

The New Zealand Curriculum

Update



Teaching and Learning

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Welcome to The New Zealand Curriculum Update

Curriculum Updates support school leaders and teachers as they work to design and review their school curriculum, in line with the New Zealand Curriculum and with current knowledge and understandings about effective classroom teaching.

Curriculum Updates are published in the *Education Gazette* and are available online at <http://nzcurriculum.tki.org.nz>

This Update focuses on the key competencies and the framework they provide for developing knowledge, skills, and attitudes in literacy and numeracy.



Literacy, numeracy, and the key competencies across the curriculum

The development of the competencies is both an end in itself (a goal) and the means by which other ends are achieved. Successful learners make use of the competencies in combination with all the other resources available to them.

The New Zealand Curriculum, page 12

The key competencies provide a framework for exploring and developing knowledge, skills, and attitudes. These include aspects of critical literacy, mathematical thinking, perseverance in problem solving, resilience in adversity, and collaborating with others to achieve goals.

Students who are literate and numerate are more able to manage and influence the social, emotional, and physical contexts that shape their lives. As a result, they are more likely to become citizens who will contribute towards a productive and inclusive society.

Literacy and numeracy are also critical to engaging successfully with the increasingly complex texts and tasks that students meet as they progress through school.

In most learning contexts, all the key competencies will be in play; however, a teacher may decide to focus on developing one or more aspects of a key competency, depending on the opportunities offered by the particular teaching and learning situation.

Developing literacy and numeracy understandings

This chart provides examples of how literacy and numeracy understandings relate to the key competencies.

In the chart, the eight learning areas sit behind the key competencies. This is to reinforce that there are rich opportunities for developing literacy and numeracy skills and understandings across the curriculum and that students draw on the key competencies to work in all learning areas.

The key competencies overlap to emphasise that they are interrelated.

The diagram includes examples of:

Emerging understandings

These relate particularly to the early school years and align with the year 1–3 National Standards.

Developing understandings

These build on the emerging understandings and align with the year 4–8 National Standards.

When discussing these understandings with your class, rephrase them in student-friendly language.

It is important to recognise that students will be developing these understandings at different rates. Therefore, particular students or groups may demonstrate both emerging and developing understandings.

Although the key competencies are the focus of the diagram, they should not be viewed in isolation.

As indicated in *The New Zealand Curriculum overview* (page 7), the vision, principles, values, key competencies, and learning areas of the curriculum are integral to learning.

Guiding questions He pātai

- Where are my students now in relation to these literacy and numeracy understandings?
- Could I focus on a particular key competency to help my students develop their understandings?
- What opportunities are there to integrate the key competencies when planning my teaching?

Using language, symbols, and texts

- > Language sounds can be represented by symbols.
- > Other languages (for example, Māori), symbols (for example, mathematical symbols, diagrams, and graphs), and non-verbal modes (for example, body language, dance, and drama) can also be used to represent ideas and emotions.
- > Words, actions, and symbols can be selected to make messages clearer or more interesting.
- > Speech, texts, and symbols can be used in various ways depending on purpose and audience. For example, flow charts, greetings, number stories, recipes, maps, instructions, experiments, and explanations suit different purposes.
- > Ideas and emotions can be represented in many ways, using various combinations of language, symbols, and texts. These combinations can include movement and graphical representations.
- > Language, symbols, and texts can be used to clarify and organise thinking, make judgments, integrate complex ideas, affirm beliefs, interpret data, and communicate concepts.
- > It's important to consider purpose and audience when using language and symbols and creating texts. Words (for example, subject-specific vocabulary), phrases, and body language can carry different meanings, depending on context.
- > Language, symbols, and texts are socially constructed and accepted conventions, and their associated meanings can change. It's important to use a range of strategies to confirm understanding and a range of criteria to critically evaluate texts, data, and graphs.

Thinking

- > People understand and think about the world in a variety of ways. Reading, writing, listening, and speaking provide them with opportunities to do this.
- > Searching for knowledge and answers to questions is important. People use a range of thinking processes and strategies to solve problems. These include writing and mapping their thinking.
- > Thinking about something can be difficult and take time. However, time spent thinking can often produce better ideas or solutions.
- > Thinking about their learning helps people to learn even better. They may think about things they already know or can do, things they have just learned, or things they want to learn next.
- > Self-reflection is important. It's also important to read, listen, and reflect on the ideas and thoughts of others before responding.
- > Questioning ideas encourages greater depth and breadth of understanding.

Managing self

- > Everyone has a personal responsibility for their own learning and for that of others.
- > "Having a go", even when something is hard, is an important part of learning to do new things independently.
- > People learn by copying others, by trial and error, from discussion and reflection, and by getting feedback from someone else. Drawing on (or using) prior knowledge is important for new learning.
- > It's important to know when to keep trying and when to ask for help.
- > People need to take responsibility for their own learning and be ready and willing to learn. They can also help others to learn but should do so without taking over and "doing their learning for them".



- > Sometimes it's necessary to persevere to understand or clearly convey the intended idea in a text, diagram, or series of symbols, but succeeding through perseverance can be very satisfying.
- > Interacting with a wide range of language, symbols, and texts can increase knowledge of others and contribute to personal growth.
- > Engaging, experimenting, and practising with new language and concepts helps to build on learning in all learning areas.

through the key competencies

Relating to others

- > Language is a communication tool that aids social interaction and understanding. It can be misused to hurt others.
- > People can learn from each other.
- > Reading, writing, and talking about other people's ideas, feelings, experiences, or approaches and comparing similarities and differences can help people to understand each other.
- > Talking with others can help people to understand texts and concepts and clarify their own thinking.
- > Words, texts, and symbols can carry different associations for different people. Words and symbols can be selected or created for precise, effective communication.
- > Reading about and interacting with other people, including those from distant times and places, and reflecting on their similarities and differences are important routes to understanding and using the strengths of others and developing empathy.
- > Personal expression is an important aspect of human life. It can take different forms and have different purposes.
- > Language, texts, and mathematical symbols can be used to help clarify thinking and views in interactions with others.



English

The Arts

Health and Physical Education

Learning Languages

Mathematics and Statistics

Science

Social Sciences

Technology

Participating and contributing

- > There are a number of strategies, frameworks, and technological tools that can help people to reason, solve problems, reflect on and clarify ideas and understanding, and alert them to things they may not have thought about.
- > Looking for patterns, sorting, organising, finding similarities and connections, inferring, predicting, and critically reflecting are ways to increase understanding of language, symbols, and texts.
- > Things can often be interpreted in different ways. All texts are influenced by the social and cultural views of those who created them and can be accepted or rejected by the user. A critical approach is important because the motivation, intent, or accuracy of language, symbols, or texts may not be immediately apparent.
- > Creative thinking challenges conventional thought and expression. It can be demonstrated when playing and experimenting with texts and symbols or using metaphors and analogies and in how problems are approached and structure and design used.
- > People can belong to many different groups.
- > Working together can be better than working individually because each person contributes to the task. Working together often involves negotiation.
- > People can help others to learn by listening, by allowing them time to think, by encouraging them to share their ideas, strategies, and thoughts, and by sharing ideas with them.
- > People can derive a lot of enjoyment from becoming readers, writers, and/or mathematicians because the skills they gain enrich their own lives and the lives of others.
- > People may do different activities, have different rules or ways of doing things, and use language in different ways (for example, dialect). Such differences can define group membership and be an important part of an individual's identity.
- > Working collaboratively, each individual contributes to and benefits from the knowledge and understanding of many.
- > Language, symbols, and texts can be used to influence others either positively or negatively.
- > Participating in constructive debate, justifying ideas through the use of supporting evidence, and negotiating different viewpoints are important skills and behaviours.



Integrating the key competencies

This table shows initial thinking for a level 2 science unit and suggests ways that the key competencies might be integrated into the unit. It also shows how the teacher might use the activities to identify where their students are working in relation to the National Standards.

Learning area: science. Curriculum level: 2.

KEY COMPETENCIES

Thinking

Searching for knowledge and answers to questions is important. People use a range of thinking processes and strategies to solve problems.

Using language, symbols, and texts

Speech, texts, and symbols can be used in various ways depending on purpose and audience.

Relating to others

Talking with others can help people to understand texts and concepts and clarify their own thinking.

Thinking

People understand and think about the world in a variety of ways. Reading, writing, listening, and speaking provide them with opportunities to do this.

Big science idea: Plants need sunlight to grow.

Science context: Exploring plant growth under different conditions (Living World).

Links to science in *The New Zealand Curriculum*

Nature of Science: Communicating in science
AO *Build their language and develop their understandings of the many ways the natural world can be represented.*

Living World: Life processes

AO *Recognise that all living things have certain requirements so they can stay alive.*

→ **Investigative question:** What would happen to beans if they didn't get any sunlight?

Measurement and statistics tasks

Measure bean plants growing under different conditions (full sunlight, shade, or darkness). Graph the results.

Compare graphs and identify when bean growth is strongest.

→ **Reading task:** Read the text and look at the diagram on page 9 of the article "Killer Plants" by Lindy Kelly in the *School Journal*, Part 2 Number 1, 2010. With a partner, discuss and list the things that a plant needs to survive. [Note: "Killer Plants" is designed for guided reading at year 4. Students may need support to read this text.]

→ **Writing task:** Explain your ideas about why green plants need sunlight to grow.

Helpful resources

> National Standards and key competencies

<http://www.keycompetencies.tki.org.nz/NS-and-KCs>

This website contains resources aligned with the National Standards to support teachers to integrate the key competencies into literacy and numeracy programmes. It includes a more detailed version of the chart that is in this Curriculum Update as well as another possible approach to unit planning.

> Images and the key competencies

<http://keycompetencies.tki.org.nz/In-teaching/Discussion-tools/Images>

This tool highlights key ideas raised in the Windley School digital story "Sharing understanding about the key competencies" about the use of images to support the key competencies.

> Key competencies in the classroom:

Student and teacher surveys

<http://keycompetencies.tki.org.nz/Resource-bank/Monitoring-and-evaluating/Key-resources>

NZCER has developed parallel teacher and student surveys to gather indicative data about the learning experiences and teaching practices that support students to strengthen the key competencies.

> Digital stories

<http://keycompetencies.tki.org.nz/Resource-bank/Special-education/Key-resources>

Review the resources and digital stories in this new resource bank.

What information will this activity provide about where my students are in relation to the National Standards?

Mathematics Standards:

By the end of year 4

In contexts that require them to solve problems or model situations, students will be able to:

- measure the lengths ... of objects ..., reading scales to the nearest whole number ...
- investigate questions by using the statistical enquiry cycle independently.

Reading and Writing Standards:

By the end of year 4

The reading standard

Students will read, respond to, and think critically about texts in order to meet the reading demands of the New Zealand Curriculum ...

Key characteristics of texts that students read at this level

The texts that students use to meet the reading demands of the curriculum at this level will often include:

- some words or phrases that are ... unfamiliar to the students, the meaning of which is supported by the context or clarified by photographs, illustrations, diagrams, and/or written explanations;
- other visual language features that support the ideas and information.

The writing standard

By the end of year 4, students will create texts in order to meet the writing demands of the New Zealand Curriculum ...

Key characteristics of students' writing at this level

Students will write for a range of different purposes to meet the specific demands of the curriculum at this level, using a process appropriate to the task and drawing on the knowledge, skills, and attitudes that will help them achieve their purpose ... Students will independently write texts, using language and a simple text structure that suit their audience and purpose ... These texts will include, when appropriate:

- content that is mostly relevant to the curriculum task, covers a range of ideas ... or items of information, and often includes details and/or comment supporting the main points.

