

Can you teach me?



*I think school is boring - when
will teachers remember that
kids love having fun.*



*I love reading and playing with
my friends and morning news
and playtime and ...*



*I'm just hanging
around 'cos I
have to be here -
how are you going
to teach me?*

Developmental

To

Digital

Tinwald School

Curriculum

Introduction Section

Tinwald School Curriculum

Contents

Welcome	5
Developmental to Digital	6
Priorities for Learning at Tinwald School	7
Section 1 – Priorities for Learning, Years 1 and 2.....	13
Priorities for Learning, Years 3 and 4.....	28
Priorities for Learning, Years 5 and 6.....	40
Section 2 – How these priorities will be addressed	51
Section 3 – How student progress will be assessed	56
Section 4 – How the quality of teaching and learning will be assessed	58
Appendix Section	63

Welcome

Welcome to the Tinwald School Curriculum. Our curriculum is based on the concept of developmental to digital. This concept recognises that a child grows and passes through developmental stages. By underpinning our curriculum design with the knowledge of the developmental stages we are ensuring that class programmes and teaching expectations match childhood development.

When designing this curriculum, we based our decisions on the 8 key principles of the New Zealand curriculum (*NZCpg9*)

Our curriculum is organised into 4 distinct sections. They are:

priorities for student learning

how these priorities will be addressed

how student progress will be assessed

how the quality of teaching and learning will be assessed

(*NZC pg 37*)

It is intended that this curriculum guides teaching and learning that is meaningful and beneficial to the children, staff and community of Tinwald School.

This curriculum is designed to allow teachers scope to make interpretations in response to the particular needs, interests, and talents of individuals and groups of students in their classes.

As a school and community, we are committed to the success of our students. We believe that the Tinwald School Curriculum articulates this commitment, and will continue to do so through an on-going process of development and review.

The Concept of Developmental to Digital

As stated in our welcome, we believe that a child grows and passes through developmental stages. We have collated the key stages of childhood development and included them as a reference at the back of this curriculum document. We recognise that these stages are not definitive, but rather broad and may take some children longer than others to pass through.

We have established benchmarks at the end of years 2,4, and 6. These are critical indicators for us as teachers to track the progress and achievement of our children.

General Statements of Development Expectations

The First 2 Years

In the first 2 years at school children are learning to be part of a class, understand symbols, languages, and text and beginning to respond to written and verbal forms. They require a transition from preschool to school, which may vary in length of time. There is a high use of concrete materials and developmental type activities. Children are exposed and introduced to digital technologies that help them make meaning and understand symbols, language, and text. Children are exposed and introduced to processes that cause them to reflect upon their learning and how they learn. Anecdotally girls respond quicker and better to their initial formal schooling than do boys. Classrooms are resourced to meet the specific needs of the 5, 6 and 7-year-old child.

The Middle 2 Years

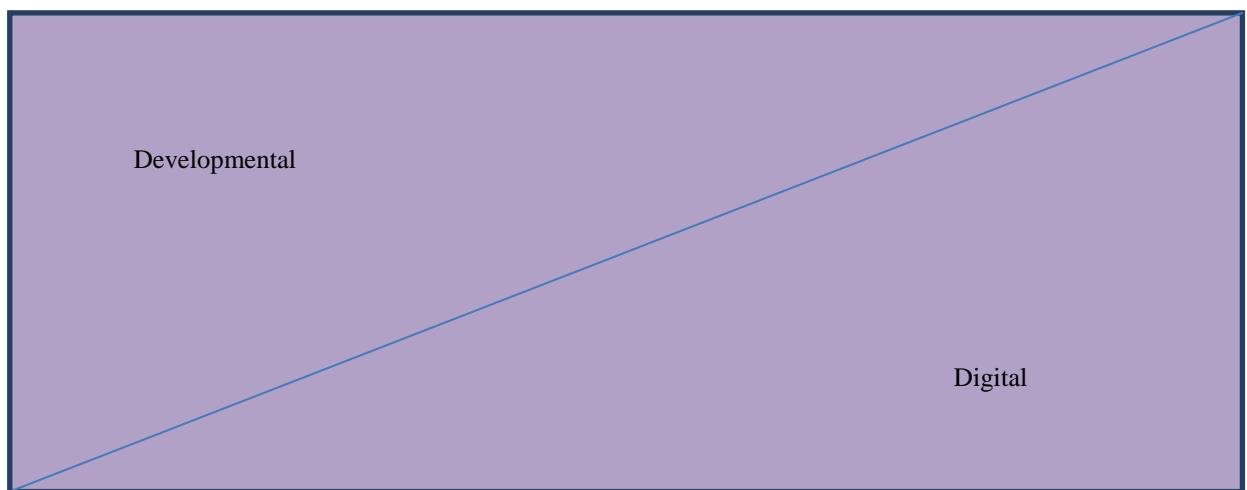
During the middle 2 years at school, children consolidate their learning of basic knowledge and skills and begin the transition into using their learning to further their own learning. There is a reduction in the requirement for concrete materials and developmental type activities. Children are beginning to independently use digital technology to understand symbols, language, and text. Children increase their independent use of processes that cause them to reflect

upon their learning and how they learn. Classrooms are resourced to meet the needs of the 7, 8 and 9-year-old child.

The Final 2 Years

During the final 2 years at school children are using their acquired essential knowledge and skills to further their learning. Children demonstrate high levels of independence, a range of higher order thinking tools, and demonstrate an ability to use inquiry as a form of learning. Children are able to independently use a range of digital technology and digital resources to understand symbols, language, and text. Children can also use these digital resources to create and to document their learning. Classrooms are resourced to meet the needs of the 9, 10 and 11-year-old child.

The concept of developmental to digital can be represented in a simple diagram form.



Priorities for Student Learning at Tinwald School

Knowing Our Learners

As a school we expect our teachers to know their children. These expectations are expressed in the Registered Teacher Criteria and a copy of the criteria is included with this curriculum. This means the following:

- Teachers take the time to form and maintain a relationship of respect with each child in their class.
- Teachers have knowledge and an interest in the activities their children engage in, outside of the classroom. Examples would be families, sports, hobbies, holidays etc.
- Teachers play a critical role in enabling the educational achievement of all ākonga/ learners.
- The Treaty of Waitangi extends equal status and rights to Māori and Pākehā. This places a particular responsibility on all teachers in Aotearoa New Zealand to promote equitable learning outcomes.
- In an increasingly multi-cultural Aotearoa New Zealand, teachers need to be aware of and respect the languages, heritages and cultures of all ākonga.
- In Aotearoa New Zealand, the Code of Ethics / Ngā Tikanga Matatika commits registered teachers to the highest standards of professional service in promoting the learning of those they teach.

School Benchmarks

As a community we expect that students at Tinwald School will succeed in obtaining the required knowledge and skills to meet the demands of the school benchmarks as contained in this curriculum.

The benchmarks are the English, and Mathematics curriculum requirements at end of Years 2, 4 and 6. The benchmarks also contain Tinwald School specific requirements as specified in the other Learning Area statements in this curriculum.

Literacy and Numeracy

Priority is given to literacy as so much of children's learning is dependent on their ability to make meaning of text and use language to convey their message.

- *Literacy is the core of a child's learning and is required for children to access the rest of the curriculum. Therefore we believe it is best practice that children receive a minimum of 2 hours 40 minutes literacy instruction and engagement a day, 4 days a week.*

Priority is also given to numeracy as so much of children's mathematics success is dependent on their ability to use and make meaning of number.

- *Mathematics literacy is essential for daily living and future learning. Therefore we believe it is best practice that children receive a minimum of 1 hours mathematics instruction and engagement a day, 4 days a week.*

At Tinwald School a daily timetable would look like this:

Daily Timetable, Monday to Thursday*	
9-12 (Fitness & Fruit included in this time) 2Hrs 40min a day Minimum 4 days a week	Literacy Oral Written Reading
12.30-1.30 1 Hr day Minimum 4 days a week	Mathematics General Guide 30/70 strands and numeracy
2-3 1 Hr day Minimum 4 days a week	Thematic Studies Topic Integrated Pure subjects Values

*A guide only, we recognise it's not a perfect world and that other pressures are placed on our timetables i.e. it's ok to teach maths on a Friday

Learning Areas

Priority is then given to the Learning Areas of; The Arts, Social Sciences, Health and PE, Science and Technology. In our curriculum each learning area has an essence statement and then identified skills, knowledge, concepts and experiences we have deemed as priorities at Tinwald School.

- *We believe that exploring and making sense of yourself and the world around you is essential for daily living and future learning. Therefore we believe it is best practice that children receive a minimum of 1 hours thematic studies instruction and engagement a day, 4 days a week.*
- *Our school's curriculum should allow teachers the scope to make interpretations in response to the particular needs, interests, and talents of individuals and groups of students in their classes. Therefore we have designed a weekly timetable that reflects this belief.*

Monday	Tuesday	Wednesday	Thursday	Friday
Literacy				
Numeracy				
Topicay				

Te Reo and Tikanga Maori

Priority is given to celebrating our heritage and the vital role Te Reo and Tikanga Maori play in the lives of New Zealand children and citizens. Our curriculum contains specific overviews and guidelines to ensure a coherent and integrated approach to Te Reo and Tikanga Maori at Tinwald School.

New Zealand Perspective

Priority is given to a New Zealand perspective in planning and the selection of topic themes. Each term has an overall theme or concept with a New Zealand Perspective.

IC@Tinwald Integration

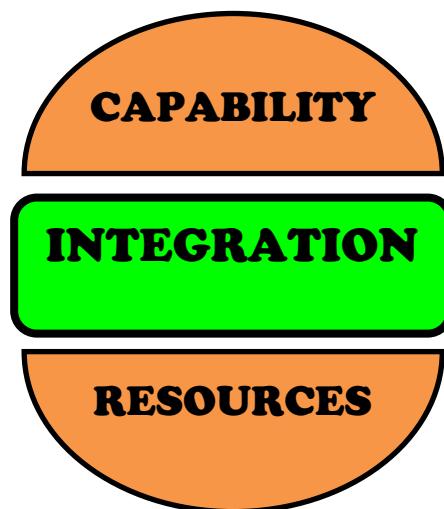
The traditional definition of ICT is the use of Information and Communication Technology. This has by in large produced an approach of how to use communication hardware and then software in the classroom. Over time this has morphed into the integration of technology and web based software. Therefore the definition of ICT in terms of this 3 year plan is now:

“Integrating Communication Technologies” in the school.

The school is defined not by the physical address but by the community of its members regardless of physical location. Members of the school are children, parents, staff, PTA, BOT and the greater neighbourhood of Tinwald.

Our planning is based on the Berger model for IC@Tinwald. That is:

The Berger Model



Hands on Learning at Tinwald

The school and community have established that the attainment of the 5 key competencies, are also a priority. This is expressed at Tinwald as Hands on Learning.

Thinking

Creative	I can think of new ideas
Critical	I can think in different ways
Use	I can use my brain
Reflect	I can think about what's happened
Question	I can question



Relating to Others

Negotiate	I can negotiate
Take Roles	I know my place / role and can do it
Sharing	I can share
Respect	I can show respect
Listening	I can actively listen

Using Symbols, Languages and Texts

Interpret	I can make sense
Communicate	I can get my message across
eLearning	I can use ICTTools
Produce	I can bring it together
Respond	I can respond

Managing Self

Decision Making	I can make choices
Organise	I can be responsible for myself
Resilience	I can handle it when things don't go my way
Personal Best/Aim High	I can do my best
Attitude	I have a 'can-do' attitude

Participating and Contributing

Community	I can be actively involved in a group
Belonging	I can belong
Confidence	I can give new things a go
Problem Solve	I can solve problems
Sharing	I can create a chance for someone else

SECTION 1

Priorities for Learning

Years 1 and 2

School Expectations

- Teachers are planning with direct reference to the understandings, knowledge and skills expressed in this curriculum.
- Teachers are timetabling programmes in line with the timetable expectations expressed in this curriculum.
- Teachers are assessing in line with the expectations expressed in this curriculum.
- Teachers are reporting progress and achievement in line with the expectations expressed in this curriculum.
- Teachers have an understanding of the Learning Area essence statements listed below. These are expanded further in this curriculum.

In English, students study, use, and enjoy language and literature communicated orally, visually, or in writing.

Oral Language and Learning

Oral Language is the basis for all thought and communication. Our oral language practices shape us and affect every aspect of our lives. Talking, thinking and learning are inextricably linked. To support student's learning, teachers need a sound knowledge of the nature of oral language, of how oral language develops, and of how it supports student learning.*

In the arts, students explore, refine, and communicate ideas as they connect thinking, imagination, senses, and feelings to create works and respond to the works of others.

In health and physical education, students learn about their own well-being, and that of others and society, in health-related and movement contexts.

In mathematics and statistics, students explore relationships in quantities, space, and data and learn to express these relationships in ways that help them to make sense of the world around them.

In science, students explore how both the natural physical world and science itself work so that they can participate as critical, informed, and responsible citizens in a society in which science plays a significant role.

In the social sciences, students explore how societies work and how they themselves can participate and take action as critical, informed, and responsible citizens.

In technology, students learn to be innovative developers of products and systems and discerning consumers who will make a difference in the world.

*Learning Through Talk, MOE, Oral Language in Years 1-6.

National Standard and Curriculum Expectations Overview

	Year	Maths	Reading		Writing
Tinwald School Benchmark	End of Yr6	Working in Stage 6	RA 11-12		Level 3 Proficient
	End of Yr5	Early Stage 6	RA 10-11		Level 2 Advanced
			Level 25-26	Emerald	
Tinwald School Benchmark	End of Yr4	Working in Stage 5	RA 8.5-9.5 Level 23-24	Silver	Level 2 Proficient
	After 3yrs	Early Stage 5	Level 21-22	Gold	Level 1 Advanced
			Level 19-20	Purple	
Tinwald School Benchmark	After 2Yrs	Working in Stage 4	Level 17-18	Turquoise	Level 1 Proficient
		Stage 3	Level 15-16	Orange	
	After 1yr	Working in Stage 2	Level 12-14	Green	Level 1 (iii) Basic
		Stage 1	Level 9-11	Blue	Level 1 (ii)
		Stage 0-1	Level 6-8	Yellow	Level 1 (i)
			Level 3-5	Red	
			Level 0-2	Magenta	

Literacy at Tinwald School

In English, students study, use, and enjoy language and literature communicated orally, visually, or in writing.

Oral Language and Learning

Oral Language is the basis for all thought and communication. Our oral language practices shape us and affect every aspect of our lives. Talking, thinking and learning are inextricably linked. To support student's learning, teachers need a sound knowledge of the nature of oral language, of how oral language develops, and of how it supports student learning.

Developmental to Digital

Teachers should be very familiar with the Ministry of Education resources; Effective Literacy Practice, Years 1-4 and Years 5-8. These resources link literacy teaching practice, learning processes and student outcomes. Chapter 2 in both books focuses on Knowledge of Literacy Learning and are minimum required reading for teachers. These chapters discuss the developmental processes of literacy acquisition. These resources align with our school philosophy of Developmental to Digital.

Priorities for Learning - Year 1

Literacy

After one year at school, students will read, respond to, and think critically about fiction and non-fiction texts at the green level of *Ready to Read* (the core instructional series that supports reading in *The New Zealand Curriculum*).

Reading

In their first year at school, students are engaging with texts as they learn in a range of contexts across the curriculum. Many texts, including picture books and topic-related non-fiction books, are read aloud by the teacher. The texts that students read largely by themselves are usually selected specifically to meet instructional reading purposes.

After one year at school, students are reading, responding to, and thinking critically about a variety of fiction and non-fiction texts at Green level. They use a range of sources of information in the text, along with their prior knowledge, to make sense of the texts they read. They know that reading should be phrased, and they read at an appropriate pace. With some teacher guidance, students use strategies such as asking questions and making inferences to help them think more deeply about the ideas in the text.

When students at this level read, respond to, and think critically about texts, they:

- understand that we read to get meaning
- confidently approach challenges in their reading and persevere when they are having difficulties, because they know how to problem-solve
- monitor their own reading and self-correct where necessary, using strategies such as rerunning text or checking further sources of information
- use a variety of comprehension strategies to interpret and respond to a range of texts.

They draw on knowledge and skills that include:

- having all concepts about print under control
- using appropriate language about books, (for example, the terms *title*, *author*, and *illustration*)
- using their developing phonemic awareness to aurally identify and distinguish individual phonemes within words, for example, to blend phonemes (for example, by saying *m/a/n/* is *man*) and to segment phonemes (for example, by saying *seat* is *s/ea/t/*)
- identifying all letters by name and being able to produce an associated sound for each letter

- automatically recognising many (100–200) of the high-frequency words in their instructional texts
- decoding unfamiliar words by using their developing knowledge of grapheme–phoneme relationships, which enables them to:
 - identify common graphemes (for example, *sh*, *ch*, *ow*, *ai*, *th*, *oy*) and produce an associated sound for each one
 - apply the knowledge that letters can be pronounced in different ways (for example, *about*, *and*, *apron*)
 - apply strategies such as: sounding out words; using knowledge of graphemes (for example, *sh*, *aw*, *t*, *p*, *or*); and using analogy to read words that contain familiar chunks (for example, *est*, *en*, *ump*)
- decoding unfamiliar words by using some knowledge of morphology (for example, the word endings *-s*, *-ing*, and *-ed*)
- applying their knowledge of vocabulary in order to understand words as they decode them and to make meaning at the sentence and whole-text level
- understanding the meaning of basic punctuation features (for example, full stops, speech marks, and exclamation marks).

Writing

In their first year at school, students create texts in a range of contexts across the curriculum.

The texts that students write largely by themselves usually meet specific instructional writing purposes. They write about their experiences and ideas as well as writing to record information on different topics.

After one year at school, students begin to use specific processes to create texts, and these processes may vary depending on the particular purpose for writing.

The students are able to read and talk about their completed texts.

When students at this level create texts, they:

- plan for writing, using talk, text, or drawing;
- convey simple ideas, responses, opinions, or questions;
- reread what they have written, as they write, to maintain meaning;
- respond to feedback by making changes such as adding or deleting details or changing punctuation or spelling.

They draw on knowledge and skills that include:

- using vocabulary drawn from their own oral language or encountered in their reading or other classroom activities;
- using their developing phonemic awareness to aurally segment words into syllables (e.g., *win-dow, ham-bur-ger*) and one-syllable words into individual phonemes (e.g., *b/a/n/d; sh/i/p*);
- using their developing visual memory to accurately write some key personal words and some high-frequency words;
- encoding (spelling) unfamiliar words by using their developing knowledge of phoneme-grapheme relationships, which enables them to:
 - recognise and write most sounds of English in at least one appropriate way (e.g., *s, t, ch, ow, k, f, oy*)
 - recognise that there can be different ways of representing the same sound (e.g., *phone/father; keep/cat*)
 - apply sound-letter relationships in order to write words they want to use (e.g., *catapulla*);
- encoding (spelling) unfamiliar words by using their developing knowledge of morphology to write word endings correctly (e.g., *jump/jumped; boy/boys*);
- using classroom resources such as wall charts and picture dictionaries;
- forming all upper-case and lower-case letters and numerals correctly;

- understanding simple text types (e.g., personal recounts and simple descriptions) and using them to meet their writing purpose;
- composing simple sentences and composing some compound sentences using conjunctions such as *and* or *but*;
- using capital letters and full stops to begin and end sentences.

Examples of high-frequency words appropriate at this level could include most words from Essential List 1

Mathematics

<p style="text-align: center;">New Zealand Curriculum Level 1</p>	
<p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	Year 1
<p>Number strategies</p> <ul style="list-style-type: none"> ☞ use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions <p>Number knowledge</p> <ul style="list-style-type: none"> ☞ know the forward and backward counting sequences of whole numbers to 100 ☞ know groupings with five, within ten, and with ten <p>Equations and expressions</p> <ul style="list-style-type: none"> ☞ communicate and explain counting, grouping, and equal-sharing strategies, using words, numbers, and pictures <p>Patterns and relationships</p> <ul style="list-style-type: none"> ☞ generalise that the next counting number gives the result of adding one object to a set and that counting the number of objects in a set tells how many ☞ create and continue sequential patterns. 	<ul style="list-style-type: none"> ☞ apply counting-all strategies ☞ continue sequential patterns and number patterns based on ones.

<p style="text-align: center;">New Zealand Curriculum Level 1</p>	
<p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	Year 1
<p>Measurement</p> <ul style="list-style-type: none"> ☞ Order and compare objects or events by length, area, volume and capacity, weight (mass), turn (angle), temperature, and time by direct comparison and/or counting whole numbers of units. <p>Shape</p> <ul style="list-style-type: none"> ☞ Sort objects by their appearance. <p>Position and orientation</p> <ul style="list-style-type: none"> ☞ Give and follow instructions for movement that involve distances, directions, and half or quarter turns. ☞ Describe their position relative to a person or object. <p>Transformation</p> <ul style="list-style-type: none"> ☞ Communicate and record the results of translations, reflections, and rotations on plane shapes. 	<ul style="list-style-type: none"> ☞ compare the lengths, areas, volumes or capacities, and weights of objects directly ☞ sort objects and shapes by a single feature and describe the feature, using everyday language ☞ represent reflections and translations by creating patterns ☞ describe personal locations and give directions, using everyday language.

<i>New Zealand Curriculum Level 1</i>	<i>Year 1</i>
<p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	
<p>Statistical investigation</p> <ul style="list-style-type: none"> ☞ Conduct investigations using the statistical enquiry cycle: <ul style="list-style-type: none"> - posing and answering questions - gathering, sorting and counting, and displaying category data - discussing the results. 	<ul style="list-style-type: none"> ☞ investigate questions by using the statistical enquiry cycle (with support), gathering, displaying, and/or counting category data.
<p>Statistical literacy</p> <ul style="list-style-type: none"> ☞ Interpret statements made by others from statistical investigations and probability activities. 	
<p>Probability</p> <ul style="list-style-type: none"> ☞ Investigate situations that involve elements of chance, acknowledging and anticipating possible outcomes. 	

Priorities for Learning Year 2

Reading

In their second year at school, students are engaging with a wide variety of texts for a number of purposes, although the texts that they read, largely by themselves, are still mostly those that have been selected for instructional reading.

After two years at school, students are reading, responding to, and thinking critically about a variety of fiction and non-fiction texts at Turquoise level. They read longer texts with increasing independence and with appropriate intonation, expression, and phrasing. They flexibly use the sources of information in text, in combination with their prior knowledge, to make meaning and consider new ideas. (Their prior knowledge includes ideas and information from their culture, from their language, and from other texts they have read.) With teacher guidance, students draw on a wider range of comprehension strategies to help them think more deeply about what they read.

When students at this level read, respond to, and think critically about texts, they:

- understand that texts have purposes and are written for audiences
- take appropriate action when they lose meaning, both at the sentence level and across larger sections of the text, without affecting the pace of their reading
- use comprehension strategies to
 - locate and interpret ideas and information that are directly stated or explicit in the text or illustrations
 - respond to ideas, plots, and characters
 - think critically about aspects such as the theme or ideas
- make appropriate choices of texts for independent reading.

They draw on knowledge and skills that include:

- automatically recognising between 300 and 500 high-frequency words in their instructional texts
- decoding unfamiliar words by:
 - using their knowledge of grapheme–phoneme relationships to identify both consonant sounds (for example, *s, t, p, sh, th, ch, ng*) and vowel sounds (for example, *e, a, o, ai, ow, igh, ou, ee*)
 - recognising common chunks of words and making analogies to words that look similar
 - using their developing knowledge of morphology (such as knowledge of prefixes and suffixes)
- finding the meanings of unknown words by using strategies such as:

- rereading text to gather more information
- looking for definitions in the text
- using prior and subsequent information in the sentences
- inferring from the illustrations
- understanding the meaning of punctuation features such as parentheses and of print features such as bold print and italics.

Writing

In their second year at school, students create texts for instructional writing purposes as well as to support their other learning across the curriculum. They write in order to think about, record, and communicate experiences, ideas, and information that relate to a curriculum topic.

After two years at school, students understand their purpose for writing and use an appropriate simple process to help them achieve their purpose. They generate their ideas in many ways, including brainstorming with peers, with the teacher, and independently.

When students at this level create texts, they:

- use simple planning strategies to organise their ideas and then apply their planning as they turn ideas into connected sentences
- develop content that is related to the curriculum topic, with some (mostly relevant) detail
- revise their text (often in response to feedback) and edit it for clarity and accuracy of meaning
- proofread their text to check punctuation and spelling, (for example, by using their previous writing and other sources to find or verify correct spellings).

They draw on knowledge and skills that include:

- using their personal content vocabulary of written words as well as words and phrases that are part of their expanding oral vocabulary
- using their developing phonemic awareness to form new words aurally by changing or taking out some of the sounds in a word or by adding new sounds to words
- using their visual memory to spell personal vocabulary as well as high-frequency words, which could include most of the words in essential lists 1 and 2 as well as some of the high- frequency words in essential lists 3 and 4¹
- encoding (spelling) unfamiliar words by:

- using their knowledge of diverse phoneme–grapheme relationships to write some of the sounds of English in different ways (for example, *photo*, *laugh*, *Friday*)
 - applying strategies such as sounding out words, making analogies to words that sound or look the same, and using known chunks and rimes
 - using their increasing knowledge of morphology to correctly spell word endings and other morphemes (for example, *greatest*, *florist*)
 - applying their knowledge of simple spelling rules (for example, using -es for plural nouns ending in s, such as *buses*)
- attempting some variety and precision in the use of adjectives, nouns, and verbs
- forming all lower-case and upper-case letters correctly with increasing speed and automaticity
- using appropriate text structures for text types such as simple recounts, descriptions, and reports
- composing mainly simple and compound sentences, with some variation in their beginnings
- using simple conjunctions correctly, with subject–verb agreement and noun–pronoun agreement
- using full stops, question marks, or exclamation marks to end sentences and using capital letters correctly to begin sentences (and for familiar proper nouns).

Mathematics

<p>New Zealand Curriculum Level 1</p> <p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	<p>Year 2</p>
<p>Number strategies</p> <ul style="list-style-type: none"> ☞ use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions <p>Number knowledge</p> <ul style="list-style-type: none"> ☞ know the forward and backward counting sequences of whole numbers to 100 ☞ know groupings with five, within ten, and with ten <p>Equations and expressions</p> <ul style="list-style-type: none"> ☞ communicate and explain counting, grouping, and equal-sharing strategies, using words, numbers, and pictures <p>Patterns and relationships</p> <ul style="list-style-type: none"> ☞ generalise that the next counting number gives the result of adding one object to a set and that counting the number of objects in a set tells how many ☞ create and continue sequential patterns. 	<ul style="list-style-type: none"> ☞ apply counting-on, counting-back, skip-counting, and simple grouping strategies to combine or partition whole numbers ☞ use equal sharing and symmetry to find fractions of sets, shapes, and quantities ☞ create and continue sequential patterns by identifying the unit of repeat ☞ continue number patterns based on ones, twos, fives, and tens.
<p>New Zealand Curriculum Level 1</p> <p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	<p>Year 2</p>
<p>Measurement</p> <ul style="list-style-type: none"> ☞ Order and compare objects or events by length, area, volume and capacity, weight (mass), turn (angle), temperature, and time by direct comparison and/or counting whole numbers of units. <p>Shape</p> <ul style="list-style-type: none"> ☞ Sort objects by their appearance. <p>Position and orientation</p> <ul style="list-style-type: none"> ☞ Give and follow instructions for movement that involve distances, directions, and half or quarter turns. ☞ Describe their position relative to a person or object. <p>Transformation</p> <ul style="list-style-type: none"> ☞ Communicate and record the results of translations, reflections, and rotations on plane shapes. 	<ul style="list-style-type: none"> ☞ compare the lengths, areas, volumes or capacities, and weights of objects and the durations of events, using self-chosen units of measurement ☞ sort objects and shapes by different features and describe the features, using mathematical language ☞ represent reflections and translations by creating and describing patterns ☞ describe personal locations and give directions, using steps and half- or quarter-turns.

<p>New Zealand Curriculum Level 1</p>	<p>Year 2</p>
<p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	
<p>Statistical investigation</p> <ul style="list-style-type: none"> ☞ Conduct investigations using the statistical enquiry cycle: <ul style="list-style-type: none"> - posing and answering questions - gathering, sorting and counting, and displaying category data - discussing the results. <p>Statistical literacy</p> <ul style="list-style-type: none"> ☞ Interpret statements made by others from statistical investigations and probability activities. <p>Probability</p> <ul style="list-style-type: none"> ☞ Investigate situations that involve elements of chance, acknowledging and anticipating possible outcomes. 	<ul style="list-style-type: none"> ☞ investigate questions by using the statistical enquiry cycle (with support), gathering, displaying, and/or identifying similarities and differences in category data ☞ describe the likelihoods of outcomes for a simple situation involving chance, using everyday language.

Priorities for Learning

Years 3 and 4

Priorities for Learning Year 3

Reading

In their third year at school, students are beginning to use texts to meet the demands of learning across the curriculum as well as for instructional reading purposes.

After three years at school, students are reading, responding to, and thinking critically about a variety of texts at Gold level. They are preparing for the transition to the *School Journal* as their main source of instructional reading material. They confidently use a range of processing and comprehension strategies to make meaning from and think critically about longer and more complex texts.

When students at this level read, respond to, and think critically about texts, they:

- monitor their reading, drawing on a variety of strategies (at the sentence, paragraph, and whole-text level) when their comprehension breaks down;
- integrate and use a variety of comprehension strategies, including:
 - making connections between ideas in the text and their prior knowledge in order to make simple inferences
 - identifying and keeping track of ideas and information across longer sections of text and looking for connections between ideas and information
 - evaluating information and ideas within a text in terms of their purpose for reading
 - identifying a writer’s purpose for writing and explaining how they identified it, using evidence from the text.

They draw on knowledge and skills that include:

- automatically reading all high-frequency words;
- articulating and using a variety of decoding strategies appropriately when they encounter unfamiliar words (e.g., by recognising syllables within words or by applying their knowledge of regular and irregular spelling patterns);
- knowing the meanings of some common prefixes (e.g., *un-*, *re-*, *in-*, *dis-*) and suffixes (e.g., *-s*, *-es*, *-ed*, *-ing*, *-ly*, *-er*, *-less*, *-ful*) and understanding how they affect the meanings of words;
- knowing the synonyms for, and multiple meanings of, many common words (e.g., *left*, *might*, *right*, *fine*);
- applying their knowledge of word families, collocations, and sentence or phrase structures to find the meanings of unknown words;

- looking for information in visual language features (such as text boxes in non-fiction texts);
- understanding the purpose of basic punctuation.

In their third year at school, students create texts for instructional writing purposes as well as to meet other learning purposes across the curriculum. They write in order to think about, record, and communicate experiences, ideas, and information.

... English language learners ... are better able to learn oral (and written) English when ... their teacher helps them to notice language items and language patterns

Writing

After three years at school, students independently create texts using a process that will help them achieve their specific purpose for writing. Where appropriate, their texts are clearly directed to a particular audience through appropriate choice of content, language, and text form. However, they may often assume that their audience is familiar with the context.

When students at this level create texts, they:

- use planning strategies to organise ideas for writing (e.g., by using lists and mind maps that distinguish main ideas from details) and to generate language for writing;
- create content, mostly relevant, that conveys several experiences, items of information, and/ or ideas relating to the topic or task and that sometimes includes details and/or comment;
- revise and edit their writing for sense and impact and give their peers feedback on their writing;
- proofread their writing to check the spelling, grammar, and punctuation, drawing on their own developing knowledge about words and sentence construction and using classroom resources such as junior dictionaries;
- publish, where appropriate, in a variety of media, depending on their purpose and audience.

They draw on knowledge and skills that include:

- using increasingly specific words and phrases (e.g., adjectives and more precise nouns and verbs) that are appropriate to the content of the text;
- using their visual memory to spell personal vocabulary and high-frequency words (e.g., many words from essential lists 1–4 and some from list 5 and list 6¹);
- encoding (spelling) unfamiliar words by:

- using their knowledge of phoneme-grapheme relationships, along with their developing awareness of spelling conventions, to select correct spelling patterns for sounds in words (e.g., spelling the k sound correctly in both *catch* and *kitchen*)
 - applying their growing knowledge of useful spelling rules (e.g., the rules relating to adding simple plural suffixes such as those in *baby/babies* and *half/halves*) and their growing knowledge of morphology (e.g., adding a *d* to *hear* to make *heard*)
 - applying their expanding knowledge of graphemes (e.g., of graphemes such as *or*, *awe*, *oar*, and *oor*, which record similar sounds) to write words correctly;
- using simple written language features (such as alliteration) and visual language features (such as labelled diagrams) to support meaning;
- writing all upper-case and lower-case letters correctly, legibly, and fluently;
- using a basic text structure to organise their text effectively for its purpose (e.g., a story with a beginning, a middle, and an end);
- using both simple and compound sentences that vary in their beginnings and lengths (and in the simple conjunctions used) and that are usually grammatically correct;
- attempting to write complex sentences;
- constructing sentences in which the tenses are mostly consistent;
- using capital letters, full stops, question marks, and exclamation marks correctly.

Mathematics

<i>New Zealand Curriculum Level 2</i>	<i>Year 3</i>
<p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	
<p>Number strategies</p> <ul style="list-style-type: none"> ☞ use simple additive strategies with whole numbers and fractions <p>Number knowledge</p> <ul style="list-style-type: none"> ☞ know forward and backward counting sequences with whole numbers to at least 1000 ☞ know the basic addition and subtraction facts ☞ know how many ones, tens, and hundreds are in whole numbers to at least 1000 ☞ know simple fractions in everyday use <p>Equations and expressions</p> <ul style="list-style-type: none"> ☞ communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols <p>Patterns and relationships</p> <ul style="list-style-type: none"> ☞ generalise that whole numbers can be partitioned in many ways ☞ find rules for the next member in a sequential pattern. 	<p>Year 3</p> <ul style="list-style-type: none"> ☞ apply basic addition facts and knowledge of place value and symmetry to: <ul style="list-style-type: none"> - combine or partition whole numbers - find fractions of sets, shapes, and quantities ☞ create and continue sequential patterns with one or two variables by identifying the unit of repeat ☞ continue spatial patterns and number patterns based on simple addition or subtraction.

<i>New Zealand Curriculum Level 2</i>	<i>Year 3</i>
<p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	
<p>Measurement</p> <ul style="list-style-type: none"> ☞ Create and use appropriate units and devices to measure length, area, volume and capacity, weight (mass), turn (angle), temperature, and time. ☞ Partition and/or combine like measures and communicate them, using numbers and units. <p>Shape</p> <ul style="list-style-type: none"> ☞ Sort objects by their spatial features, with justification. ☞ Identify and describe the plane shapes found in objects. <p>Position and orientation</p> <ul style="list-style-type: none"> ☞ Create and use simple maps to show position and direction. ☞ Describe different views and pathways from locations on a map. <p>Transformation</p> <ul style="list-style-type: none"> ☞ Predict and communicate the results of translations, reflections, and rotations on plane shapes. 	<p>Year 3</p> <ul style="list-style-type: none"> ☞ measure the lengths, areas, volumes or capacities, and weights of objects and the duration of events, using linear whole-number scales and applying basic addition facts to standard units ☞ sort objects and two- and three-dimensional shapes by their features, identifying categories within categories ☞ represent reflections, translations, and rotations by creating and describing patterns ☞ describe personal locations and give directions, using whole-number measures and half- or quarter-turns.

<i>New Zealand Curriculum Level 2</i>	<i>Year 3</i>
<p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	
<p>Statistical investigation</p>	
<ul style="list-style-type: none"> ☞ Conduct investigations using the statistical enquiry cycle: <ul style="list-style-type: none"> - posing and answering questions - gathering, sorting, and displaying category and whole-number data - communicating findings based on the data. 	<ul style="list-style-type: none"> ☞ investigate questions by using the statistical enquiry cycle (with support): <ul style="list-style-type: none"> - gather and display category and simple whole-number data - interpret displays in context
<p>Statistical literacy</p>	
<ul style="list-style-type: none"> ☞ Compare statements with the features of simple data displays from statistical investigations or probability activities undertaken by others. 	<ul style="list-style-type: none"> ☞ compare and explain the likelihoods of outcomes for a simple situation involving chance.
<p>Probability</p>	
<ul style="list-style-type: none"> ☞ Investigate simple situations that involve elements of chance, recognising equal and different likelihoods and acknowledging uncertainty. 	

Priorities for Learning Year 4

Literacy

Reading

Students in year 4 are reading texts for instructional reading purposes, and they are also increasingly required to use texts to meet the demands of the curriculum as an integral part of their regular classroom programme. Students read texts in order to locate and evaluate information and ideas about a range of subjects as they generate and answer questions to meet specific learning purposes.

By the end of year 4, students use their reading processing and comprehension strategies to read texts appropriate to this level accurately and fluently. They use and integrate a variety of comprehension strategies in order to understand, respond to, and think critically about these texts.

When students at this level read, respond to, and think critically about texts, they:

- have a strong sense of what they like to read as well as what they are able to read, and they know where to locate such materials;
- select from a variety of strategies to monitor their reading and to use when meaning breaks down (e.g., cross-checking, rereading, using what they know about words and sentence structure, and looking for clues to confirm their predictions and inferences);
- meet their purposes for reading by employing specific comprehension strategies, such as:
 - identifying and summarising main ideas (using their knowledge of text structure)
 - making and justifying inferences (using information that is close by in the text)
 - making connections between the text and their prior knowledge to interpret figurative language;
- read for sustained periods and sustain meaning in longer texts over time (e.g., when reading junior novels over several days);
- can discuss their responses to a variety of texts (e.g., by evaluating the effectiveness of a particular text for a particular purpose).

They draw on knowledge and skills that include:

Constructing meaning during discussion builds students' metacognition and increases their awareness of the ways in which language is used to influence readers.

- automatically reading all high-frequency words;
- automatically selecting an appropriate decoding strategy when they encounter unknown words;
- working out the meanings of new words, using strategies such as:
 - applying knowledge of the meanings of most common prefixes (e.g., *over-*, *mis-*, *sub-*, *pre-*, *inter-*, *semi-*, *mid-*) and most common suffixes (e.g., *-ist*, *-ity*, *-ty*, *-ion*, *-able/-ible*, *-ness*, *-ment*)
 - using reference sources (e.g., dictionaries and thesauruses) to find the meanings of new words
 - inferring word meanings from known roots and affixes (e.g., by using the known meaning of *tele-* and *-port* to infer the meaning of *teleport*);
- working out the meanings of unfamiliar phrases and expressions (e.g., figures of speech) by drawing on their oral language and the context;
- recognising the features and purposes of some common text types and using this knowledge to navigate and understand texts;
- using visual language features to support their understanding of the ideas and information in the text.

Writing

Year 4 students create texts as part of their instructional writing programme as well as writing for a range of different purposes to meet the demands of the New Zealand Curriculum. They write in order to think about, record, and communicate experiences, ideas, and information to meet specific learning purposes.

By the end of year 4, students independently create a variety of texts in a range of print and electronic media. They understand their purposes for writing and identify suitable writing processes to meet the purposes. Where appropriate, their writing demonstrates an awareness of their audience through appropriate choice of content, language, and text form.

When students at this level create texts, they:

- select and use tools (e.g., graphic organisers) and strategies (e.g., using headings) to plan and organise ideas and information to meet their purposes for writing;
- create content that is mostly relevant to the curriculum task, covers a range of ideas, experiences, or items of information, and often includes detail and/or comment that supports the main points;
- reread their writing at various stages to check for meaning and fitness for purpose;
- revise and edit their writing for clarity, impact, and fitness for purpose, often in response to feedback;
- proofread for accuracy of spelling, grammar, and punctuation;
- make choices, when appropriate, for publishing in a variety of media, including digital and visual media.

They draw on knowledge and skills that include:

- using language and a simple text structure that are appropriate for the purpose, e.g., an orientation, sequenced events described in the past tense, and linking words to show sequence (for a recount);
- using vocabulary (in particular, nouns, verbs, adjectives, and adverbs) that clearly conveys ideas, experiences, or information; encoding (spelling) by:
 - using their knowledge of diverse phoneme-grapheme relationships (e.g., *ship*, *chef*, *ocean*, *station*, *special*), of the meaning and spelling of morphemes (e.g., root words and affixes), and of common, reliable spelling rules and conventions
 - using their visual memory to help them spell personal vocabulary and high-frequency words correctly (the high-frequency words include most words from essential lists 1–4 and many from essential lists 5–7¹);
- expanding their writing vocabulary by using strategies such as:
 - applying their knowledge of the meaning of most common prefixes (e.g., *un-*, *sub-*, *pre-*, *non-*) and most common suffixes (e.g., *-ful*, *-ly*, *-tion*, *-able/-ible*, and *-ment*)
 - using reference sources (e.g., dictionaries and thesauruses) to check the meanings of words and to find new words;
- using written language features (such as similes and onomatopoeia) and visual language features (such as illustrations and diagrams) to support meaning;

- using mainly simple and compound sentences, along with some complex sentences, that vary in their beginnings, structures, and lengths and are mostly correct grammatically;
- correctly using subject–verb agreement, tense agreement, and pronouns and prepositions;
- using capital letters, full stops, question marks, and exclamation marks correctly and using speech marks, commas for lists, and apostrophes for contractions correctly most of the time.

Mathematics

<p><i>New Zealand Curriculum Level 2</i></p> <p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>		<p><i>Year 4</i></p>
<p>Number strategies</p> <ul style="list-style-type: none"> ☞ use simple additive strategies with whole numbers and fractions <p>Number knowledge</p> <ul style="list-style-type: none"> ☞ know forward and backward counting sequences with whole numbers to at least 1000 ☞ know the basic addition and subtraction facts ☞ know how many ones, tens, and hundreds are in whole numbers to at least 1000 ☞ know simple fractions in everyday use <p>Equations and expressions</p> <ul style="list-style-type: none"> ☞ communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols <p>Patterns and relationships</p> <ul style="list-style-type: none"> ☞ generalise that whole numbers can be partitioned in many ways ☞ find rules for the next member in a sequential pattern. 		<ul style="list-style-type: none"> ☞ apply basic addition and subtraction facts, simple multiplication facts, and knowledge of place value and symmetry to: <ul style="list-style-type: none"> - combine or partition whole numbers - find fractions of sets, shapes, and quantities ☞ create, continue, and give the rule for sequential patterns with two variables ☞ create and continue spatial patterns and number patterns based on repeated addition or subtraction.

<p><i>New Zealand Curriculum Level 2</i></p> <p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>		<p><i>Year 4</i></p>
<p>Measurement</p> <ul style="list-style-type: none"> ☞ Create and use appropriate units and devices to measure length, area, volume and capacity, weight (mass), turn (angle), temperature, and time. ☞ Partition and/or combine like measures and communicate them, using numbers and units. <p>Shape</p> <ul style="list-style-type: none"> ☞ Sort objects by their spatial features, with justification. ☞ Identify and describe the plane shapes found in objects. <p>Position and orientation</p> <ul style="list-style-type: none"> ☞ Create and use simple maps to show position and direction. ☞ Describe different views and pathways from locations on a map. <p>Transformation</p> <ul style="list-style-type: none"> ☞ Predict and communicate the results of translations, reflections, and rotations on plane shapes. 		<ul style="list-style-type: none"> ☞ measure the lengths, areas, volumes or capacities, weights, and temperatures of objects and the duration of events, reading scales to the nearest whole number and applying addition, subtraction, and simple multiplication to standard units ☞ sort objects and two- and three-dimensional shapes by two features simultaneously ☞ represent and describe the symmetries of a shape ☞ create nets for cubes ☞ describe personal locations and give directions, using simple maps.

<p>New Zealand Curriculum Level 2</p> <p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	<p>Year 4</p>
<p>Statistical investigation</p> <ul style="list-style-type: none"> ☞ Conduct investigations using the statistical enquiry cycle: <ul style="list-style-type: none"> - posing and answering questions - gathering, sorting, and displaying category and whole-number data - communicating findings based on the data. <p>Statistical literacy</p> <ul style="list-style-type: none"> ☞ Compare statements with the features of simple data displays from statistical investigations or probability activities undertaken by others. <p>Probability</p> <ul style="list-style-type: none"> ☞ Investigate simple situations that involve elements of chance, recognising equal and different likelihoods and acknowledging uncertainty. 	<ul style="list-style-type: none"> ☞ investigate questions by using the statistical enquiry cycle independently: <ul style="list-style-type: none"> - gather and display category and simple whole-number data - interpret displays in context ☞ compare and explain the likelihoods of outcomes for a simple situation involving chance, acknowledging uncertainty.

Priorities for Learning

Years 5 and 6

Priorities for Learning Year 5

Literacy

Reading

By the end of year 5, students will read, respond to, and think critically about texts in order to meet the reading demands of *The New Zealand Curriculum* as they work towards level 3. Students will locate, evaluate, and integrate information and ideas within and across a small range of texts appropriate to this level as they generate and answer questions to meet specific learning purposes across the curriculum. The text and task demands of the curriculum are similar for students in year 5 and year 6. The difference in the standard for year 6 is the students' increased accuracy and speed in reading a variety of texts from across the curriculum, their level of control and independence in selecting strategies for using texts to support their learning, and the range of texts they engage with. In particular, by the end of year 6, students will be required to read longer texts more quickly than students in year 5 and to be more effective in selecting different strategies for different reading purposes.

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

- abstract ideas, in greater numbers than in texts at earlier levels, accompanied by concrete examples in the text that help support the students' understanding
- some ideas and information that are conveyed indirectly and require students to infer by drawing on several related pieces of information in the text
- some information that is irrelevant to the identified purpose for reading (that is, some competing information), which students need to identify and reject as they integrate pieces of information in order to answer questions
- mixed text types (for example, a complex explanation may be included as part of a report)
- sentences that vary in length and in structure (for example, sentences that begin in different ways and different kinds of complex sentences with a number of subordinate clauses)
- a significant amount of vocabulary that is unfamiliar to the students (including academic and content-specific words and phrases), which is generally explained in the text by words or illustrations
- figurative and/or ambiguous language that the context helps students to understand

- illustrations, photographs, text boxes, diagrams, maps, charts, and graphs that clarify or extend the text and may require some interpretation.

Such texts will include both fiction and non-fiction in electronic and print media. They may be published individually, for example, as junior novels or information texts, or they may appear in collections, such as the School Journal or other journals and magazines for this age group. Such collections often include poems, plays, stories, and procedural texts.

Writing

By the end of year 5, students will create texts in order to meet the writing demands of the New Zealand Curriculum as they work towards level 3. Students will use their writing to think about, record, and communicate experiences, ideas, and information to meet specific learning purposes across the curriculum. The text and task demands of the curriculum are similar for students in year 5 and year 6. The difference in the standard for year 6 is the students' increased accuracy and fluency in writing a variety of texts across the curriculum, their level of control and independence in selecting writing processes and strategies, and the range of texts they write. In particular, by the end of year 6, students will be required to write more complex texts than students in year 5 and to be more effective in selecting different strategies for different writing purposes.

Students will write for a range of different purposes on topics and themes across the curriculum at this level, applying a process appropriate to the task and drawing on the knowledge, skills, and attitudes that will help them achieve their purpose. The knowledge, skills, and attitudes expected at this level, including those needed for spelling and punctuation, are described in the *Literacy Learning Progressions*.

Students will independently write texts, choosing language and overall text structures that are appropriate for their audience and purpose (for example, when recounting, describing, narrating, reporting, arguing, or explaining).

These texts will include, when appropriate:

- content that is usually relevant to the curriculum task and includes detail and/or comment supporting the main points
- paragraphs that group ideas
- simple and compound sentences that are correct grammatically and some complex sentences that are mostly correct grammatically
- words and phrases that are appropriate to the topic, register, and purpose, including subject-specific vocabulary.

Mathematics

<p>New Zealand Curriculum Level 3</p> <p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>		<p>Year 5</p>
<p>Number strategies</p> <ul style="list-style-type: none"> ☞ use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages <p>Number knowledge</p> <ul style="list-style-type: none"> ☞ know basic multiplication and division facts ☞ know counting sequences for whole numbers ☞ know how many tenths, tens, hundreds, and thousands are in whole numbers ☞ know fractions and percentages in everyday use <p>Equations and expressions</p> <ul style="list-style-type: none"> ☞ record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality <p>Patterns and relationships</p> <ul style="list-style-type: none"> ☞ generalise the properties of addition and subtraction with whole numbers ☞ connect members of sequential patterns with their ordinal position and use tables, graphs, and diagrams to find relationships between successive elements of number and spatial patterns. 		<ul style="list-style-type: none"> ☞ apply additive and simple multiplicative strategies and knowledge of symmetry to: <ul style="list-style-type: none"> - combine or partition whole numbers - find fractions of sets, shapes, and quantities ☞ create, continue, and predict further members of sequential patterns with two variables ☞ describe spatial and number patterns, using rules that involve spatial features, repeated addition or subtraction, and simple multiplication.

<p>New Zealand Curriculum Level 3</p> <p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>		<p>Year 5</p>
<p>Measurement</p> <ul style="list-style-type: none"> ☞ Use linear scales and whole numbers of metric units for length, area, volume and capacity, weight (mass), angle, temperature, and time. ☞ Find areas of rectangles and volumes of cuboids by applying multiplication. <p>Shape</p> <ul style="list-style-type: none"> ☞ Classify plane shapes and prisms by their spatial features. ☞ Represent objects with drawings and models. <p>Position and orientation</p> <ul style="list-style-type: none"> ☞ Use a co-ordinate system or the language of direction and distance to specify locations and describe paths. <p>Transformation</p> <ul style="list-style-type: none"> ☞ Describe the transformations (reflection, rotation, translation, or enlargement) that have mapped one object onto another. 		<ul style="list-style-type: none"> ☞ measure time and the attributes of objects, choosing appropriate standard units and working with them to the nearest tenth ☞ sort two- and three-dimensional shapes, considering the presence and/or absence of features simultaneously and justifying the decisions made ☞ represent and describe the results of reflection, rotation, and translation on shapes; ☞ create nets for rectangular prisms ☞ draw plan, front, and side views of objects ☞ describe locations and give directions, using grid references and points of the compass.

New Zealand Curriculum Level 3	Year 5
<p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	
Statistical investigation	
<ul style="list-style-type: none"> ☞ Conduct investigations using the statistical enquiry cycle: <ul style="list-style-type: none"> - gathering, sorting, and displaying multivariate category and whole number data and simple time-series data to answer questions - identifying patterns and trends in context, within and between data sets - communicating findings, using data displays. 	<ul style="list-style-type: none"> ☞ investigate summary and comparison questions by using the statistical enquiry cycle: <ul style="list-style-type: none"> - gather, display, and identify patterns in category and whole-number data - interpret results in context
Statistical literacy	
<ul style="list-style-type: none"> ☞ Evaluate the effectiveness of different displays in representing the findings of a statistical investigation or probability activity undertaken by others. 	<ul style="list-style-type: none"> ☞ order the likelihoods of outcomes for simple situations involving chance, experimenting or listing all possible outcomes.
Probability	
<ul style="list-style-type: none"> ☞ Investigate simple situations that involve elements of chance by comparing experimental results with expectations from models of all the outcomes, acknowledging that samples vary. 	

Priorities for Learning Year 6

Literacy

Reading

The transition into **year 5** brings with it a significant step up in terms of the demand for students to use their reading as an interactive tool for learning. Although they continue to read texts as part of their literacy learning programme, most of the texts that students are now required to read are instructional materials from across the curriculum. The texts and tasks are similar for students in year 5 and year 6. Students read in order to locate, evaluate, and integrate information and ideas within and across a small range of texts as they generate and answer questions to meet specific learning purposes across the curriculum.

During these two years, students continue to develop their accuracy and fluency as readers of a variety of texts. They increase their level of control and independence in selecting strategies for using texts to support their learning. By the end of **year 6**, students are required to read longer texts more quickly and to select appropriate strategies for different reading purposes more effectively than students in year 5.

When students at this level read, respond to, and think critically about texts, they:

- monitor their reading for accuracy and sense, demonstrating that they have the confidence to adjust their reading (e.g., by varying the speed of reading, by rereading, and by attending to the most important information) when they encounter difficulties;
- understand how they select from and use their repertoire of comprehension strategies, which include:
 - making connections between their prior knowledge and the concrete examples in a text in order to understand abstract ideas in the text
 - locating and summarising ideas (e.g., by skimming or scanning, by identifying key words, topic sentences, and key questions, or by using subheadings)
 - drawing on several related items of information in order to infer ideas and information that are not directly stated in the text
 - evaluating and integrating ideas and information across a small range of texts;
- regularly read for sustained periods and sustain meaning over many days in longer texts (such as novels) and across a variety of texts on the same topic;

- identify and reflect on writers' purposes and on the ways in which writers use language and ideas to suit their purposes (e.g., by using vocabulary to set a scene or develop a mood).

They draw on knowledge and skills that include:

- decoding texts fluently and accurately, using a range of reliable strategies;
- finding and learning the meanings of unknown vocabulary by using strategies such as applying their knowledge of how words work or seeking explanations in the text or in illustrations;
- understanding that words and phrases can have figurative as well as literal meanings and that some words have different meanings depending on the context;
- recognising basic grammatical constructions and understanding how these affect meaning;
- identifying the specific language features and structures of many common continuous and non-continuous text types (including mixed text types);
- interpreting illustrations, photographs, text boxes, diagrams, maps, charts, and graphs.

Writing

The transition into **year 5** brings with it a significant step up in terms of the demand for students to use their writing as an interactive tool for learning. Although they continue to create texts as part of their instructional writing programme, most of the texts that students are required to write in years 5 and 6 are intended to meet the demands of the curriculum. The texts and tasks are similar for students in year 5 and year 6. They use their writing to think about, record, and communicate experiences, ideas, and information to meet specific learning purposes across the curriculum.

During these two years, students write about increasingly challenging subject matter. They increase their level of control and independence in selecting processes and strategies to write texts for a range of purposes that includes recounting, describing, narrating, reporting, arguing, and explaining. By the end of **year 6**, students are required to write more complex texts than students in year 5. They independently create texts that are appropriate for their purposes and audiences, choosing effective content, language, and text structures.

When students at this level create texts, they:

- understand their purposes for writing and identify writing processes that are appropriate for those purposes;
- use a variety of planning activities, such as constructing flow charts, for those writing tasks that need to be planned;
- generate content that is usually relevant to the task, supporting or elaborating their main ideas with detail that has been selected with some care;
- independently revise and edit their writing to clarify its meaning and add impact, often in response to feedback;
- proofread to check the spelling, grammar, and punctuation, using appropriate computer-based or print tools.

They draw on knowledge and skills that include:

- using an overall text structure that is appropriate for their purpose, e.g., an orientation, a problem, a climax, and a satisfying resolution (for a narrative) and an introduction, a series of main points, and a logical conclusion (for a report);
- selecting vocabulary that is appropriate to the topic, register, and purpose (e.g., academic and subject-specific vocabulary appropriate for specific learning areas or precise and descriptive words to create a mental image);
- using written language features (such as emotive vocabulary) and visual language features (such as headings, charts, or maps) to extend or clarify meaning and to engage their audience;
- using their knowledge of how words work (e.g., knowledge of diverse phoneme-grapheme relationships, of common, reliable spelling rules and conventions, and of the meanings and spellings of morphemes), along with their knowledge of word derivations, to fluently and correctly encode most unfamiliar words, including words of many syllables;
- correctly spelling all high-frequency words¹ used in their writing;
- organising related ideas into paragraphs (e.g., paragraphs comprising a topic sentence with supporting detail) and beginning to use cohesive devices to link paragraphs;
- using simple and compound sentences that are correct grammatically and have a variety of structures, beginnings, and lengths and using some complex sentences that are mostly correct grammatically;
- using basic punctuation that is mostly correct (e.g., when punctuating dialogue);
- attempting some complex punctuation (e.g., using apostrophes for possession, commas for clauses, or semicolons).

Mathematics

<p>New Zealand Curriculum Level 3</p> <p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	<p>Year 6</p>
<p>Number strategies</p> <ul style="list-style-type: none"> ☞ use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages <p>Number knowledge</p> <ul style="list-style-type: none"> ☞ know basic multiplication and division facts ☞ know counting sequences for whole numbers ☞ know how many tenths, tens, hundreds, and thousands are in whole numbers ☞ know fractions and percentages in everyday use <p>Equations and expressions</p> <ul style="list-style-type: none"> ☞ record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality <p>Patterns and relationships</p> <ul style="list-style-type: none"> ☞ generalise the properties of addition and subtraction with whole numbers ☞ connect members of sequential patterns with their ordinal position and use tables, graphs, and diagrams to find relationships between successive elements of number and spatial patterns. 	<ul style="list-style-type: none"> ☞ apply additive and simple multiplicative strategies flexibly to: <ul style="list-style-type: none"> - combine or partition whole numbers, including performing mixed operations and using addition and subtraction as inverse operations - find fractions of sets, shapes, and quantities ☞ determine members of sequential patterns, given their ordinal positions ☞ describe spatial and number patterns, using: <ul style="list-style-type: none"> - tables and graphs - rules that involve spatial features, repeated addition or subtraction, and simple multiplication.

<p>New Zealand Curriculum Level 3</p> <p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	<p>Year 6</p>
<p>Measurement</p> <ul style="list-style-type: none"> ☞ Use linear scales and whole numbers of metric units for length, area, volume and capacity, weight (mass), angle, temperature, and time. ☞ Find areas of rectangles and volumes of cuboids by applying multiplication. <p>Shape</p> <ul style="list-style-type: none"> ☞ Classify plane shapes and prisms by their spatial features. ☞ Represent objects with drawings and models. <p>Position and orientation</p> <ul style="list-style-type: none"> ☞ Use a co-ordinate system or the language of direction and distance to specify locations and describe paths. <p>Transformation</p> <ul style="list-style-type: none"> ☞ Describe the transformations (reflection, rotation, translation, or enlargement) that have mapped one object onto another. 	<ul style="list-style-type: none"> ☞ measure time and the attributes of objects, choosing appropriate standard units ☞ use arrays to find the areas of rectangles and the volumes of cuboids, given whole-number dimensions ☞ sort two- and three-dimensional shapes (including prisms), considering given properties simultaneously and justifying the decisions made ☞ represent and describe the results of reflection, rotation, and translation on shapes or patterns ☞ identify nets for rectangular prisms ☞ draw or make objects, given their plan, front, and side views ☞ describe locations and give directions, using grid references, turns, and points of the compass.

New Zealand Curriculum Level 3	Year 6
<p>In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:</p>	
<p>Statistical investigation</p>	
<ul style="list-style-type: none"> ☞ Conduct investigations using the statistical enquiry cycle: <ul style="list-style-type: none"> - gathering, sorting, and displaying multivariate category and whole number data and simple time-series data to answer questions - identifying patterns and trends in context, within and between data sets - communicating findings, using data displays. 	<ul style="list-style-type: none"> ☞ investigate summary and comparison questions by using the statistical enquiry cycle: <ul style="list-style-type: none"> - gather or access multivariate category and whole-number data - sort data into categories or intervals, display it in different ways, and identify patterns - interpret results in context, accepting that samples vary
<p>Statistical literacy</p>	
<ul style="list-style-type: none"> ☞ Evaluate the effectiveness of different displays in representing the findings of a statistical investigation or probability activity undertaken by others. 	<ul style="list-style-type: none"> ☞ order the likelihoods of outcomes for situations involving chance, considering experimental results and models of all possible outcomes.
<p>Probability</p>	
<ul style="list-style-type: none"> ☞ Investigate simple situations that involve elements of chance by comparing experimental results with expectations from models of all the outcomes, acknowledging that samples vary. 	

SECTION 2

**How these Priorities
will be addressed**

Classroom Timetabling and Priority Areas

Teachers are expected to adhere to the timetabling guidelines expressed in this curriculum (see section 1).

Teachers are expected to adhere to the priority areas stipulated in this curriculum (see section 1).

During the year, teachers plan for their own class, as part of a syndicate and as part of the school. The planning of major topics follows this schedule;

Term 1	Term 2	Term 3	Term 4
Learning Areas Own Class	Learning Areas School Concept	Learning Areas School Concept	Learning Areas Own Class

School Scheduling of Major Activities and Events

In order for the school to manage major events and activities, decisions have been made to schedule these over a two year timeframe. This overview is printed on the next page.

Syndicate Focus on Student Learning

Teachers are expected to work as a syndicate to focus on the learning of all children in their syndicate. Often this focus is to moderate a teacher's assessment or think through methods to accelerate learning for individuals and groups.

Syndicates are also expected to make use of the National Standard and Curriculum Expectations Overview contained in this curriculum. This keeps a focus on the Tinwald School Benchmarks and the student achievement targets set by the board of trustees in the school charter.

Developmental to Digital

Teachers are expected to have a basic knowledge of the developmental stages of the children in their syndicate. This knowledge should contain an understanding of the major physical and mental milestones children reach. As children mature and can cope with increasingly complex, abstract processes of learning, teachers should modify and adapt programmes of work that reflect this maturity. Processes that become internalised, are reflected in an increase in the use of digital technologies to capture, create and demonstrate this learning.

Reporting Methods

Reporting in Relation to the National Standards

Year 1-3	6 mths	1 Yr	1Yr 6mths	2 Yrs	2 Yr 6mths	3 Years
Interim	Week 8 after anniversary date		Week 8 after anniversary date		Week 8 after anniversary date	
OTJ		Week 8 after anniversary date		Week 8 after anniversary date		Week 8 after anniversary date
Year 4-6	Year 4 Mid Year	Year 4 End of Year	Year 5 Mid Year	Year 5 End of Year	Year 6 Mid Year	Year 6 End of Year
Interim	End of Term 2		End of Term 2		End of Term 2	
OTJ		Week 8 Term 4		Week 8 Term 4		Week 8 Term 4

New Entrant, Years 1 and 2

- 🕒 6 Week Report
- 🕒 6 Year nets
- 🕒 As per national standard reporting timetable
- 🕒 Parent interviews
- 🕒 Portfolios

Year 3 and 4

- 🕒 As per national standard reporting timetable
- 🕒 Parent interviews
- 🕒 Portfolios

Year 5 and 6

- 🕒 As per national standard reporting timetable
- 🕒 Parent interviews
- 🕒 Portfolios – transitioning to e-portfolios

SECTION 3

How Student Progress will be assessed

New Entrant, Years 1 and 2

- 🕒 New Entrant Assessment – Observation Survey
- 🕒 Record of Oral Language – Observation Survey
- 🕒 NUMPA Diagnostic Testing
- 🕒 J.O.S.T. (for some children)
- 🕒 PM Running Records
- 🕒 e-Astle Writing
- 🕒 6 Year Net

Years 3 and 4

- 🕒 Prose Running Records
- 🕒 STAR
- 🕒 PAT – Reading
- 🕒 ARB's
- 🕒 e-Astle Writing
- 🕒 Writing Exemplars
- 🕒 PAT – Maths
- 🕒 BF Speed
- 🕒 NUMPA Diagnostic Testing

Years 5 and 6

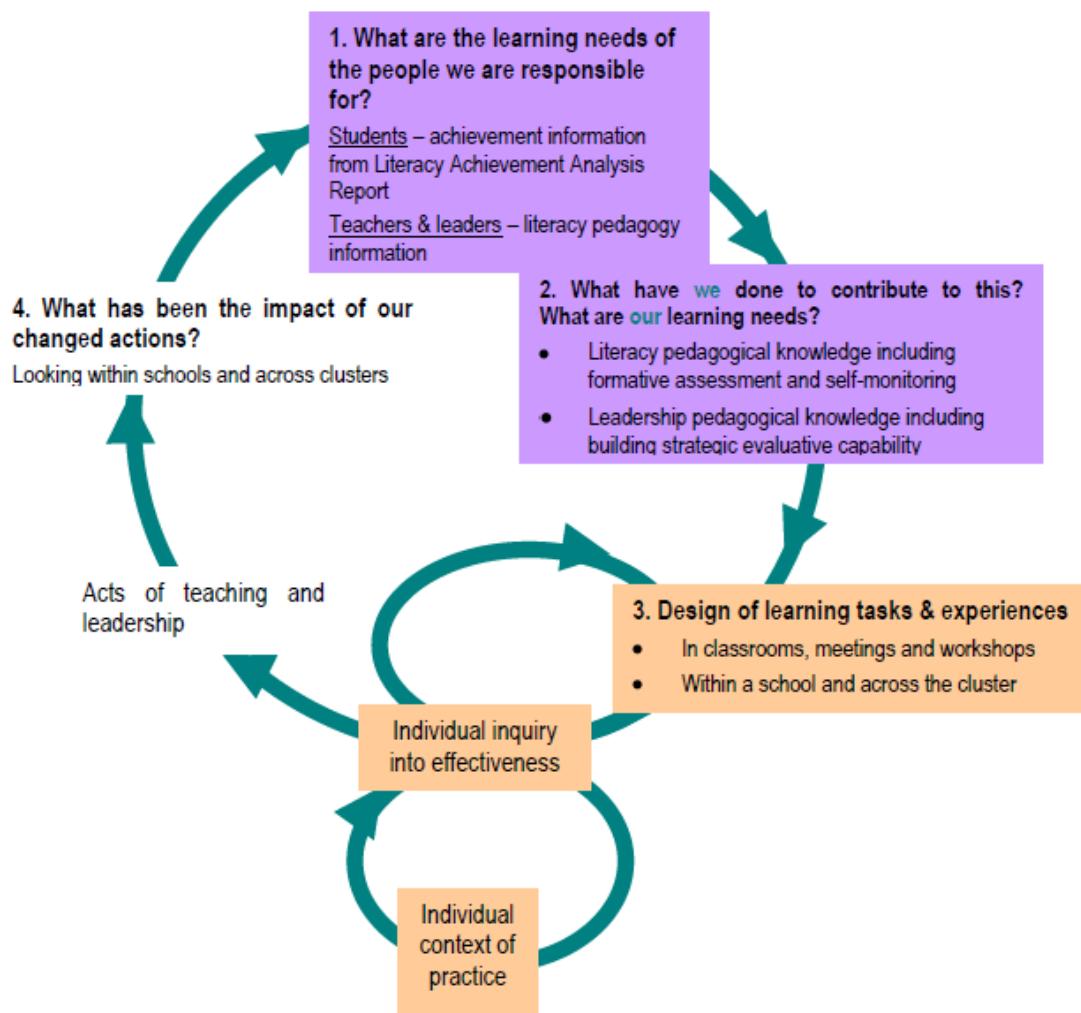
- 🕒 Prose Running Records
- 🕒 STAR
- 🕒 PAT – Reading
- 🕒 e-Astle Reading
- 🕒 e-Astle Writing
- 🕒 e-Astle Maths
- 🕒 PAT – Maths
- 🕒 BF Speed
- 🕒 IKAN

SECTION 4

**How the quality of
teaching and learning
will be assessed**

At Tinwald School, two critical tools are used to assess the quality of programmes taught and the quality of teaching children experience in our classrooms.

The first tool is the Self Review Tool for Teachers (MOE, March, 2011) expanded to include all learning areas of the curriculum. This is completed at a syndicate level and synthesised with cross-school data from the curriculum teams. The process of Self Review is built on the teacher inquiry and knowledge building cycle illustrated below. The matrices are contained in the appendix.



The second tool is the Registered Teacher Criteria (New Zealand Teachers Council)

The Registered Teacher Criteria

Teachers are expected to be assessed against the Registered Teacher Criteria. In line with the Tinwald School Performance Management documentation, teachers need to maintain an on-going record of evidence to demonstrate their progress against the criteria. The criteria with alignment to the New Zealand Curriculum are expressed below.

Registered Teacher Criteria	The New Zealand Curriculum (2007) http://nzcurriculum.tki.org.nz/Curriculum-documents/The-New-Zealand-Curriculum
Professional Relationships and Professional Values	
Fully registered teachers engage in appropriate professional relationships and demonstrate commitment to professional values	
1. Establish and maintain effective professional relationships focused on the learning and well-being of all ākonga	Students should be positive in their own identity, motivated and reliable, resourceful, enterprising and entrepreneurial and resilient and able to relate well to others. (p.8)
2. Demonstrate commitment to promoting the well-being of all ākonga	The curriculum supports and empowers all students to learn and achieve personal excellence, regardless of their individual circumstances.
3. Demonstrate commitment to bicultural partnership in Aotearoa NZ	The curriculum acknowledges the principles of The Treaty of Waitangi and the bicultural foundations of Aotearoa NZ. All students have the opportunity to acquire knowledge of te Reo Māori me ona tikanga (p.9)
4. Demonstrate commitment to ongoing professional learning and development of professional personal practice	Teacher professional learning is informed by the reflective use of the Teacher Inquiry model (p.35). What happened as a result of the teaching? What are the implications for future teaching? Is there something I need to change? What strategies are most likely to help my students learn this? The school is required to provide an advice and guidance programme for provisionally registered teachers and professional development for registered teachers to enable them to effectively deliver the curriculum.

5. Show leadership that contributes to effective teaching and learning	Actively contribute to the professional learning community.
--	---

Professional Knowledge in Practice	
Fully registered teachers make use of their professional knowledge and understanding to build a stimulating challenging and supportive learning environment that promotes learning and success for all ākonga.	
1. Conceptualise, plan and implement an appropriate learning programme	<p>The curriculum reflects New Zealand's cultural diversity and values the histories and traditions of all its people (p.9).</p> <p>Students are at the centre of teaching and learning. They should experience a curriculum that engages and challenges them, is forward-looking and inclusive, and affirms NZ's unique identity.</p> <p>The learning programme needs to offer integrated opportunities to build the key competencies of Thinking, Using Language Symbols and Texts, Managing Self, relating to Others and Participating and Contributing (pp12,13).</p> <p>The teacher should be conversant with the curriculum levels and the achievement objectives of their subject area and use these in planning and implementing.</p>
2. Promote a collaborative supportive learning environment	<p>The curriculum has meaning for students, connects with their wider lives, and engages the support of their families, whanau and communities (p.9).</p> <p>The curriculum offers all students a broad education that makes links within and across learning areas, provides for coherent transitions, and opens up pathways to further learning.</p> <p>The teacher provides effective management of the learning setting through trust, respect and the building of relationships.</p>
3. Demonstrate in practice their knowledge and understanding of how ākonga learn	<p>The curriculum encourages all students to reflect on their own learning processes and to learn how to learn (p.9).</p> <p>Students need to be literate and numerate, critical and creative thinkers, active seekers, users, and creators of knowledge, informed decision makers and effective users of communication tools.</p> <p>To be effective the teacher must create a supportive learning environment, enhance the relevance of new learning, facilitate shared learning, make connections to prior learning and experience, provide sufficient opportunities to learn, inquire into the teaching – learning relationship (pp34,35).</p> <p>Elearning has considerable potential to support teaching approaches while enabling learners to make connections, use shared learning, benefit from personalized learning and virtual experiences which allow students to take their learning further</p>

	p.36).
4. Respond effectively to the diverse and cultural experiences and the varied strengths, interests and needs of individuals and groups of ākonga	The curriculum is non-sexist, non-racist, and non discriminatory; it ensures that students' identities, languages, abilities, and talents are recognized and affirmed and that their learning needs are addressed (p.9) A culturally responsive pedagogy is employed.
5. Work effectively within the bicultural context of Aotearoa NZ	The curriculum has meaning for students, connects with their wider lives, and engages the support of their families, whanau and communities (p.9)
6. Analyse and appropriately use assessment and information, which has been gathered formally and informally	The primary purpose of assessment is to improve students' learning and teachers' teaching. Assessment is an ongoing process that arises out of the interaction between teaching and learning. Assessment provides evidence of student progress (p.39, 40).
7. Use critical inquiry and problem-solving effectively in their professional practice.	Teachers must inquire into the impact of their teaching on students, using the Teaching as Enquiry Model (p.35) Provisionally registered teachers must keep a reflective journal which documents their 2 year learning journey on their advice and guidance programme. Details of what must be in this journal can be found at http://www.teacherscouncil.govt.nz/registration/how/full/new.stm#h1

APPENDIX SECTION

Executive Functions
Self Review Matrices
Reading/Writing Summaries
Clevedon School NS Overviews

Appendix 1

EXECUTIVE FUNCTIONS

What are Executive Functions?



Executive functions are **brain-based cognitive skills** that facilitate critical thinking and self regulation. Executive skills impact goal setting, problem solving, and decision making. Executive functions include a set of related skills that help prioritize, regulate, and orchestrate an individual's thoughts and behaviors. The executive functions help individuals manage their feelings and actions, monitor their behaviors, and attend to their experiences from the past and the present.

Executive functions help with **self-directive, “what to do” skills** such as starting tasks, paying attention, persevering, and remembering. They help with “how to” skills such as planning, organizing, shifting strategies, and managing time. Executive functions also help people “how to” manage their perceptions, thoughts, actions, and social interactions.

There are literally dozens of definitions for executive functions (Barkley 2006; Brown 2005; Dawson and Guare 2004). There seems to be a consensus that executive functions are viewed as orchestrating various brain functions that integrate a person’s perceptions, experiences, cognitions, and memories towards goal-directed behavior. We have chosen to modify the model described by Dawson and Guare (2004) as the basis for our descriptions of executive functions. We believe that their description is an excellent fit for understanding how children use executive functions in their day-to-day lives. It is important to note that this list of executive functions is neither comprehensive nor categorical. For example, specific skills seen in planning may also be described in organization. In addition, examples of executive dysfunctions, such as problems in completing homework, may involve many executive function skills, such as time management, perseverance, and sustained attention.
Want to know more?

12 EXECUTIVE FUNCTIONS

We have identified 12 executive functions that will be useful in clarifying your child’s executive strengths and weaknesses:

Flexibility – The ability to be adaptable, improvise, and shift approaches to demands.

Goal-Directed Persistence --The ability to persevere on tasks that require sustained effort.

Metacognition – The ability to self-monitor and observe.

Organization – The ability to use a systematic approach for achieving goals.

Planning – The ability to develop a set of strategies in order to accomplish a goal.

Regulation of Affect – The ability to manage one’s feelings effectively for decision making and task completion.

Response Inhibition (self-control) – The ability to stop or delay an action rather than display impulsive behavior.

Social Thinking– The ability to respond appropriately to social conditions.

Sustained Attention – The ability to maintain one’s focus and attention in the presence of distractions.

Task Initiation (getting started) – The ability to initiate a task without procrastination.

Time Management (prioritization) – The ability to respond to things in a timely fashion.

Working Memory – The ability to remember something while performing an activity on this memory.

EXECUTIVE FUNCTIONS, ADHD, LEARNING DISABILITIES, AND OTHER CHILDHOOD PROBLEMS

Children with Attention Deficit Disorder, Learning Disabilities, and problems in social, emotional, and behavioral functioning often display impairments in their use of executive functions. They may display difficulties in getting started on tasks, sustaining attention and effort, following multi-step directions, keeping organized, and managing time effectively. It is important to note that many children will display executive strengths in certain areas and dysfunctions in others. These differences can often be explained by both biological and environmental factors.

Other childhood psychiatric conditions such as Autism, Aspergers Disorder, Anxiety Disorders and Tourettes Disorder may be significantly impacted by executive dysfunctions. For example, a child with Aspergers Disorder may be extremely rigid, with limited executive functioning skills in the area of flexibility and social thinking.

DEVELOPMENT OF EXECUTIVE FUNCTIONS

Executive function skills develop throughout childhood and early adulthood. Children as young as eight months old are observed displaying consciously-controlled behaviors that reflect executive functions. As children get older, they display increasing skills in problem solving and maintaining thoughts and images in their minds. Demands for increasingly complex executive functions are developed throughout childhood, but problems may not be noticed until children reach the middle school years, when demands for organization and planning for the future become prominent.

Executive functions may be slow to develop in some individuals. Neuroscientists have indicated that the prefrontal portion of the cortex, the area most responsible for executive functions, is among the last brain regions to mature. In the past, it was often believed that brain-based capacities could not be changed. However, recent research linking a number of brain exercises to the development of new neural networks in the brain suggests that training can promote improvements in the activity of the brain.

EXECUTIVE FUNCTIONS

Development of Executive Functioning

The first signs of executive functioning in infants begin to emerge when a child approaches the age of 1. A child's ability to consciously control their thoughts, actions, and emotions can be observed when he/she begins to search for an object that has just been hidden by a parent or a sibling. This type of activity described by Philip David Zelazo, Ph.D. as a form of "hide-and-seek" suggests executive skills, because the baby is able to keep the hidden object in mind and form an action. This is seen as a conscious effort in pursuit of a goal.

As a child approaches the age of 2, he/she begins to show the ability to comply with verbal rules and directions. In addition, children are beginning to keep verbal rules in mind and use them to guide their behaviors. By the age of 4, children begin displaying more flexible behavior, rather than the perseverative behaviors that they may have demonstrated at the age of 3. Their decision making capacities, and in turn, executive functioning skills begin to allow them to consider more than one possible answer.

The growth of executive functions directly parallels the brain growth and development in children. The synapses or connections among neurons in the brain reach their peak density between the ages of 1 and 2. These synapses are then pruned (or deleted), so that the stronger connections in the brain remain. This helps the frontal lobe of the brain form stronger links to the rest of the brain, facilitating executive functioning. Individuals with significant damage to their frontal lobes and prefrontal cortex have numerous deficits in executive functioning, including high levels of impulsivity, poor judgment, irresponsibility, and numerous difficulties with decision making and monitoring one's behavior.

As a child's brain matures, it not only grows in size through a regeneration of neurons, but also develops an extraordinary number of branches that allow for nerve cells to communicate with each

other, increasing the capacity for complex thinking and decision making. Executive functions do not operate independently in decision making and are highly dependent upon the quality of the information that the brain receives. Of particular importance are environmental factors and learning experiences that contribute to brain growth and development. The quality of executive functioning skills may be based upon accurate sensations of one's world, emotional and motivational states, memory capacity, and ability to use language.

One prominent theory of executive functioning development was formulated by Russell Barkley, Ph.D., who proposed that within the first 6 to 12 months of life, children are developing the executive function of behavioral inhibition. Behavioral inhibition allows a child to think before acting and decide when or if to respond to a situation. Barkley suggests that the skill of working memory, which involves holding events in mind, occurs next. This is followed by the use of internalization of speech, involving the use of language to aid in decision making. The next stage involves self-regulation of affect, emotional self-control, and regulation of motivation and energy to achieve a goal. This is followed by what Barkley refers to as reconstitution, which involves an ability to analyze and monitor one's behavior and to develop strategies to use one's skills to solve new problems.

Executive functioning in children appears to develop in a sequential fashion. Distinct growth patterns have been observed in which there are periods of intense development between the ages of 5 and 7, 9 and 12, and during adolescence. Between the ages of 5 and 7, children typically begin to display the capacity for longer periods of sustained attention and the use of silent verbal mediation to guide themselves. Information processing capacities, accuracy, and fluency increase dramatically between ages 9 and 12. Adolescence brings the capacity to consider "what if" situations and increased planning, organizational, and problem-solving skills.

Interestingly, recent research indicates that the prefrontal cortex is not fully developed until an individual reaches his/her early to mid 30s. This long-term development may account in part for why many individuals choose to "settle down" when they get to this age. Other recent studies indicate that the circuitry in the frontal and temporal areas of the brain shows a maturational delay in children with ADHD and problems in executive controls. The most recent research data from the National Institute of Mental Health are somewhat unclear whether individuals with ADHD/executive dysfunctions eventually "catch up" in brain development of these areas. The recent advances in neuroscience and brain imagery techniques all point to the same conclusions: that environment, experience, and enrichment can lead to growth and development of connections in the brain; that these gains can occur over an extended period of time; and that they can contribute to the development of executive functioning skills.

<http://learningworksforkids.com/EF/development.html>



Teachers are often the best observers of executive functioning problems in children. They have a built-in normative population with which to compare children who struggle with issues such as sustaining their attention and effort, problems in planning and organization, and difficulties in regulating their emotions and behaviors. Teachers observe the learning difficulties that are common in youngsters with executive dysfunctions, as well as have an up-close view of some of the social communicative problems that these youngsters experience.

The terminology of "executive functioning" is just becoming widely disseminated in the educational world. Many teachers are searching for information about executive functions and how to develop strategies to help these children in the classroom. In addition to the information for teachers available on our website, we strongly recommend the books *Executive Skills in Children and Adolescents* by

Peg Dawson and Richard Guare and *Executive Function in Education: From Theory to Practice*, edited by Lynn Meltzer.

Children with executive functioning difficulties experience many obstacles in a traditional classroom setting. They frequently experience trouble with independent studying, completion of homework and class work, and organizational skills. Problems in completing long-term projects, difficulties with reading comprehension, and limitations in sustaining attention and persistence to tasks are frequently seen.

Academic tasks requiring written output are particularly difficult for youngsters with executive functioning difficulties. They tend to have difficulties in getting started on open-ended written tasks, organizing their thoughts, differentiating between main and minor details, and summarizing their thoughts. Other problems are seen in time management, where students with executive dysfunctions struggle with estimating how long it will take to complete an assignment. Difficulty in sequencing information in written materials and acquiring the information and materials needed to complete tasks are noted. These individuals may experience stumbling blocks in shifting flexibility between abstract concepts and more tangible details, as well as from major themes to actual information.

Difficulties with sustaining focus and attention are often noted during test taking. Test taking requires students to get going quickly, manage their time, and effectively utilize their working memory skills. Difficulties in paying attention and being aware of teacher prompts and cues may be present. These individuals may struggle with differentiating main points from minor details while note taking or may ineffectively use the instructions and strategies provided by their teachers for preparing for testing.

The following is a list of common classroom difficulties and the executive functioning skills that play a role in these problem areas.

CLASSROOM TASK	EXECUTIVE FUNCTION SKILL REQUIRED
Copying notes	Working Memory
Identifying major from minor details	Prioritization
Competing tasks within specified time limit	Task initiation, Time management, Sustained attention, Perseverance
Reading comprehension skills	Working Memory
Completing a multi-step assignment	Planning, Sustained Attention, Persistence
Working as team member in group project	Social Thinking, Flexibility, Regulation of Affect
Keeping track of papers and assignments	Working memory, Organization, Sustained Attention
Organizing written assignments	Planning, Working memory, Organization, Metacognition
Being ready to leave school at the end of the day	Task initiation, Planning, Time Management,
Completing mathematical computations in one's head	Working Memory, Sustained Attention
Having materials available to start on assignments	Task initiation, Planning, Metacognition

Classroom-based strategies to use digital technologies to enhance executive function skills will be affected by availability of technologies, the type of classroom setting, and the teacher's knowledge of and training with specific tools. Teachers who have a willingness to use video and computer games for teaching executive skills in the classroom have very ready and capable allies: students in the classroom who display good executive skills and have knowledge of specific games and technologies. These peer tutors can serve as a co-coach in using LearningWorks Technology Guides in your classroom.

We encourage teachers to use the LearningWorksforkids.com website for the following purposes:

- 1. Education** – Learn as much as you can about executive functions in and out of the classroom. In addition to our material, there are books and links that are strongly recommended.
- 2. Employ available digital technologies that support executive dysfunctions.** For example, keyboarding skills, word processing, and spell checks can be very helpful for youngsters with writing difficulties. Consider the use of other tools that are detailed in our Assistive Technology Guides.
- 3. Encourage the use of digital technologies for home-based practice of skills.** Many digital technologies, such as reading software or computer games that require mathematical computations, are stimulating and engaging to the degree that children are willing to put more time and effort into these tasks. Other recommendations can be found in our Training and Rehearsal Guides.
- 4. Embed executive functioning strategies into the day-to-day classroom routines.** A list of these strategies can be found in our Executive Interventions in the Classroom Guide (to be written).

