energy can move around is by forming waves. For example, the waves you see at the beach are formed by energy from the wind. Light and sound also move in waves, though we can't see that directly. And the ripples that you see in the river are small waves carrying away the energy from where you threw the rock.

Up and down

You might already know that everything you can touch is made up of lots of tiny molecules, which are themselves made up of even smaller parts called atoms.

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Ripples often spread out in circles, but this isn't the only possibility. If you throw a stick into the water it will create straight ripples on the sides, and round ripples near the ends. So your rock probably made circular ripples because the rock itself was quite round.

But something else is happening too: different waves move at different speeds. Waves with a lot of energy move more quickly. For example, really big tidal waves, or tsunamis, race across the ocean as fast as a plane flies (up to 800 kilometres per hour).

When you throw a stick into the water, the ripples from the middle of the stick eventually catch up with the ripples from the ends, because of the different ways they spread out. So far away from the stick, the ripples are round ... just like they were for your rock.

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Appendix 3b

Ripples – annotated copy – accessible version

Questions	Answers in text
What causes a ripple in the water?	By throwing the rock into the river, you have given the water some energy. That causes the water to move around, trying to spread out the energy so it can go back to having a still, flat surface.
How does the water change when a rock is thrown in?	<p>When you throw a rock into a river, it pushes water out of the way, making a ripple that moves away from where it landed.</p> <p>As the rock falls deeper into the river, the water near the surface rushes back to fill in the space it left behind.</p> <p>The water usually rushes back too enthusiastically, causing a splash – and the bigger the rock, the bigger the splash. The splash then creates even more ripples that tend to move away from where the rock went into the water.</p>
What principle is being followed?	This follows a powerful principle of physics, which is that everything seeks to find a state where its energy is as small as possible.
How does energy move around?	One way energy can move around is by forming waves
Where else can energy moving in waves be found?	the waves you see at the beach are formed by energy from the wind. Light and sound also move in waves, though we can't see that directly.

Appendix 4

Out at Midnight

Thomas screamed and scuttled backwards, horrified.

Andrej, too, fell backwards, forgetting about being brave. When a wolf is so near that one can see one's face reflected in its eyes, there is no such thing as courage. There is only the shrieking desire to become further away from the wolf. The brothers yelled and scrambled, fighting against the weight of their packs to push themselves to their feet, slithering in the grass and striking their elbows and all the while remembering that a boy cannot escape a wolf, not even if he runs.

Nevertheless they found their feet and bolted, over the grass and out the gate and headlong down the street in a sightless plunge, Andrej hauling Thomas by the arm and both of them trilling wild songs of fear. They tore along the cobbles, the bars of the fence going by like a solid wall, yet Andrej heard the fall of wolf feet behind him, heard the smack of fangs at his ear, and knew that running was futile, and that he must make a stand. Shoving Thomas ahead, he wheeled and saw that the street behind was empty, that only dust galloped at their heels, that the wolf had miraculously vanished, or had never been there. Staggering, Andrej shouted, "Stop!" and Thomas halted his helter-skelter charge instantly but apprehensively, hopping and skipping, staring about with rabbit eyes. "It's all right," Andrej promised. "Look!" Fixed to the fence was a sign painted with purple and yellow flowers and golden fleur-de-lis: ribbon blue letters woven between the flowers announced: ZOOLOGICKA ZHRARA. Thomas couldn't read, so Andrej read it for him: "It says Zoological Garden. It's a zoo".

Thomas wobbles in the middle of the road, blinking, looking from the sign to the road and back again. "Is the wolf in a cage?" he asked finally.

"It must be. It hasn't followed us".

Year 7 NAPLAN Reading Magazine, 2013 ACARA

Appendix 5

Graphic organiser – ‘Out at Midnight’

Information directly stated in the text:	Textual clues	Other textual clues	What we have learnt?
Why: Thomas couldn't read	ZOOLOGICKA ZHRARA	Andrej read it for him: "It says Zoological Garden. It's a zoo".	Thomas cannot read because the writing is in another language.
How: Thomas is horrified			
What			
Where			

Appendix 6

RSPCA



DONATE

HOME

WHAT WE DO

HOW YOU CAN HELP

QUESTIONS

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SEARCH

TEACH THAT OLD
DOG SOME TRICKS

NATIONAL AWARDS
RECOGNISE 'GOOD
EGGS'

WHALING REPORT
FUTILE - RSPCA

IT'S BACK!
RSPCA ANIMAL WALK

WHAT'S IN IT FOR
THE HORSE?

CAT FOOD MADE
SAFER

RSPCA APPROVED
FARMING

SAY NO TO
CROCODILE HUNTING

SWANS AND
COCKATOOS SAFE
FOR NOW

VOLUNTEERS KEEP
TAILS WAGGING AT
THE RSPCA

MEMORIAL TO
ANIMALS IN WAR

THE REAL VALUE OF
ENVIRONMENTAL
TOURISM

Home ► [RSPCA opposes croc safari hunting in NT](#)

RSPCA OPPOSES CROCODILE SAFARI HUNTING IN NT

The RSPCA is strongly opposed to the introduction of safari style hunting in the Northern Territory. The RSPCA believes that allowing crocodiles or any Australian native wildlife to be hunted for trophies and commercial gain is unacceptable.

"There is no possible conservation benefit to be derived from the killing of crocodiles for trophies, nor does it provide a means of controlling problem crocodiles," said RSPCA Australia Chief Scientist Dr Bidda Jones.

"This is nothing more than killing animals for entertainment and there is no justification for that. The culling of saltwater crocodiles should be firmly in the hands of trained and competent professionals, not tourists whose only aim is to bag another trophy to show-off back home."

"There is no evidence that safari hunts will provide income to Aboriginal landholders and any economic arguments should not overrule the ethical welfare arguments against the killing of animals for sport."

RSPCA Australia has long opposed the hunting of animals for sport because of the potential for cruelty and the extreme difficulty in enforcing animal welfare legislation in remote areas. Successive federal environment ministers have rejected similar proposals for safari hunting, concluding that this is not a suitable approach for the responsible management of crocodiles in the NT. This decision, unfortunately, may change in the future.

7

RSPCA- accessible version

RSPCA opposes crocodile safari hunting in NT

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Year 7 NAPLAN Reading Magazine, 2013 ACARA

Appendix 7

Graphic organiser

What is the key word?	Other words that mean the same? Synonym in the text	What do these words mean? State in your own words.	Quotation which reveals RSPCA's attitude towards hunting crocodiles.
Opposed	Unacceptable Cruelty Not a suitable approach	Against	
Hunting			