

# GRADE 3

## The Ontario Curriculum

# Expectations for Grade 3

## Parents' Guide



Durham District  
School Board

➤ These curriculum expectations have been taken directly from the **Ontario Curriculum, Grades 1-8**; as of **June 2010**, published by the Ministry of Education. The expectations are separated by grade to offer parents easy access to this information.

➤ The achievement charts identify four categories of knowledge and skills. The achievement chart is a standard province-wide guide to be used by teachers to guide the development of assessment tasks and tools, help teachers to plan instruction and assist in providing meaningful feedback to students. Level 3 is the provincial standard.

*Dear Parents and Guardians:*

*At the Durham District School Board we believe that parents and guardians are partners in learning and we value involvement in your children's education. To support you, and in turn our students, we have prepared this clear and concise version of the curriculum expectations. This publication offers you a complete guide to the new Ontario Curriculum's learning expectations for Grade One.*

*The curriculum implemented in Durham District School Board schools includes general and specific expectations of knowledge and skills required of students in Grade One through to Grade Eight. There are eight separate publications, covering the expectations for each grade. By being familiar with the curriculum expectations, you can see what your child is learning in each grade and work with teachers to improve your child's academic success.*

*We also welcome you in our schools and encourage you to participate in parent-teacher conferences and school events, and to be active on school councils. Most of all, we urge you to provide your children with encouragement and support to be successful in school.*

*It is our hope that you will find the grade-by-grade curriculum guides helpful. Parents can also find further information on the Board's Website, [www.durham.edu.on.ca](http://www.durham.edu.on.ca) in the "Parents" menu.*

*If you have questions or if you would like to discuss the curriculum expectations, we encourage you to contact your child's teacher or the school principal. Together, we can work in cooperation to ensure student success.*

*Sincerely,*

A handwritten signature in black ink, appearing to read 'Martyn Beckett'.

*Martyn Beckett  
Director of Education*

## Oral Communication: Grade 3

# *The Importance of Literacy and Language*

Language development is central to students' intellectual, social, and emotional growth, and must be seen as a key element of the curriculum. When students learn to use language in the elementary grades, they do more than master the basic skills. They learn to value the power of language and to use it responsibly. They learn to express feelings and opinions and, as they mature, to support their opinions with sound arguments and research. They become aware of the many purposes for which language is used and the diverse forms it can take to appropriately serve particular purposes and audiences.

They develop an awareness of how language is used in different formal and informal situations. In sum, they come to appreciate language both as an important medium for communicating ideas and information and as a source of enjoyment.

The expectations for Grades 1 to 3 focus on the foundational knowledge and skills that students need in order to establish a strong basis for language development. These include students' oral language, prior knowledge and experience, understanding of concepts about print, phonemic awareness, understanding of letter-sound relationships, vocabulary knowledge, semantic and syntactic awareness, higher order thinking skills, and capacity for metacognition.

### Getting Involved

- ✓ Include the family in games that encourage social skills, taking turns, and congratulating a winner
- ✓ Discuss favourite authors together and decide why you like them.

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ listen in order to understand and respond appropriately in a variety of situations for a variety of purposes;
- ▶ use speaking skills and strategies appropriately to communicate with different audiences for a variety of purposes;
- ▶ reflect on and identify their strengths as listeners and speakers, areas for improvement, and the strategies they found most helpful in oral communication situations.

### **Specific Expectations**

By the end of Grade 3, students will:

#### **Listen to Understanding**

##### **Purpose**

- identify purposes for listening in a variety of situations, formal and informal, and set personal goals related to listening tasks

##### **Active Listening Strategies**

- demonstrate an understanding of appropriate listening behaviour by using active listening strategies in order to contribute meaningfully and work constructively in groups

##### **Comprehension Strategies**

- identify a variety of listening comprehension strategies and use them appropriately before, during, and after listening in order to understand and clarify the meaning of oral texts

##### **Demonstrating Understanding**

- demonstrate an understanding of the information and ideas in a variety of oral texts by identifying important information or ideas and some supporting details

##### **Making Inferences/Interpreting Texts**

- distinguish between stated and implied ideas in oral texts

##### **Extending Understanding**

- extend understanding of oral texts by connecting the ideas in them to their own knowledge and experience; to other familiar texts, including print and visual texts; and to the world around them

### **Analysing Texts**

- identify and explain the importance of significant ideas and information in oral texts

### **Point of View**

- identify the point of view in different types of oral texts and cite words, phrases, ideas, and information from the texts that confirm their identification

### **Presentation Strategies**

- identify some of the presentation strategies used in oral texts and explain how they influence the audience

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ use speaking skills and strategies appropriately to communicate with different audiences for a variety of purposes

### **Specific Expectations**

By the end of Grade 3, students will:

### **Speak to Communicate**

#### **Purpose**

- identify a variety of purposes for speaking

#### **Interactive Strategies**

- demonstrate an understanding of appropriate speaking behaviour in a variety of situations, including small and large-group discussions

#### **Clarity and Coherence**

- communicate orally in a clear, coherent manner, presenting ideas, opinions, and information in a logical sequence

#### **Appropriate Language**

- choose a variety of appropriate words and phrases, including descriptive words and some technical vocabulary, and a few elements of style, to communicate their meaning accurately and engage the interest of their audience

#### **Vocal Skills and Strategies**

- identify some vocal effects, including tone, pace, pitch, and volume, and use them appropriately, and with sensitivity towards cultural differences, to help communicate their meaning

#### **Non-Verbal Cues**

- identify some non-verbal cues, including facial expression, gestures, and eye contact, and use them in oral communications, appropriately and with sensitivity towards cultural differences, to help convey their meaning

### **Visual Aids**

- use a variety of appropriate visual aids (*e.g., overheads, diagrams, graphic organizers, charts, artefacts*) to support or enhance oral presentations

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ reflect on and identify their strengths as listeners and speakers, areas for improvement, and the strategies they found most helpful in oral communication situations

### **Specific Expectations**

By the end of Grade 3, students will:

#### **Reflect on Oral Communication Skills and Strategies**

##### **Metacognition**

- identify, in conversation with the teacher and peers, what strategies they found most helpful before, during, and after listening and speaking

##### **Interconnected Skills**

- identify, in conversation with the teacher and peers, how their skills as viewers, representers, readers, and writers help them improve their oral communication skills

## **Reading: Grade 3**

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ read and demonstrate an understanding of a variety of literary, graphic, and informational texts, using a range of strategies to construct meaning

### **Specific Expectations**

By the end of Grade 3, students will:

#### **Read for Meaning**

##### **Variety of Texts**

- read a variety of literary texts, graphic texts and informational texts

##### **Purpose**

- identify a variety of purposes for reading and choose reading materials appropriate for those purposes

##### **Comprehension Strategies**

- identify a variety of reading comprehension strategies and use them appropriately before, during, and after reading to understand texts

##### **Demonstrating Understanding**

- demonstrate understanding of a variety of texts by identifying important ideas

### **Making Inferences/Interpreting Texts**

- make inferences about texts using stated and implied ideas from the texts as evidence

### **Extending Understanding**

- extend understanding of texts by connecting the ideas in them to their own knowledge and experience, to other familiar texts, and to the world around them

### **Analysing Texts**

- identify specific elements of texts and explain how they contribute to the meaning of the texts

### **Responding to and Evaluating Texts**

- express personal opinions about ideas presented in texts

### **Point of View**

- identify the point of view presented in a text and suggest some possible alternative perspectives

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ recognize a variety of text forms, text features, and stylistic elements and demonstrate understanding of how they help communicate meaning

### **Specific Expectations**

By the end of Grade 3, students will:

#### **Understand Form and Style**

##### **Text Forms**

- identify and describe the characteristics of a variety of text forms, with a focus on literary texts such as a fable or adventure story, and informational texts such as nature magazine

##### **Text Patterns**

- recognize a few organizational patterns in texts of different types, and explain how the patterns help readers understand the texts

##### **Text Features**

- identify a variety of text features and explain how they help readers understand texts

##### **Elements of Style**

- identify some elements of style, including voice, word choice, and different types of sentences, and explain how they help readers understand text

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ use knowledge of words and cueing systems to read fluently

### **Specific Expectations**

By the end of Grade 3, students will:

#### **Read with Fluency**

##### **Reading Familiar Words**

- automatically read and understand most high-frequency words, many regularly used words, and words of personal interest or significance, in a variety of reading contexts

##### **Reading Unfamiliar Words**

- predict the meaning of and rapidly solve unfamiliar words using different types of cues, including:
  - semantic (meaning) cues
  - syntactic (language structure) cues
  - graphophonic (phonological and graphic) cues

##### **Reading Fluently**

- read appropriate texts at a sufficient rate and with sufficient expression to convey the sense of the text readily to the reader and an audience

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ reflect on and identify their strengths as readers, areas for improvement, and the strategies they found most helpful before, during, and after reading.

### **Specific Expectations**

By the end of Grade 3, students will:

#### **Reflect on Reading Skills and Strategies**

##### **Metacognition**

- identify, initially with some support and direction, what strategies they found most helpful before, during, and after reading and how they can use these and other strategies to improve as readers

##### **Interconnected Skills**

- explain, initially with some support and direction, how their skills in listening, speaking, writing, viewing, and representing help them make sense of what they read

## **Writing: Grade 3**

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ generate, gather, and organize ideas and information to write for an intended purpose and audience

### **Specific Expectations**

By the end of Grade 3, students will:

### **Develop and Organize Content**

#### **Purpose and Audience**

- identify the topic, purpose, audience, and form for writing

#### **Developing Ideas**

- generate ideas about a potential topic, using a variety of strategies and resources

#### **Research**

- gather information to support ideas for writing in a variety of ways and/or from a variety of sources

#### **Classifying Ideas**

- sort ideas and information for their writing in a variety of ways

#### **Organizing Ideas**

- identify and order main ideas and supporting details into units that could be used to develop a short, simple paragraph, using graphic organizers and organizational patterns

#### **Review**

- determine whether the ideas and information they have gathered are relevant and adequate for the purpose, and gather new material if necessary

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ draft and revise their writing, using a variety of informational, literary, and graphic forms and stylistic elements appropriate for the purpose and audience

### **Specific Expectations**

By the end of Grade 3, students will:

#### **Use Knowledge of Form and Style in Writing**

##### **Form**

- write short texts using a variety of forms

##### **Voice**

- establish a personal voice in their writing, with a focus on using concrete words and images to convey their attitude or feeling towards the subject or audience

##### **Word Choice**

- use words and phrases that will help convey their meaning as specifically as possible

##### **Sentence Fluency**

- vary sentence structures and maintain continuity by using joining words

##### **Point of View**

- identify their point of view and other possible points of view on the topic, and determine if their information supports their own view

### **Preparing for Revision**

- identify elements of their writing that need improvement, using feedback from the teacher and peers, with a focus on specific features

#### **Revision**

- make revisions to improve the content, clarity, and interest of their written work, using several types of strategies

#### **Producing Drafts**

- produce revised, draft pieces of writing to meet identified criteria based on the expectations related to content, organization, style, and use of conventions

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ use editing, proofreading, and publishing skills and strategies, and knowledge of language conventions, to correct errors, refine expression, and present their work effectively

### **Specific Expectations**

By the end of Grade 3, students will:

#### **Apply Knowledge of Language Conventions and Present Written Work Effectively**

##### **Spelling Familiar Words**

- spell familiar words correctly

##### **Spelling Unfamiliar Words**

- spell unfamiliar words using a variety of strategies that involve understanding sound-symbol relationships, word structures, word meanings, and generalizations about spelling

##### **Vocabulary**

- confirm spellings and word meanings or word choice using several different types of resources

##### **Punctuation**

- use punctuation to help communicate their intended meaning, with a focus on the use of: quotation marks to indicate direct speech; commas to mark grammatical boundaries within sentences; capital letters and final punctuation to mark the beginning and end of sentences

##### **Grammar**

- use parts of speech appropriately to communicate their meaning clearly, with a focus on the use of: proper nouns for titles, possessive pronouns, action verbs in the present and simple past tenses, adjectives and adverbs, and question words

##### **Proofreading**

- proofread and correct their writing using guidelines developed with peers and the teacher

### **Publishing**

- use some appropriate elements of effective presentation in the finished product, including print, script, different fonts, graphics, and layout

### **Producing Finished Works**

- produce pieces of published work to meet identified criteria based on the expectations related to content, organization, style, use of conventions, and use of presentation strategies

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ reflect on and identify their strengths as writers, areas for improvement, and the strategies they found most helpful at different stages in the writing process

### **Specific Expectations**

By the end of Grade 3, students will:

### **Reflect on Writing Skills and Strategies**

#### **Metacognition**

- identify what strategies they found most helpful before, during, and after writing and what steps they can take to improve as writers

#### **Interconnected Skills**

- describe, with prompting by the teacher, how some of their skills in listening, speaking, reading, viewing, and representing help in their development as writers

#### **Portfolio**

- select pieces of writing that they think show their best work and explain the reasons for their selection

## **Media Literacy: Grade 3**

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ demonstrate an understanding of a variety of media texts

### **Specific Expectations**

By the end of Grade 3, students will:

#### **Understand Media Texts**

##### **Purpose and Audience**

- identify the purpose and intended audience of some media texts

##### **Making Inferences/Interpreting Messages**

- use overt and implied messages to draw inferences and make meaning in simple media texts

### **Responding to and Evaluating Texts**

- express personal opinions about ideas presented in media texts

### **Audience Responses**

- describe how different audiences might respond to specific media texts

### **Point of View**

- identify whose point of view is presented and or reflected in a media text and suggest how the text might change if a different point of view were used

### **Production Perspectives**

- identify who produces selected media texts and why those texts are produced

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ identify some media forms and explain how the conventions and techniques associated with them are used to create meaning

### **Specific Expectations**

By the end of Grade 3, students will:

#### **Understand Media Forms, Conventions and Techniques**

##### **Form**

- identify elements and characteristics of some media forms

##### **Conventions and Techniques**

- identify the conventions and techniques used in some familiar media forms and explain how they help convey meaning

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ create a variety of media texts for different purposes and audiences, using appropriate forms, conventions, and techniques

### **Specific Expectations**

By the end of Grade 3, students will:

#### **Create Media Texts**

##### **Purpose and Audience**

- identify the topic, purpose, and audience for media texts they plan to create

##### **Form**

- identify an appropriate form to suit the specific purpose and audience for a media text they plan to create

##### **Conventions and Techniques**

- identify conventions and techniques appropriate to the form chosen for a media text they plan to create

### **Producing Media Texts**

- produce media texts for specific purposes and audiences, using a few simple media forms and appropriate conventions and techniques

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ reflect on and identify their strengths as media interpreters and creators, areas for improvement, and the strategies they found most helpful in understanding and creating media texts

### **Specific Expectations**

By the end of Grade 3, students will:

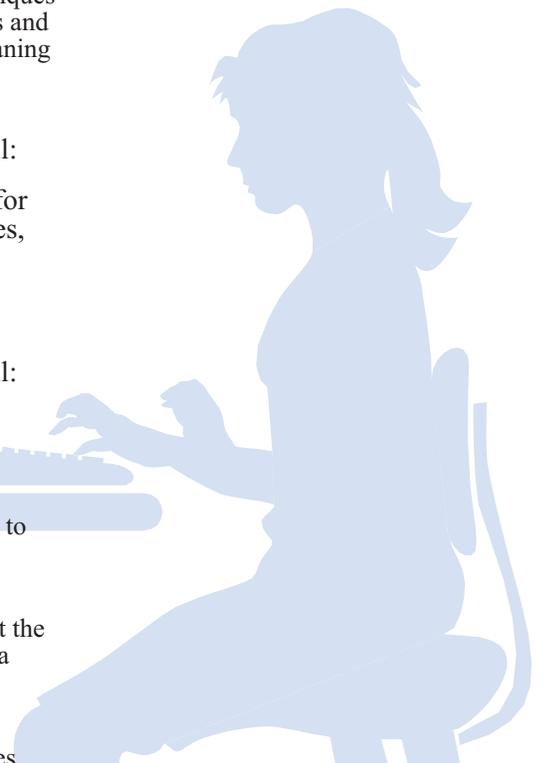
#### **Reflect on Media Literacy Skills and Strategies**

##### **Metacognition**

- identify, initially with support and direction, what strategies they found most helpful in making sense of and creating media texts

##### **Interconnected Skills**

- explain, initially with support and direction, how their skills in listening, speaking, reading, and writing help them to make sense of and produce media texts



# Achievement Chart - Language, - Grades 1-8

Categories	Level 1	Level 2	Level 3	Level 4
<b>Knowledge and Understanding</b> <i>Subject-specific content acquired in each grade (knowledge), and the comprehension of its meaning and significance (understanding)</i>				
<b>The student:</b>				
<b>Knowledge of content</b> <i>(e.g., forms of text; strategies associated with reading, writing, speaking, and listening; elements of style; terminology; conventions)</i>	→ demonstrates limited knowledge of content	→ demonstrates some knowledge of content	→ demonstrates considerable knowledge of content	→ demonstrates thorough knowledge of content
<b>Understanding of content</b> <i>(e.g., concepts, ideas, opinions; relationships among facts, ideas, concepts, themes)</i>	→ demonstrates limited understanding of content	→ demonstrates some understanding of content	→ demonstrates considerable understanding of content	→ demonstrates thorough understanding of content
<b>Thinking</b> <i>The use of critical and creative thinking skills and/or processes</i>				
<b>The student:</b>				
<b>Use of planning skills</b> <i>(e.g., generating ideas gathering information, focusing research, organizing information)</i>	→ uses planning skills with limited effectiveness	→ uses planning skills with some effectiveness	→ uses planning skills with considerable effectiveness	→ uses planning skills with a high degree of effectiveness
<b>Use of processing skills</b> <i>(e.g., making inferences, interpreting, analysing, detecting bias, synthesizing, evaluating, forming conclusions)</i>	→ uses processing skills with limited effectiveness	→ uses processing skills with some effectiveness	→ uses processing skills with considerable effectiveness	→ uses processing skills with a high degree of effectiveness
<b>Use of critical/creative thinking processes</b> <i>(e.g., reading process, writing process, oral discourse, research, critical/creative analysis, critical literacy, metacognition, invention)</i>	→ uses critical/creative thinking processes with limited effectiveness	→ uses critical/creative thinking processes with some effectiveness	→ uses critical/creative thinking processes with considerable effectiveness	→ uses critical/creative thinking processes with a high degree of effectiveness

Categories	Level 1	Level 2	Level 3	Level 4
<b>Communication</b> <i>The conveying of meaning through various forms</i>				
<b>The student:</b>				
<b>Expressing and organization of ideas and information</b> (e.g., clear expression, logical organization) <b>in oral, visual, and written forms including media forms</b>	→ expresses and organizes ideas and information with limited effectiveness	→ expresses and organizes ideas and information with some effectiveness	→ expresses and organizes ideas and information with considerable effectiveness	→ expresses and organizes ideas and information with a high degree of effectiveness
<b>Communication for different audiences and purposes</b> (e.g., use of appropriate style, voice, point of view, tone) <b>in oral, visual, and written forms including media forms</b>	→ communicates for different audiences and purposes with limited effectiveness	→ communicates for different audiences and purposes with some effectiveness	→ communicates for different audiences and purposes with considerable effectiveness	→ communicates for different audiences and purposes with a high degree of effectiveness
<b>Use of conventions</b> (e.g., grammar, spelling, punctuation, usage) <b>vocabulary, and terminology of the discipline in oral, visual, and written forms including media forms</b>	→ uses conventions, vocabulary, and terminology of the discipline with limited effectiveness	→ uses conventions, vocabulary, and terminology of the discipline with some effectiveness	→ uses conventions, vocabulary, and terminology of the discipline with considerable effectiveness	→ uses conventions, vocabulary, and terminology of the discipline with a high degree of effectiveness
<b>Application</b> <i>The use of knowledge and skills to make connections within and between various contexts</i>				
<b>The student:</b>				
<b>Application of knowledge and skills</b> (e.g., concepts, strategies, processes) <b>in familiar contexts</b>	→ applies knowledge and skills in familiar contexts with limited effectiveness	→ applies knowledge and skills in familiar contexts with some effectiveness	→ applies knowledge and skills in familiar contexts with considerable effectiveness	→ applies knowledge and skills in familiar contexts with a high degree of effectiveness
<b>Transfer of knowledge and skills</b> (e.g., concepts, strategies, processes) <b>to new contexts</b>	→ transfers knowledge and skills to new contexts with limited effectiveness	→ transfers knowledge and skills to new contexts with some effectiveness	→ transfers knowledge and skills to new contexts with considerable effectiveness	→ transfers knowledge and skills to new contexts with a high degree of effectiveness
<b>Making connections within and between various contexts</b> (e.g., between the text and personal knowledge or experience, other texts, and the world outside the school; between disciplines)	→ makes connections within and between various contexts with limited effectiveness	→ makes connections within and between various contexts with some effectiveness	→ makes connections within and between various contexts with considerable effectiveness	→ makes connections within and between various contexts with a high degree of effectiveness

# The Importance of Mathematics

“Since mathematics is a key element of the curriculum, parents, students, and teachers need to understand why mathematics is important. When students learn mathematics, they do more than master basic skills; they acquire a concise and powerful means of analysis, problem solving, and communication.

Competence using mathematical language, structures, and operations within the mathematical processes will help students to reason, justify their conclusions, and express ideas clearly. Students need to be able to use mathematics in connection with technology, their daily lives and eventually, in the workplaces.

Mathematics is an essential learning tool. As students identify relationships between mathematical concepts and everyday situations, and make connections between mathematics and other subjects, they gain the ability to use mathematics to extend and apply their knowledge in other curriculum areas such as science, music and language.”

## Grade 3: Mathematical Process Expectations

The mathematical process expectations are to be integrated into student learning associated with all the strands.

Throughout Grade 3, students will:

- Problem Solving** ▶ apply developing problem-solving strategies as they pose and solve problems and conduct investigations, to help deepen their mathematical understanding;
- Reasoning and Proving** ▶ apply developing reasoning skills (e.g., pattern recognition, classification) to make and investigate conjectures (e.g., through discussion with others);
- Reflecting** ▶ demonstrate that they are reflecting on and monitoring their thinking to help clarify their understanding as they complete an investigation or solve a problem (e.g., by explaining to others why they think their solution is correct);
- Selecting Tools and Computational Strategies** ▶ select and use a variety of concrete, visual, and electronic learning tools and appropriate computational strategies to investigate mathematical ideas and to solve problems;
- Connecting** ▶ make connections among simple mathematical concepts and procedures, and relate mathematical ideas to situations drawn from everyday contexts;
- Representing** ▶ create basic representations of simple mathematical ideas (e.g., using concrete materials; physical actions, such as hopping or clapping; pictures; numbers; diagrams; invented symbols), make connections among them, and apply them to solve problems;
- Communicating** ▶ communicate mathematical thinking orally, visually, and in writing, using everyday language, a developing mathematical vocabulary, and a variety of representations.

### Getting Involved

- ✓ Ask your child to identify objects in your home that contain these shapes: circle square, triangle, rectangle, rhombus and parallelogram. Help your child create a chart to record their findings.
- ✓ findings.



# Number Sense and Numeration: Grade 3

## Overall Expectations

By the end of Grade 3, students will:

- ▶ read, represent, compare, and order whole numbers to 1000, and use concrete materials to represent fractions and money amounts to \$10;
- ▶ demonstrate an understanding of magnitude by counting forward and backwards by various numbers and from various starting points;
- ▶ solve problems involving the addition and subtraction of single- and multi-digit whole numbers, using a variety of strategies, and demonstrate an understanding of multiplication and

## Specific Expectations

By the end of Grade 3, students will:

### Quantity Relationships

- represent, compare, and order whole numbers to 1000, using a variety of tools (e.g., base ten materials or drawings of them, number lines with increments of 100 or other appropriate amounts);
- read and print in words whole numbers to one hundred, using meaningful contexts (e.g., books, speed limit signs);
- identify and represent the value of a digit in a number according to its position in the number (e.g., use base ten materials to show that the 3 in 324 represents 3 hundreds);
- compose and decompose three-digit numbers into hundreds, tens, and ones in a variety of ways, using concrete materials (e.g., use base ten materials to decompose 327 into 3 hundreds, 2 tens, and 7 ones, or into 2 hundreds, 12 tens, and 7 ones);
- round two-digit numbers to the nearest ten, in problems arising from real-life situations;
- represent and explain, using concrete materials, the relationship among the numbers 1, 10, 100, and 1000, (e.g., use base ten materials to represent the relationship between a decade and a century, or a century and a millennium);
- divide whole objects and sets of objects into equal parts, and identify the parts using fractional names (e.g., one half; three thirds; two fourths or two quarters), without using numbers in standard fractional notation;
- represent and describe the relationships between coins and bills up to \$10 (e.g., “There are eight quarters in a toonie and ten dimes in a loonie.”);

- estimate, count, and represent (using the \$ symbol) the value of a collection of coins and bills with a maximum value of \$10;
- solve problems that arise from real-life situations and that relate to the magnitude of whole numbers up to 1000 (**Sample problem:** Do you know anyone who has lived for close to 1000 days? Explain your reasoning.).

### Counting

- count forward by 1’s, 2’s, 5’s, 10’s, and 100’s to 1000 from various starting points, and by 25’s to 1000 starting from multiples of 25, using a variety of tools and strategies (e.g., skip count with and without the aid of a calculator; skip count by 10’s using dimes);
- count backwards by 2’s, 5’s, and 10’s from 100 using multiples of 2, 5, and 10 as starting points, and count backwards by 100’s from 1000 and any number less than 1000, using a variety of tools (e.g., number lines, calculators, coins) and strategies.

### Operational Sense

- solve problems involving the addition and subtraction of two-digit numbers, using a variety of mental strategies (e.g., to add  $37 + 26$ , add the tens, add the ones, then combine the tens and ones, like this:  $30 + 20 = 50$ ,  $7 + 6 = 13$ ,  $50 + 13 = 63$ );
- add and subtract three-digit numbers, using concrete materials, student generated algorithms, and standard algorithms;
- use estimation when solving problems involving addition and subtraction, to help judge the reasonableness of a solution;
- add and subtract money amounts, using a variety of tools (e.g., currency manipulatives, drawings), to make simulated purchases and change for amounts up to \$10 (**Sample problem:** You spent 5 dollars and 75 cents on one item and 10 cents on another item. How much did you spend in total?);
- relate multiplication of one-digit numbers and division by one-digit divisors to real life situations, using a variety of tools and strategies (e.g., place objects in equal groups, use arrays, write repeated addition or subtraction sentences) (**Sample problem:** Give a real-life example of when you might need to know that 3 groups of 2 is  $3 \times 2$ .);
- multiply to  $7 \times 7$  and divide to  $49 \div 7$ , using a variety of mental strategies (e.g., doubles, doubles plus another set, skip counting).

# Measurement: Grade 3

## Overall Expectations

By the end of Grade 3, students will:

- ▶ estimate, measure, and record length, perimeter, area, mass, capacity, time, and temperature, using standard units;
- ▶ compare, describe, and order objects, using attributes measured in standard units.

## Specific Expectations

By the end of Grade 3, students will:

### Attributes, Units, and Measurement Sense

- estimate, measure, and record length, height, and distance, using standard units (i.e., centimetre, metre, kilometre) (**Sample problem:** While walking with your class, stop when you think you have travelled one kilometre.);
- draw items using a ruler, giving specific lengths in centimetres (**Sample problem:** Draw a pencil that is 5 cm long);
- read time using analogue clocks, to the nearest five minutes, and using digital clocks (e.g., 1:23 means twenty-three minutes after one o’clock), and represent time in 12-hour notation;
- estimate, read (i.e., using a thermometer), and record positive temperatures to the nearest degree Celsius (i.e., using a number line; using appropriate notation) (**Sample problem:** Record the temperature outside each day using a thermometer, and compare your measurements with those reported in the daily news.);
- identify benchmarks for freezing, cold, cool, warm, hot, and boiling temperatures as they relate to water and for cold, cool, warm, and hot temperatures as they relate to air (e.g., water freezes at  $0^{\circ}\text{C}$ ; the air temperature on a warm day is about  $20^{\circ}\text{C}$ , but water at  $20^{\circ}\text{C}$  feels cool);
- estimate, measure, and record the perimeter of two-dimensional shapes, through investigation using standard units (**Sample problem:** Estimate, measure, and record the perimeter of your notebook.);
- estimate, measure (i.e., using centimetre grid paper, arrays), and record area (e.g., if a row of 10 connecting cubes is approximately the width of a book, skip counting down the cover of the book with the row of cubes [i.e., counting 10, 20, 30, ...] is one way to determine the area of the book cover);
- choose benchmarks for a kilogram and a litre to help them perform measurement tasks;

- estimate, measure, and record the mass of objects (e.g., can of apple juice, bag of oranges, bag of sand), using the standard unit of the kilogram or parts of a kilogram (e.g., half, quarter);
- estimate, measure, and record the capacity of containers (e.g., juice can, milk bag), using the standard unit of the litre or parts of a litre (e.g., half, quarter).

### Measurement Relationships

- compare standard units of length (i.e., centimetre, metre, kilometre) (e.g., centimetres are smaller than metres), and select and justify the most appropriate standard unit to measure length;
- compare and order objects on the basis of linear measurements in centimetres and/or metres (e.g., compare a 3 cm object with a 5 cm object; compare a 50 cm object with a 1 m object) in problem-solving contexts;
- compare and order various shapes by area, using congruent shapes (e.g., from a set of pattern blocks or Power Polygons) and grid paper for measuring (**Sample problem:** Does the order of the shapes change when you change the size of the pattern blocks you measure with?);
- describe, through investigation using grid paper, the relationship between the size of a unit of area and the number of units needed to cover a surface (**Sample problem:** What is the difference between the numbers of squares needed to cover the front of a book, using centimetre grid paper and using two-centimetre grid paper?);
- compare and order a collection of objects, using standard units of mass (i.e., kilogram) and/or capacity (i.e., litre);
- solve problems involving the relationships between minutes and hours, hours and days, days and weeks, and weeks and years, using a variety of tools (e.g., clocks, calendars, calculators).

## Geometry & Spatial Sense: Grade 3

### Overall Expectations

By the end of Grade 3, students will:

- ▶ compare two-dimensional shapes and three-dimensional figures and sort them by their geometric properties;
- ▶ describe relationships between two-dimensional shapes, and between two-dimensional shapes and three-dimensional figures;
- ▶ identify and describe the locations and movements of shapes and objects.

### Specific Expectations

By the end of Grade 3, students will:

#### Geometric Properties

- use a reference tool (e.g., paper corner, pattern block, carpenter's square) to identify right angles and to describe angles as greater than, equal to, or less than a right angle (**Sample problem:** Which pattern blocks have angles bigger than a right angle?);
- identify and compare various polygons (i.e., triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons) and sort them by their geometric properties (i.e., number of sides; side lengths; number of interior angles; number of right angles);
- compare various angles, using concrete materials and pictorial representations, and describe angles as *bigger than*, *smaller than*, or *about the same as* other angles (e.g., "Two of the angles on the red pattern block are bigger than all the angles on the green pattern block.");
- compare and sort prisms and pyramids by geometric properties (i.e., number and shape of faces, number of edges, number of vertices), using concrete materials;
- construct rectangular prisms (e.g., using given paper nets; using Polydrons), and describe geometric properties (i.e., number and shape of faces, number of edges, number of vertices) of the prisms.

#### Geometric Relationships

- solve problems requiring the greatest or least number of two-dimensional shapes (e.g., pattern blocks) needed to compose a larger shape in a variety of ways (e.g., to cover an outline puzzle) (**Sample problem:** Compose a hexagon using different numbers of smaller shapes.);
- explain the relationships between different types of quadrilaterals (e.g., a square is a rectangle because a square has four sides and four right angles; a rhombus is a parallelogram because opposite sides of a rhombus are parallel);
- identify and describe the two-dimensional shapes that can be found in a three-dimensional figure (**Sample problem:** Build a structure from blocks, toothpicks, or other concrete materials, and describe it using geometric terms, so that your partner will be able to build your structure without seeing it.);
- describe and name prisms and pyramids by the shape of their base (e.g., rectangular prism, square-based pyramid);
- identify congruent two-dimensional shapes by manipulating and matching concrete materials (e.g., by translating, reflecting, or rotating pattern blocks).

### Location and Movement

- describe movement from one location to another using a grid map (e.g., to get from the swings to the sandbox, move three squares to the right and two squares down);
- identify flips, slides, and turns, through investigation using concrete materials and physical motion, and name flips, slides, and turns as reflections, translations, and rotations (e.g., a slide to the right is a translation; a turn is a rotation);
- complete and describe designs and pictures of images that have a vertical, horizontal, or diagonal line of symmetry (**Sample problem:** Draw the missing portion of the given butterfly on grid paper.).

## Patterning & Algebra: Grade 3

### Overall Expectations

By the end of Grade 3, students will:

- ▶ describe, extend, and create a variety of numeric patterns and geometric patterns;
- ▶ demonstrate an understanding of equality between pairs of expressions, using addition and subtraction of one- and two-digit numbers.

### Specific Expectations

By the end of Grade 3, students will:

- identify, extend, and create a repeating pattern involving two attributes (e.g., size, colour, orientation, number), using a variety of tools (e.g., pattern blocks, attribute blocks, drawings) (**Sample problem:** Create a repeating pattern using three colours and two shapes.);
- identify and describe, through investigation, number patterns involving addition, subtraction, and multiplication, represented on a number line, on a calendar, and on a hundreds chart (e.g., the multiples of 9 appear diagonally in a hundreds chart);
- extend repeating, growing, and shrinking number patterns (**Sample problem:** Write the next three terms in the pattern 4, 8, 12, 16, ...);
- create a number pattern involving addition or subtraction, given a pattern represented on a number line or a pattern rule expressed in words (**Sample problem:** Make a number pattern that starts at 0 and grows by adding 7 each time.);

- represent simple geometric patterns using a number sequence, a number line, or a bar graph (e.g., the given growing pattern of toothpick squares can be represented numerically by the sequence 4, 7, 10, ..., which represents the number of toothpicks used to make each figure);



Figure 1      Figure 2      Figure 3

- demonstrate, through investigation, an understanding that a pattern results from repeating an action (e.g., clapping, taking a step forward every second), repeating an operation (e.g., addition, subtraction), using a transformation (e.g., slide, flip, turn), or making some other repeated change to an attribute (e.g., colour, orientation).

### Expressions and Equality

- determine, through investigation, the inverse relationship between addition and subtraction (e.g., since  $4 + 5 = 9$ , then  $9 - 5 = 4$ ; since  $16 - 9 = 7$ , then  $7 + 9 = 16$ );
- determine, the missing number in equations involving addition and subtraction of one- and two-digit numbers, using a variety of tools and strategies (e.g., modelling with concrete materials, using guess and check with and without the aid of a calculator) (**Sample problem:** What is the missing number in the equation  $25 - 4 = 15 + \square$  ?);
- identify, through investigation, the properties of zero and one in multiplication (i.e., any number multiplied by zero equals zero; any number multiplied by 1 equals the original number) (**Sample problem:** Use tiles to create arrays that represent  $3 \times 3$ ,  $3 \times 2$ ,  $3 \times 1$ , and  $3 \times 0$ . Explain what you think will happen when you multiply any number by 1, and when you multiply any number by 0.);
- identify, through investigation, and use the associative property of addition to facilitate computation with whole numbers (e.g., “I know that  $17 + 16$  equals  $17 + 3 + 13$ . This is easier to add in my head because I get  $20 + 13 = 33$ .”).

## Data Management & Probability: Grade 3

### Overall Expectations

By the end of Grade 3, students will:

- ▶ collect and organize categorical or discrete primary data and display the data using charts and graphs, including vertical and horizontal bar graphs, with labels ordered appropriately along horizontal axes, as needed;

- ▶ read, describe, and interpret primary data presented in charts and graphs, including vertical and horizontal bar graphs;
- ▶ predict and investigate the frequency of a specific outcome in a simple probability experiment.

### Specific Expectations

By the end of Grade 3, students will:

#### Collection and Organization of Data

- demonstrate an ability to organize objects into categories, by sorting and classifying objects using two or more attributes simultaneously (**Sample problem:** Sort a collection of buttons by size, colour, and number of holes.);
- collect data by conducting a simple survey about themselves, their environment, issues in their school or community, or content from another subject;
- collect and organize categorical or discrete primary data and display the data in charts, tables, and graphs (including vertical and horizontal bar graphs), with appropriate titles and labels and with labels ordered appropriately along horizontal axes, as needed, using many-to-one correspondence (e.g., in a pictograph, one car sticker represents 3 cars; on a bar graph, one square represents 2 students) (**Sample problem:** Graph data related to the eye colour of students in the class, using a vertical bar graph. Why does the scale on the vertical axis include values that are not in the set of data?).

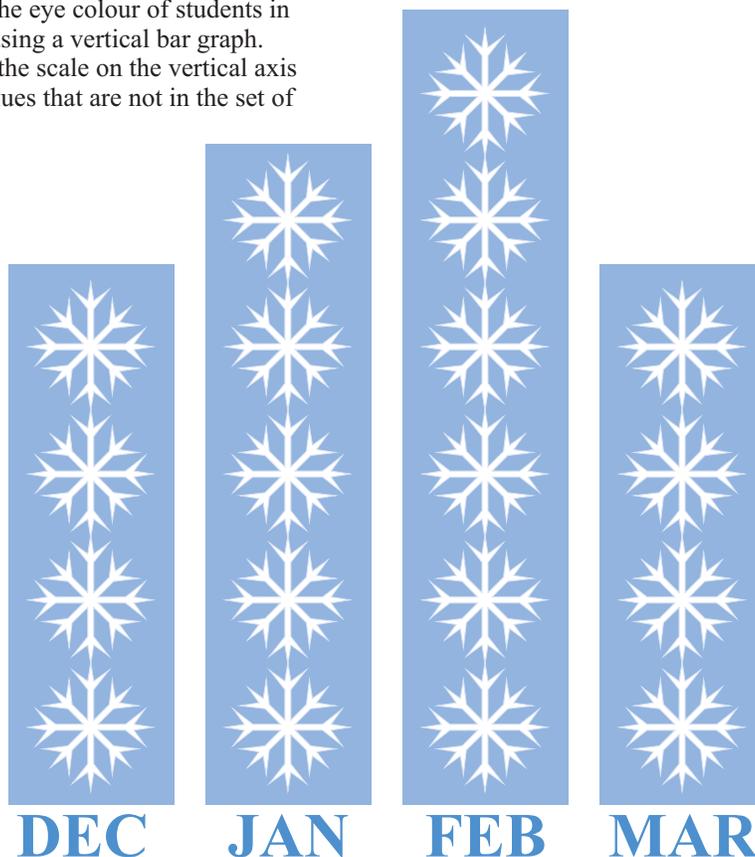
### Data Relationships

- read primary data presented in charts, tables, and graphs (including vertical and horizontal bar graphs), then describe the data using comparative language, and describe the shape of the data (e.g., “Most of the data are at the high end.”; “All of the data values are different.”);
- interpret and draw conclusions from data presented in charts, tables, and graphs;
- demonstrate an understanding of mode (e.g., “The mode is the value that shows up most often on a graph.”), and identify the mode in a set of data.

### Probability

- predict the frequency of an outcome in a simple probability experiment or game (e.g., “I predict that an even number will come up 5 times and an odd number will come up 5 times when I roll a number cube 10 times.”), then perform the experiment, and compare the results with the predictions, using mathematical language;
- demonstrate, through investigation, an understanding of fairness in a game and relate this to the occurrence of equally likely outcomes.

SNOWFALL



## Achievement Chart - Mathematics, Grades 1-8

Categories	Level 1	Level 2	Level 3	Level 4
<b>Knowledge and Understanding</b> <i>Subject-specific content acquired in each grade (knowledge), and the comprehension of its meaning and significance (understanding)</i>				
<b>The student:</b>				
Knowledge of content (e.g., facts, terms, procedural skills, use of tools)	→ demonstrates limited knowledge of content	→ demonstrates some knowledge of content	→ demonstrates considerable knowledge of content	→ demonstrates thorough knowledge of content
Understanding of content (e.g., Concepts, ideas, theories, procedures, processes, methodologies, and/or technologies)	→ demonstrates limited understanding of content	→ demonstrates some understanding of content	→ demonstrates considerable understanding of content	→ demonstrates thorough understanding of content
<b>Thinking</b> <i>The use of critical and creative thinking skills and/or processes*</i>				
<b>The student:</b>				
Use of planning skills ▶ understanding the problem (e.g., formulating and interpreting the problem, making conjectures) ▶ making a plan for solving the problem	→ uses planning skills with limited effectiveness	→ uses planning skills with some effectiveness	→ uses planning skills with considerable effectiveness	→ uses planning skills with a high degree of effectiveness
Use of processing skills* ▶ carrying out a plan (e.g., collecting data, questioning, testing, revising, modelling, solving, inferring, forming conclusions) ▶ looking back at the solution (e.g., evaluating reasonableness, making convincing arguments, reasoning, justifying, proving, reflecting)	→ uses processing skills with limited effectiveness	→ uses processing skills with some effectiveness	→ uses processing skills with considerable effectiveness	→ uses processing skills with a high degree of effectiveness
Use of critical/creative thinking processes* (e.g., problem solving, inquiry)	→ uses of critical/creative thinking process with limited effectiveness	→ uses of critical/creative thinking process with some effectiveness	→ uses of critical/creative thinking process with considerable effectiveness	→ uses of critical/creative thinking process with a high degree of effectiveness

\* The processing skills and critical/creative thinking processes in the Thinking category include some but not all aspects of the *mathematical processes* described in the Ministry document. Some aspects of the mathematical processes relate to the other categories of the achievement chart.

Categories	Level 1	Level 2	Level 3	Level 4
<b>Communication</b> <i>The conveying of meaning through various forms</i>				
<b>The student:</b>				
Expression and organization of ideas and mathematical thinking (e.g., clarity of expression, logical organization), using oral, visual, and written forms (e.g., pictorial, graphic, dynamic, numeric, algebraic forms; concrete materials)	→ expresses and organizes mathematical thinking with limited effectiveness	→ expresses and organizes mathematical thinking with some effectiveness	→ expresses and organizes mathematical thinking with considerable effectiveness	→ expresses and organizes mathematical thinking with a high degree of effectiveness
Communication for different audiences (e.g., peers, teachers) and purposes (e.g., to present data, justify a solution, express a mathematical argument) in oral, visual, and written forms	→ communicates for different audiences and purposes with limited effectiveness	→ communicates for different audiences and purposes with some effectiveness	→ communicates for different audiences and purposes with considerable effectiveness	→ communicates for different audiences and purposes with a high degree of effectiveness
Use of conventions, vocabulary, and terminology of the discipline (e.g., terms, symbols) in oral, visual, and written forms	→ uses conventions, vocabulary, and terminology of the discipline with limited effectiveness	→ uses conventions, vocabulary, and terminology of the discipline with some effectiveness	→ uses conventions, vocabulary, and terminology of the discipline with considerable effectiveness	→ uses conventions, vocabulary, and terminology of the discipline with a high degree of effectiveness
<b>Application</b> <i>The use of knowledge and skills to make connections within and between various contexts</i>				
<b>The student:</b>				
Application of knowledge and skills in familiar contexts	→ applies knowledge and skills in familiar contexts with limited effectiveness	→ applies knowledge and skills in familiar contexts with some effectiveness	→ applies knowledge and skills in familiar contexts with considerable effectiveness	→ applies knowledge and skills in familiar contexts with a high degree of effectiveness
Transfer of knowledge and skills to new contexts	→ transfers knowledge and skills to new contexts with limited effectiveness	→ transfers knowledge and skills to new contexts with some effectiveness	→ transfers knowledge and skills to new contexts with considerable effectiveness	→ transfers knowledge and skills to new contexts with a high degree of effectiveness
Making connections within and between various contexts (e.g., connections between concepts, representations, and forms within mathematics; connections involving use of prior knowledge and experience; connections between mathematics, other disciplines, and the real world)	→ makes connections within and between various contexts with limited effectiveness	→ makes connections within and between various contexts with some effectiveness	→ makes connections within and between various contexts with considerable effectiveness	→ makes connections within and between various contexts with a high degree of effectiveness

# The Goals of the Science and Technology Program

*A scientifically and technologically literate person is one who can read and understand common media reports about science and technology, critically evaluate the information presented, and confidently engage in discussions and decision-making activities that involve science and technology.*

Science Co-ordinators' and Consultants' Association of Ontario (SCCAO) and Science Teachers' Association of Ontario (STAO/APSO), "Position Paper: The Nature of Science" (2006), p. 1

During the twentieth century, science and technology played an increasingly important role in the lives of all Canadians. Science and technology underpin much of what we take for granted, including clean water, the places in which we live and work, and the ways in which we communicate with others. The impact of science and technology on our lives will continue to grow. Consequently, scientific and technological literacy for all has become the overarching objective of science and technology education throughout the world.

Achievement of both excellence and equity underlies the three major goals of the science and technology program at the elementary level. Accordingly, The Ontario Curriculum, Grades 1–8: Science and Technology, 2007 outlines the skills and knowledge that students will develop, as well as the attitudes that they need to develop in order to use their knowledge and skills responsibly. The three goals are the following:

1. to relate science and technology to society and the environment
2. to develop the skills, strategies, and habits of mind required for scientific inquiry and technological problem solving
3. to understand the basic concepts of science and technology

## Fundamental Concepts

Fundamental concepts are key ideas that provide a framework for the acquisition of all scientific and technological knowledge. They also help students to integrate scientific and technological knowledge with knowledge in other subject areas, such as mathematics and social studies.

These fundamental concepts are described in the following chart.

Fundamental Concepts	
<b>Matter</b>	Matter is anything that has mass and occupies space. Matter has particular structural and behavioural characteristics.
<b>Energy</b>	Energy comes in many forms, and can change forms. It is required to make things happen (to do work). Work is done when a force causes movement.
<b>Systems and Interactions</b>	A system is a collection of living and/or non-living things and processes that interact to perform some function. A system includes inputs, out-puts, and relationships among system components. Natural and human systems develop in response to, and are limited by, a variety of environmental factors.
<b>Structure and Function</b>	This concept focuses on the interrelationship between the function or use of a natural or human-made object and the form that the object takes.
<b>Sustainability and Stewardship</b>	Sustainability is the concept of meeting the needs of the present without compromising the ability of future generations to meet their needs. Stewardship involves understanding that we need to use and care for the natural environment in a responsible way and making the effort to pass on to future generations no less than what we have access to ourselves. Values that are central to responsible stewardship are: using non-renewable resources with care; reusing and recycling what we can; switching to renewable resources where possible.
<b>Change and Continuity</b>	Change is the process of becoming different over time, and can be quantified. Continuity represents consistency and connectedness within and among systems over time. Interactions within and among systems result in change and variations in consistency.

# Understanding Life Systems

## Growth and Changes in Plants

Fundamental Concepts	Big Ideas
<p><b>Systems and Interactions</b></p> <p><b>Sustainability and Stewardship</b></p>	<p>Plants have distinct characteristics. (Overall expectations 2 and 3)</p> <p>There are similarities and differences among various types of plants. (Overall expectation 2)</p> <p>Plants are the primary source of food for humans. (Overall expectation 1)</p> <p>Humans need to protect plants and their habitats. (Overall expectation 1)</p> <p>Plants are important to the planet. (Overall expectation 1)</p>

### Understanding Life Systems - Growth and Changes in Plants: Grade 3

#### Overall Expectations

By the end of Grade 3, students will:

1. assess ways in which plants have an impact on society and the environment, and ways in which human activity has an impact on plants and plant habitats;
2. investigate similarities and differences in the characteristics of various plants, and ways in which the characteristics of plants relate to the environment in which they grow;
3. demonstrate an understanding that plants grow and change and have distinct characteristics.

#### Specific Expectations

By the end of Grade 3, students will:

#### Relating Science and Technology to Society and the Environment

- 1.1 assess ways in which plants are important to humans and other living things, taking different points of view into consideration (e.g., the point of view of

home builders, gardeners, nursery owners, vegetarians), and suggest ways in which humans can protect plants

- 1.2 assess the impact of different human activities on plants, and list personal actions they can engage in to minimize harmful effects and enhance good effects

#### Specific Expectations

By the end of Grade 3, students will:

#### Developing Investigation and Communication Skills

- 2.1 follow established safety procedures during science and technology investigations (e.g., avoid touching eyes when handling plants; never taste any part of a plant unless instructed to do so by the teacher)
- 2.2 observe and compare the parts of a variety of plants (e.g., roots of grass, carrot, dandelion; stem of cactus, carnation, tree; leaves of geranium, spider plant, pine tree)
- 2.3 germinate seeds and record similarities and differences as seedlings develop (e.g., plant quick-growing seeds – nasturtium, morning glory, sunflower, tomato, beet, or radish seeds – in peat pellets to observe growth)
- 2.4 investigate ways in which a variety of plants adapt and/or react to their

environment, including changes in their environment, using a variety of methods (e.g., read a variety of non-fiction texts; interview plant experts; view DVDs or CD-ROMs)

- 2.5 use scientific inquiry/experimentation skills and knowledge acquired from previous investigations, to investigate a variety of ways in which plants meet their basic needs

- 2.6 use appropriate science and technology vocabulary, including stem, leaf, root, pistil, stamen, flower, adaptation, and germination, in oral and written communication

- 2.7 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes (e.g., make illustrated entries in a personal science journal to describe plant characteristics and adaptations to harsh environments)

#### Specific Expectations

By the end of Grade 3, students will:

#### Understanding Basic Concepts

- 3.1 describe the basic needs of plants, including air, water, light, warmth, and space
- 3.2 identify the major parts of plants, including root, stem, flower, stamen, pistil,

leaf, seed, and fruit, and describe how each contributes to the plant's survival within the plant's environment (e.g., the roots soak up food and water for the plant; the stem carries water and food to the rest of the plant; the leaves make food for the plant with help from the sun; the flowers grow fruit and seeds for new plants)

**3.3** describe the changes that different plants undergo in their life cycles (e.g., some plants grow from bulbs to flowers, and when the flowers die off the bulb produces little bulbs that will bloom the next year; some plants grow from germination of a seed to the production of a fruit containing seeds that are then scattered by humans, animals, or the wind so that new plants can grow)

**3.4** describe how most plants get energy to live directly from the sun (e.g., plants turn the energy from the sun into food for themselves) and how plants help other living things to get energy from the sun (e.g., Other living things, which cannot "eat" sunshine, eat the plants to get the energy. They also get energy when they eat the animals that eat the plants.)

**3.5** describe ways in which humans from various cultures, including Aboriginal people, use plants for food, shelter, medicine, and clothing (e.g., food from rice plants; houses for shelter from the wood of trees; medicines from herbs; clothing from cotton plants)

**3.6** describe ways in which plants and animals depend on each other (e.g., plants provide food for energy; animals help disperse pollen and seeds, and provide manure that fertilizes the soil in which plants grow; plants need the carbon dioxide that animals breathe out, and animals need the oxygen that plants release into the air)

**3.7** describe the different ways in which plants are grown for food (e.g., on farms, in orchards, greenhouses, home gardens), and explain the advantages and disadvantages of locally grown and organically produced food, including environmental benefits

**3.8** identify examples of environmental conditions that may threaten plant and animal survival (e.g., extreme heat and cold; floods and/or droughts; changes in habitat because of human activities such as construction, use of gas-powered personal watercraft on lakes)



## *Understanding Structures and Mechanisms*

### *Strong and Stable Structures*

<b>Fundamental Concepts</b>	<b>Big Ideas</b>
<p><b>Structure and Function</b></p> <p><b>Matter</b></p>	<p>A structure has both form and function. <i>(Overall expectations 1, 2, and 3)</i></p> <p>Structures are affected by forces acting on them. <i>(Overall expectations 1 and 3)</i></p> <p>Structures need to be strong and stable to be useful. <i>(Overall expectations 1, 2, and 3)</i></p>

# Understanding Structures and Mechanisms - Strong and Stable Structures: Grade 3

## Overall Expectations

By the end of Grade 3, students will:

1. assess the importance of form, function, strength, and stability in structures through time;
2. investigate strong and stable structures to determine how their design and materials enable them to perform their load-bearing function;
3. demonstrate an understanding of the concepts of structure, strength, and stability and the factors that affect them.

## Specific Expectations

By the end of Grade 3, students will:

### Relating Science and Technology to Society and the Environment

**1.1** assess effects of strong and stable structures on society and the environment (e.g., reliable loadbearing structures are essential in all areas of life for shelter, transportation, and many other everyday purposes; strong and stable structures can endure for long periods of time and provide a historical record of other societies and cultures; strong and stable structures can be hard to dispose of when their usefulness is ended and may then have a negative effect on the environment)

**1.2** assess the environmental impact of structures built by various animals and those built by humans

## Specific Expectations

By the end of Grade 3, students will:

### Developing Investigation and Communication Skills

**2.1** follow established safety procedures during science and technology investigations (e.g., carry scissors and other cutting tools in a safe manner)

**2.2** investigate, through experimentation, how various materials (e.g., paper and wood) and construction techniques (e.g., folding, adding layers, twisting/braiding, changing shapes) can be used to add strength to structures

**2.3** investigate, through experimentation, the effects of pushing, pulling, and other forces on the shape and stability of simple structures (e.g., the effect of adding one or more struts on the strength of a tower; the effect of adding ties on the strength of a bridge; the effect of adding weight to the base of a tower on the stability of the tower)

**2.4** use technological problem-solving skills and knowledge acquired from previous investigations, to design and build a strong and stable structure that serves a purpose (e.g., a place to store lunch bags, a place to put wet boots)

**2.5** use appropriate science and technology vocabulary, including compression, tension, strut, ties, strength, and stability, in oral and written communication

**2.6** use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes (e.g., an oral report to the class on the results of experiments to strengthen materials)

## Specific Expectations

By the end of Grade 3, students will:

### Understanding Basic Concepts

**3.1** define a structure as a supporting framework, with a definite size, shape, and purpose, that holds a load (e.g., a running shoe, a tepee, a bicycle, an igloo)

**3.2** identify structures in the natural environment (e.g., a tree, a bees' nest/hive) and in the built environment (e.g., a totem pole, a fence, a pyramid, the CN Tower)

**3.3** identify the strength of a structure as its ability to support a load

**3.4** identify the stability of a structure as its ability to maintain balance and stay fixed in one spot

**3.5** identify properties of materials (e.g., strength, flexibility, durability) that need to be considered when building structures

**3.6** describe ways in which the strength of different materials can be altered (e.g., by folding, adding layers, twisting/ braiding, changing their shape)

**3.7** describe ways to improve a structure's strength (e.g., by using triangulation or crossmembers) and stability (e.g., by lowering the centre of gravity)

**3.8** explain how strength and stability enable a structure (e.g., bridge, tent) to perform a specific function

**3.9** describe ways in which different forces can affect the shape, balance, or position of structures (e.g., a load may cause a cardboard box to buckle)

**3.10** identify the role of struts and ties in structures under load (e.g., a strut is added to a wooden frame to resist compression that might cause its collapse; a tie is added to a roof truss to resist tension that might cause the roof to collapse from the weight of the shingles)

# Understanding Matter and Energy

## Forces Causing Movement

Fundamental Concepts	Big Ideas
<p><b>Energy</b></p> <p><b>Change and Continuity</b></p>	<p>There are several types of forces that cause movement. (Overall expectations 1, 2, and 3)</p> <p>Forces cause objects to speed up, slow down, or change direction through direct contact or through interaction at a distance. (Overall expectations 2 and 3)</p> <p>Forces in nature, such as high winds or water, can have a significant impact on humans and the environment, and need to be regarded with respect. (Overall expectations 1 and 3)</p>

### Understanding Matter and Energy - Forces Causing Movement: Grade 3

#### Overall Expectations

By the end of Grade 3, students will:

1. assess the impact of various forces on society and the environment;
2. investigate devices that use forces to create controlled movement;
3. demonstrate an understanding of how forces cause movement and changes in movement.

#### Specific Expectations

By the end of Grade 3, students will:

#### Relating Science and Technology to Society and the Environment

- 1.1 assess the effects of the action of forces in nature (natural phenomena) on the natural and built environment, and identify ways in which human activities can reduce or enhance this impact
- 1.2 assess the impact of safety devices that minimize the effects of forces in various human activities

#### Specific Expectations

By the end of Grade 3, students will:

#### Developing Investigation and Communication Skills

- 2.1 follow established safety procedures during science and technology investigations (e.g., use eye protection

when twisting, bending, compressing, or stretching materials)

2.2 investigate forces that cause an object to start moving, stop moving, or change direction (e.g., release a wound-up elastic band to propel a toy vehicle; pull on a leash to stop a dog; hit a ball with a bat; hold papers on a refrigerator door using magnets)

2.3 conduct investigations to determine the effects of increasing or decreasing the amount of force applied to an object (e.g., using two magnets instead of one to pick up pins; changing the number of people on one side of a tug of war; rubbing a balloon ten times instead of five times on a wool sweater to create a static charge)

2.4 use technological problem-solving skills and knowledge acquired from previous investigations, to design and build devices that use forces to create controlled movement (e.g., an airplane propelled by hand or by an elastic band; a boat that holds paper clips and moves through water using magnets; a crane that lifts a load; a timed marble run)

2.5 use appropriate science and technology vocabulary, including push, pull, load, distance, and speed, in oral and written communication

2.6 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes (e.g., give a demonstration to show how a device was constructed and how it performs; use a drawing to illustrate the design alterations needed to improve a device; describe with pictures and/or in writing the steps required to build a device)

#### Specific Expectations

By the end of Grade 3, students will:

#### Understanding Basic Concepts

3.1 identify a force as a push or a pull that causes an object to move

3.2 identify different kinds of forces (e.g., gravity – the force that pulls objects towards the earth; electrostatic force – the push or pull that happens with charged objects; magnetic force – the force of a magnet that attracts objects containing iron or nickel)

3.3 describe how different forces (e.g., magnetism, muscular force, gravitational force, friction) applied to an object at rest can cause the object to start, stop, attract, repel, or change direction

3.4 explain how forces are exerted through direct contact (e.g., pushing a door, pulling a toy) or through interaction at a distance (e.g., magnetism, gravity)

3.5 identify ways in which forces are used in their daily lives (e.g., magnetism – fridge magnet; gravity – a falling ball; friction – bicycle brakes)

# Understanding Earth and Space Systems

## Soils in the Environment

Fundamental Concepts	Big Ideas
<b>Systems and Interactions</b>	Soil is made up of living and non-living things. (Overall expectations 1, 2, and 3)
<b>Change and Continuity</b>	The composition, characteristics, and condition of soil determine its capacity to sustain life. (Overall expectations 1, 2, and 3)
<b>Sustainability and Stewardship</b>	Soil is an essential source of life and nutrients for many living things. (Overall expectation 3) Living things, including humans, interact with soils and can cause positive or negative changes. (Overall expectation 1)

### Understanding Earth and Space Systems - Soils in the Environment: Grade 3

#### Overall Expectations

By the end of Grade 3, students will:

1. assess the impact of soils on society and the environment, and of society and the environment on soils;
2. investigate the composition and characteristics of different soils;
3. demonstrate an understanding of the composition of soils, the types of soils, and the relationship between soils and other living things.

#### Specific Expectations

By the end of Grade 3, students will:

##### Relating Science and Technology to Society and the Environment

- 1.1 assess the impact of soils on society and the environment, and suggest ways in which humans can enhance positive effects and/or lessen or prevent harmful effects
- 1.2 assess the impact of human action on soils, and suggest ways in which humans can affect soils positively and/or lessen or prevent harmful effects on soils

#### Specific Expectations

By the end of Grade 3, students will:

##### Developing Investigation and Communication Skills

- 2.1 follow established safety procedures during science and technology

investigations (e.g., wash hands after working with soil samples)

**2.2** investigate the components of soil (e.g., non-living things such as pebbles and decaying matter; living things such as organic matter, bacteria, earthworms, and insects), the condition of soil (e.g., wet, dry), and additives found in soil (e.g., pesticides, fertilizers, salt), using a variety of soil samples (e.g., sand, clay, loam) from different local environments, and explain how the different amounts of these components in a soil sample determine how the soil can be used

**2.3** use scientific inquiry/experimentation skills and knowledge and skills acquired from previous investigations, to determine which type(s) of soil (e.g., sandy soil, clay soil, loam) will sustain life

**2.4** investigate the process of composting, and explain some advantages and disadvantages of composting (e.g., set up a pop-bottle composter in the classroom, and observe what happens over time)

**2.5** use appropriate science and technology vocabulary, including clay, sand, loam, pebbles, earth materials, and soil, in oral and written communication

**2.6** use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes (e.g., record in words and pictures what happens when soil and water are shaken together in a container; prepare a display comparing the composition of soils from different locations)

#### Specific Expectations

By the end of Grade 3, students will:

##### Understanding Basic Concepts

- 3.1 identify and describe the different types of soils (e.g., Sandy soil is made up

of minerals and tiny pieces of rock that have come from the erosion and weathering of rocks. It feels gritty and does not stick together well. Sandy soil drains easily and quickly after a rain and warms up quickly in the spring, but does not hold water and nutrients as well as clay soil, and is eroded

more easily. Loamy soil is made up of sand, silt, and clay in relatively equal amounts. It sticks together better than sand but not as well as clay. Loamy soil holds water and nutrients well, and also drains well so that sufficient air can reach the roots. Clay soil is a very fine-grained soil that is plastic when wet but hard when dried. It feels slick and smooth. Clay soils have poor drainage and aeration.)

**3.2** identify additives that might be in soil but that cannot always be seen (e.g., pesticides, fertilizers, salt)

**3.3** describe the interdependence between the living and non-living things that make up soil (e.g., earthworms ingest the soil and absorb the nutrients, then their castings return the nutrients to the soil; the roots of plants use the soil as an anchor to keep the plants from blowing away)

**3.4** describe ways in which the components of various soils enable the soil to provide shelter/homes and/or nutrients for different kinds of living things (e.g., microscopic bacteria and micro-organisms feed on decaying matter in the soil; roots of plants absorb minerals from the soil)

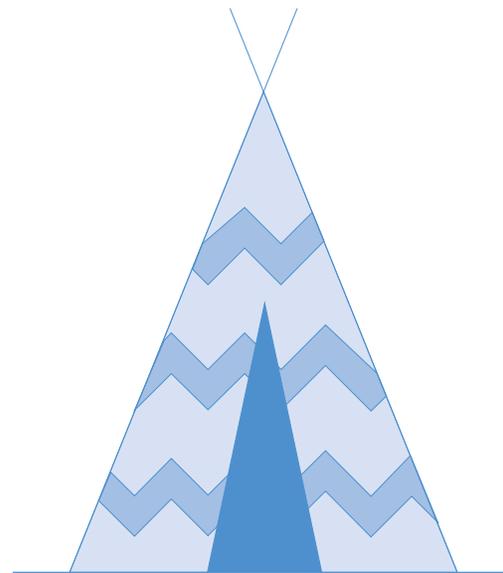
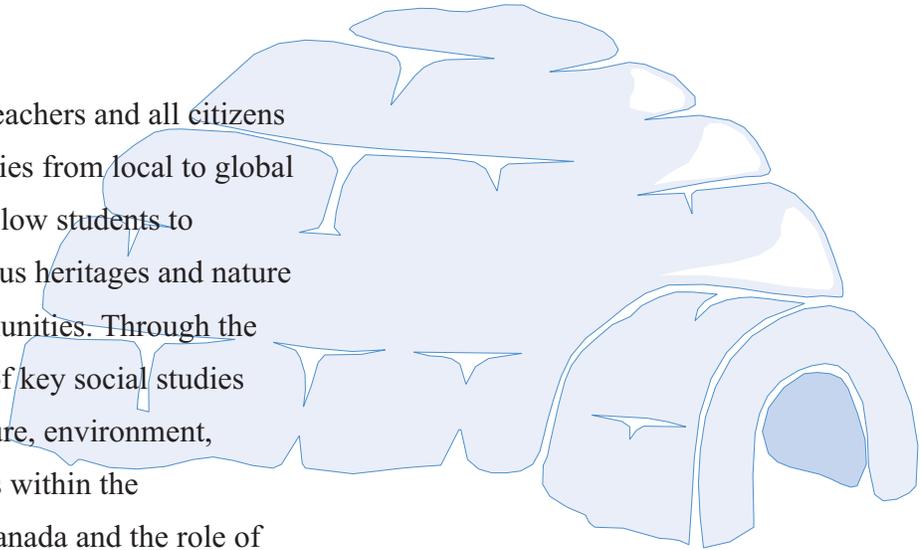
## Achievement Chart - Science and Technology, - Grades 1-8

Categories	Level 1	Level 2	Level 3	Level 4
<b>Knowledge and Understanding</b> <i>Subject-specific content acquired in each grade (knowledge), and the comprehension of its meaning and significance (understanding)</i>				
<b>The student:</b>				
<b>Knowledge of content</b> <i>(e.g., facts; terminology; definitions; safe use of tools, equipment, and materials)</i>	→ demonstrates limited knowledge of content	→ demonstrates some knowledge of content	→ demonstrates considerable knowledge of content	→ demonstrates thorough knowledge of content
<b>Understanding of content</b> <i>(e.g., concepts, ideas, theories, principles, procedures, processes)</i>	→ demonstrates limited understanding of content	→ demonstrates some understanding of content	→ demonstrates considerable understanding of content	→ demonstrates thorough understanding of content
<b>Thinking and Investigation</b> - <i>The use of critical and creative thinking skills and inquiry and problem solving skills and/or processes</i>				
<b>The student:</b>				
<b>Use of initiating and planning skills and strategies</b> <i>(e.g., formulating questions, identifying the problem, developing hypotheses, scheduling, selecting strategies and resources, developing plans)</i>	→ uses initiating and planning skills and strategies with limited effectiveness	→ uses initiating and planning skills and strategies with some effectiveness	→ uses initiating and planning skills and strategies with considerable effectiveness	→ uses initiating and planning skills and strategies with a high degree of effectiveness
<b>Use of processing skills and strategies</b> <i>(e.g., performing and recording, gathering evidence and data, observing, manipulating materials and using equipment safely, solving equations, proving)</i>	→ uses processing skills and strategies with limited effectiveness	→ uses processing skills and strategies with some effectiveness	→ uses processing skills and strategies with considerable effectiveness	→ uses processing skills and strategies with a high degree of effectiveness
<b>Use of critical/creative thinking processes, skills, and strategies</b> <i>(e.g., analysing interpreting, problem solving, evaluating, forming and justifying conclusions on the basis of evidence)</i>	→ uses critical/creative thinking processes, skills, and strategies with limited effectiveness	→ uses critical/creative thinking processes, skills, and strategies with some effectiveness	→ uses critical/creative thinking processes, skills, and strategies with considerable effectiveness	→ uses critical/creative thinking processes, skills, and strategies with a high degree of effectiveness
<b>Communication</b> <i>The conveying of meaning through various forms</i>				
<b>The student:</b>				
<b>Expression and organization of ideas and information</b> <i>(e.g., clear expression, logical organization) in oral, visual, and/or written forms</i> <i>(e.g., diagrams, models)</i>	→ expresses and organizes ideas and information with limited effectiveness	→ expresses and organizes ideas and information with some effectiveness	→ expresses and organizes ideas and information with considerable effectiveness	→ expresses and organizes ideas and information with a high degree of effectiveness

Categories	Level 1	Level 2	Level 3	Level 4
<b>Communication</b> (continued)				
<b>The student:</b>				
<b>Communication for different audiences</b> (e.g., peers, adults) and purposes (e.g., to inform, to persuade) in oral, visual, and/or written forms	→ communicates for different audiences and purposes with limited effectiveness	→ communicates for different audiences and purposes with some effectiveness	→ communicates for different audiences and purposes with considerable effectiveness	→ communicates for different audiences and purposes with a high degree of effectiveness
<b>Use of conventions, vocabulary, and terminology of the discipline in oral, visual, and/or written forms</b> (e.g., symbols, formulae, scientific notation, SI units)	→ uses conventions, vocabulary, and terminology of the discipline with limited effectiveness	→ uses conventions, vocabulary, and terminology of the discipline with some effectiveness	→ uses conventions, vocabulary, and terminology of the discipline with considerable effectiveness	→ uses conventions, vocabulary, and terminology of the discipline with a high degree of effectiveness
<b>Application</b> <i>The use of knowledge and skills to make connections within and between various contexts</i>				
<b>The student:</b>				
<b>Application of knowledge and skills</b> (e.g., concepts and processes, safe use of equipment and technology, investigation skills) in familiar contexts	→ applies knowledge and skills in familiar contexts with limited effectiveness	→ applies knowledge and skills in familiar contexts with some effectiveness	→ applies knowledge and skills in familiar contexts with considerable effectiveness	→ applies knowledge and skills in familiar contexts with a high degree of effectiveness
<b>Transfer of knowledge and skills</b> (e.g., concepts and processes, safe use of equipment and technology, investigation skills) to unfamiliar contexts	→ transfers knowledge and skills to unfamiliar contexts with limited effectiveness	→ transfers knowledge and skills to unfamiliar contexts with some effectiveness	→ transfers knowledge and skills to unfamiliar contexts with considerable effectiveness	→ transfers knowledge and skills to unfamiliar contexts with a high degree of effectiveness
<b>Making connections between science, technology, society, and the environment</b> (e.g., assessing the impact of science and technology on people, other living things, and the environment)	→ makes connections between science, technology, society, and the environment with limited effectiveness	→ makes connections between science, technology, society, and the environment with some effectiveness	→ makes connections between science, technology, society, and the environment with considerable effectiveness	→ makes connections between science, technology, society, and the environment with a high degree of effectiveness
<b>Proposing courses of practical action to deal with problems relating to science, technology, society, and the environment</b>	→ proposes courses of practical action of limited effectiveness	→ proposes courses of practical action of some effectiveness	→ proposes courses of practical action of considerable effectiveness	→ proposes highly effective courses of practical action

# *The Importance of Social Studies*

Students, their parents, friends, teachers and all citizens are part of a variety of communities from local to global in scale. Social studies courses allow students to discover and appreciate the various heritages and nature of citizenship within these communities. Through the year students gain a knowledge of key social studies concepts, including change, culture, environment, power and basic economic forces within the marketplace. They learn about Canada and the role of citizens in a democratic society and its connections around the globe. This social studies course also helps students acquire skills of inquiry and communication through field studies, research projects, the use of maps, globes and models, and the consideration of various forms of historical evidence. Students apply these skills to develop an understanding of Canadian identity and democratic values, to evaluate different points of view, and to examine information critically in order to solve problems and make decisions on issues that are relevant to their lives.



## Getting Involved

- ✓ Encourage your child to ask questions about the world.
- ✓ Stimulate your child's interest in current events and issues.
- ✓ Become familiar with the course expectations to better discuss your child's work.
- ✓ Communicate regularly with your child's teacher.
- ✓ Encourage your child to participate in activities that develop responsible citizenship.

## Heritage & Citizenship: Early Settlements in Upper Canada: Grade 3

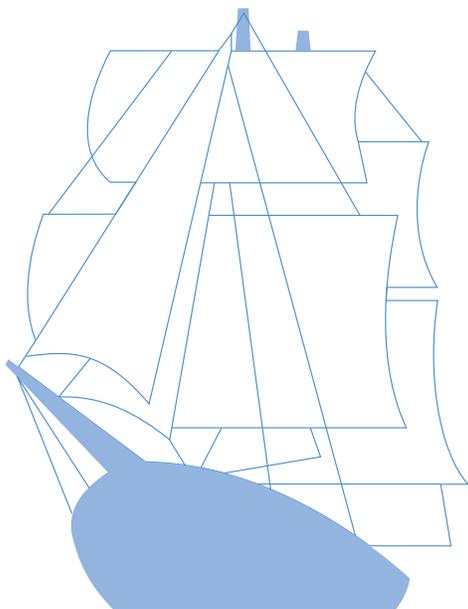
### **Overview:**

Students investigate and describe the communities of early settlers and First Nation peoples in Upper Canada around 1800. They research interactions between new settlers and existing communities of First Nation peoples and French settlers and identify factors that helped to shape the development of various communities. Students also compare communities of the past with those of the present.

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ describe the communities of early settlers and First Nation peoples in Upper Canada around 1800;
- ▶ use a variety of resources and tools to gather, process, and communicate information about interactions between new settlers and existing communities, including First Nation peoples, and the impact of factors such as heritage, natural resources, and climate on the development of early settler communities;
- ▶ compare aspects of life in early settler communities and present-day communities.



## Canada & World Connections: Urban & Rural Communities: Grade 3

### **Overview:**

Students describe similarities and differences between urban and rural communities. They investigate geographic and environmental factors that influence the development of different communities. They also examine how communities interact with each other and the environment to meet human needs.

### **Overall Expectations**

By the end of Grade 3, students will:

- ▶ identify and compare distinguishing features of urban and rural communities;
- ▶ use a variety of resources and tools to gather, process, and communicate geographic information about urban and rural communities;
- ▶ explain how communities interact with each other and the environment to meet human needs.

## Achievement Chart for Social Studies, History, and Geography - Grades 1-8

Categories	Level 1	Level 2	Level 3	Level 4
<b>Knowledge and Understanding</b> <i>Subject-specific content acquired in each grade (knowledge), and the comprehension of its meaning and significance (understanding)</i>				
<b>The student:</b>				
Knowledge of content (e.g., facts, terms, definitions)	→ demonstrates limited knowledge of content	→ demonstrates some knowledge of content	→ demonstrates considerable knowledge of content	→ demonstrates thorough knowledge of content
Understanding of content (e.g., concepts, ideas, theories, procedures, processes, methodologies, and/or technologies)	→ demonstrates limited understanding of content	→ demonstrates some understanding of content	→ demonstrates considerable understanding of content	→ demonstrates thorough understanding of content
<b>Thinking</b> <i>The use of critical and creative thinking skills and/or processes</i>				
<b>The student:</b>				
Use of planning skills (e.g., focusing research, gathering information, organizing an inquiry, asking questions, setting goals)	→ uses planning skills with limited effectiveness	→ uses planning skills with some effectiveness	→ uses planning skills with considerable effectiveness	→ uses planning skills with a high degree of effectiveness
Use of processing skills (e.g., analyzing, generating, integrating, synthesizing, evaluating, detecting point of view and bias)	→ uses processing skills with limited effectiveness	→ uses processing skills with some effectiveness	→ uses processing skills with considerable effectiveness	→ uses processing skills with a high degree of effectiveness
Use of critical/creative thinking processes (e.g., inquiry process, problem-solving process, decision-making process, research process)	→ uses critical/creative thinking processes with limited effectiveness	→ uses critical/creative thinking processes with some effectiveness	→ uses critical/creative thinking processes with considerable effectiveness	→ uses critical/creative thinking processes with a high degree of effectiveness
<b>Communication</b> <i>The conveying of meaning through various forms</i>				
<b>The student:</b>				
Expression and organization of ideas and information (e.g., clear expression, logical organization) in oral, visual, and written forms	→ expresses and organizes ideas and information with limited effectiveness	→ expresses and organizes ideas and information with some effectiveness	→ expresses and organizes ideas and information with considerable effectiveness	→ expresses and organizes ideas and information with a high degree of effectiveness

Categories	Level 1	Level 2	Level 3	Level 4
<b>Communication</b> <i>The conveying of meaning through various forms</i>				
<b>The student:</b>				
<b>Expressing and organization of ideas and information</b> (e.g., clear expression, logical organization) <b>in oral, visual, and written forms including media forms</b>	→ expresses and organizes ideas and information with limited effectiveness	→ expresses and organizes ideas and information with some effectiveness	→ expresses and organizes ideas and information with considerable effectiveness	→ expresses and organizes ideas and information with a high degree of effectiveness
<b>Communication for different audiences and purposes</b> (e.g., use of appropriate style, voice, point of view, tone) <b>in oral, visual, and written forms including media forms</b>	→ communicates for different audiences and purposes with limited effectiveness	→ communicates for different audiences and purposes with some effectiveness	→ communicates for different audiences and purposes with considerable effectiveness	→ communicates for different audiences and purposes with a high degree of effectiveness
<b>Use of conventions</b> (e.g., grammar, spelling, punctuation, usage) <b>vocabulary, and terminology of the discipline in oral, visual, and written forms including media forms</b>	→ uses conventions, vocabulary, and terminology of the discipline with limited effectiveness	→ uses conventions, vocabulary, and terminology of the discipline with some effectiveness	→ uses conventions, vocabulary, and terminology of the discipline with considerable effectiveness	→ uses conventions, vocabulary, and terminology of the discipline with a high degree of effectiveness
<b>Application</b> <i>The use of knowledge and skills to make connections within and between various contexts</i>				
<b>The student:</b>				
<b>Application of knowledge and skills</b> (e.g., concepts, strategies, processes) <b>in familiar contexts</b>	→ applies knowledge and skills in familiar contexts with limited effectiveness	→ applies knowledge and skills in familiar contexts with some effectiveness	→ applies knowledge and skills in familiar contexts with considerable effectiveness	→ applies knowledge and skills in familiar contexts with a high degree of effectiveness
<b>Transfer of knowledge and skills</b> (e.g., concepts, strategies, processes) <b>to new contexts</b>	→ transfers knowledge and skills to new contexts with limited effectiveness	→ transfers knowledge and skills to new contexts with some effectiveness	→ transfers knowledge and skills to new contexts with considerable effectiveness	→ transfers knowledge and skills to new contexts with a high degree of effectiveness
<b>Making connections within and between various contexts</b> (e.g., between the text and personal knowledge or experience, other texts, and the world outside the school; between disciplines)	→ makes connections within and between various contexts with limited effectiveness	→ makes connections within and between various contexts with some effectiveness	→ makes connections within and between various contexts with considerable effectiveness	→ makes connections within and between various contexts with a high degree of effectiveness

# *The Importance of Health & Physical Education in the Curriculum*

The health and physical education curriculum helps students develop an understanding of what they need in order to make a commitment to lifelong healthy, active living and develop the capacity to live satisfying, productive lives. Healthy, active living benefits both individuals and society in many ways – for example, by increasing productivity and readiness for learning, improving morale, decreasing absenteeism, reducing health-care costs, decreasing anti-social behaviour such as bullying and violence, promoting safe and healthy relationships, and heightening personal satisfaction. Research has shown a connection between increased levels of physical activity and better academic achievement, better concentration, better classroom behaviour, and more focused learning. Other benefits include improvements in psychological well-being, physical capacity, self-concept, and the ability to cope with stress. The expectations that make up this curriculum also provide the opportunity for students to develop social skills and emotional well-being. This practical, balanced approach will help students move successfully through elementary and secondary school and beyond. In health and physical education, students will learn the skills needed to be successful in life as active, socially responsible citizens.

## Living Skills: Grade 3

### **Overall Expectations:**

By the end of Grade 3, students will:

- ▶ demonstrate personal and interpersonal skills and the use of critical and creative thinking processes as they acquire knowledge and skills in connection with the expectations in the Active Living, Movement Competence, and Healthy Living strands for this grade.

### **Specific Expectations:**

By the end of Grade 3, students will:

#### **Personal Skills:**

- ▶ use self-awareness and self-monitoring skills to help them understand their strengths and needs, take responsibility for their actions, recognize sources of stress, and monitor their own progress, as they participate in physical activities, develop movement competence, and acquire knowledge and skills related to healthy living
- ▶ use adaptive, management, and coping skills to help them respond to the various challenges they encounter as they participate in physical activities, develop movement competence, and acquire knowledge and skills related to healthy living

#### **Interpersonal Skills:**

- ▶ communicate effectively, using verbal or non-verbal means, as appropriate, and interpret information accurately as they participate in physical activities, develop movement competence, and acquire knowledge and skills related to healthy living
- ▶ apply relationship and social skills as they participate in physical activities, develop movement competence, and acquire knowledge and skills related to healthy living to help them interact positively with others, build healthy relationships

#### **Critical and Creative Thinking:**

- ▶ use a range of critical and creative thinking skills and processes to assist them in making connections, planning and setting goals, analysing and solving problems, making decisions, resolving conflicts, and evaluating their choices in connection with learning in health and physical education

## Active Living: Grade 3

### **Overall Expectations:**

By the end of Grade 3, students will:

- ▶ participate actively and regularly in a wide variety of physical activities, and demonstrate an understanding of the value of regular physical activity in their daily lives;
- ▶ demonstrate an understanding of the importance of being physically active, and apply physical fitness concepts and practices that contribute to healthy, active living;
- ▶ demonstrate responsibility for their own safety and the safety of others as they participate in physical activities.

### **Specific Expectations:**

By the end of Grade 3, students will:

#### **Active Participation:**

- ▶ actively participate in a wide variety of program activities according to their capabilities, while applying behaviours that enhance their readiness and ability to take part
- ▶ demonstrate an understanding of factors that contribute to their personal enjoyment of being active as they participate in a wide variety of individual and small-group activities
- ▶ describe the benefits of participating in physical activity every day

#### **Physical Fitness:**

- ▶ Daily physical activity (DPA): participate in sustained moderate to vigorous physical activity, with appropriate warm-up and cool-down activities, to the best of their ability for a minimum of twenty minutes each day
- ▶ identify new capabilities and other benefits that may result from improved cardiorespiratory fitness
- ▶ assess their degree of physical exertion during cardiorespiratory fitness activities, using simple self-assessment methods
- ▶ develop and act on personal goals related to physical activity

#### **Safety:**

- ▶ demonstrate behaviours and apply procedures that maximize their safety and that of others during physical activity
- ▶ describe how to respond to accidents or injuries incurred while participating in physical activity

# Movement Competence: Skills, Concepts, and Strategies: Grade 3

## **Overall Expectations:**

By the end of Grade 3, students will:

- ▶ perform movement skills, demonstrating awareness of the basic requirements of the skills and applying movement concepts as appropriate, as they engage in a variety of physical activities;
- ▶ apply movement strategies appropriately, demonstrating an understanding of the components of a variety of physical activities, in order to enhance their ability to participate successfully in those activities.

## **Specific Expectations:**

By the end of Grade 3, students will:

### **Movement Skills and Concepts:**

- ▶ perform controlled transitions between static positions, using different body parts and shapes and different levels, with and without equipment
- ▶ demonstrate the ability to jump for distance or height, using two-foot and one-foot take-offs, while remaining in control
- ▶ perform a variety of locomotor movements with and without equipment, alone and with others, moving at different levels, using different pathways, and travelling in different directions
- ▶ send and receive objects of different shapes and sizes in different ways, using different body parts, at different levels, and using various types of equipment
- ▶ retain objects of different shapes and sizes in different ways, using different body parts and equipment

### **Movement Strategies:**

- ▶ demonstrate an understanding that different physical activities have different components and apply this understanding as they participate in and explore a variety of individual and small-group activities
- ▶ apply a variety of simple tactics to increase their chances of success during physical activities

# Healthy Living: Grade 3

## **Overall Expectations:**

By the end of Grade 3, students will:

- ▶ demonstrate an understanding of factors that contribute to healthy development;
- ▶ demonstrate the ability to apply health knowledge and living skills to make reasoned decisions and take appropriate actions relating to their personal health and well-being;
- ▶ demonstrate the ability to make connections that relate to health and well-being – how their choices and behaviours affect both themselves and others, and how factors in the world around them affect their own and others' health and well-being.

## **Specific Expectations:**

By the end of Grade 3, students will:

### **Understanding Health Concepts:**

#### **Healthy Eating**

- ▶ demonstrate an understanding of how the origins of food affect its nutritional value and environmental impact

#### **Substance Use, Addictions, and Related Behaviours**

- ▶ demonstrate an understanding of different types of legal and illegal substance abuse and the impacts of abusing these substances on themselves and others

### **Making Healthy Choices:**

#### **Healthy Eating**

- ▶ demonstrate an understanding of the importance of good oral health to overall health, and assess the effect of different food choices on oral health

#### **Personal Safety and Injury Prevention**

- ▶ apply their understanding of good safety practices by developing safety guidelines for a variety of places and situations outside the classroom

#### **Substance Use, Addictions, and Related Behaviours**

- ▶ apply decision-making strategies to make healthy choices about behaviours and the use of various substances in ways that could lead to dependencies, identifying factors that should be considered

## **Making Connections for Healthy Living:**

### **Healthy Eating**

- ▶ explain how local fresh foods and foods from different cultures can be used to expand their range of healthy eating choices

### **Personal Safety and Injury Prevention**

- ▶ explain how the portrayal of fictional violence in various media can create an unrealistic view of the consequences of real violence



# Achievement Chart for Health and Physical Education - Grades 1-8

Categories	Level 1	Level 2	Level 3	Level 4
<b>Knowledge and Understanding</b> <i>Subject-specific content acquired in each grade (knowledge), and the comprehension of its meaning and significance (understanding)</i>				
<b>The student:</b>				
Knowledge of content (e.g., facts, definitions, skills, principles and strategies, safe practices and procedures)	→ demonstrates limited knowledge of content	→ demonstrates some knowledge of content	→ demonstrates considerable knowledge of content	→ demonstrates thorough knowledge of content
Understanding of content (e.g., processes, techniques, ideas, relationships between concepts)	→ demonstrates limited understanding of content	→ demonstrates some understanding of content	→ demonstrates considerable understanding of content	→ demonstrates thorough understanding of content
<b>Thinking</b> <i>The use of critical and creative thinking skills and/or processes</i>				
<b>The student:</b>				
Use of planning skills (e.g., identifying the problem, formulating questions and ideas, gathering and organizing information; developing fitness plans; selecting strategies)	→ uses planning skills with limited effectiveness	→ uses planning skills with some effectiveness	→ uses planning skills with considerable effectiveness	→ uses planning skills with a high degree of effectiveness
Use of processing skills (e.g., synthesizing information, evaluating risk and determining appropriate safety measures, revising fitness goals, detecting bias)	→ uses processing skills with limited effectiveness	→ uses processing skills with some effectiveness	→ uses processing skills with considerable effectiveness	→ uses processing skills with a high degree of effectiveness
Use of critical/creative thinking processes (e.g., goal setting, decision making, problem solving; analysing movement skills, strategizing, reflecting on learning and determining steps for improvement, critiquing)	→ uses critical/creative thinking processes with limited effectiveness	→ uses critical/creative thinking processes with some effectiveness	→ uses critical/creative thinking processes with considerable effectiveness	→ uses critical/creative thinking processes with a high degree of effectiveness
<b>Communication</b> <i>The conveying of meaning through various forms</i>				
<b>The student:</b>				
Expression and organization of ideas and information in oral, visual, and/or written forms (e.g., demonstrations, role plays, conferences, presentations, posters, pamphlets, journals)	→ expresses and organizes ideas and information with limited effectiveness	→ expresses and organizes ideas and information with some effectiveness	→ expresses and organizes ideas and information with considerable effectiveness	→ expresses and organizes ideas and information with a high degree of effectiveness
Communication for different audiences (e.g., peers, teammates, adults) and purposes (e.g., to inform, instruct, promote) and in oral, visual, and/or written forms	→ communicates for different audiences and purposes with limited effectiveness	→ communicates for different audiences and purposes with some effectiveness	→ communicates for different audiences and purposes with considerable effectiveness	→ communicates for different audiences and purposes with a high degree of effectiveness

Categories	Level 1	Level 2	Level 3	Level 4
<p><b>Communication</b> <i>The conveying of meaning through various forms</i></p> <p>Use of health and physical education conventions, vocabulary, and terminology (e.g., using and interpreting signals and body language; using correct terminology to discuss parts of the body, health-related components of fitness, phases of movement [preparation, execution, follow-through]) in oral, visual and/or written forms</p>	<p><b>The student:</b></p> <p>→ uses conventions, vocabulary, and terminology with limited effectiveness</p>	<p>→ uses conventions, vocabulary, and terminology with some effectiveness</p>	<p>→ uses conventions, vocabulary, and terminology with considerable effectiveness</p>	<p>→ uses conventions, vocabulary, and terminology with a high degree of effectiveness</p>
<p><b>Application</b> <i>The use of knowledge and skills to make connections within and between various contexts</i></p> <p>Application of knowledge and skills (e.g., movement skills, concepts, principles, strategies; training principles; health concepts; safe practices; personal and interpersonal skills, including teamwork, fair play, etiquette, leadership) in familiar contexts (e.g., physical activities, healthy living discussions)</p> <p>Transfer of knowledge and skills to new contexts (e.g., transfer of movement skills, strategies, and tactics from a familiar physical activity to a new activity, transfer of planning skills to contexts such as fitness, healthy eating, healthy sexuality)</p> <p>Making connections within and between various contexts (e.g., between active participation, learning in the health and physical education program, and healthy, active living; between health and physical education, other subjects, and personal experiences in and beyond school)</p>	<p>→ applies knowledge and skills in familiar contexts with limited effectiveness</p> <p>→ applies knowledge and skills in familiar contexts with a high degree of effectiveness</p> <p>→ makes connections within and between various contexts with limited effectiveness</p>	<p>→ applies knowledge and skills in familiar contexts with some effectiveness</p> <p>→ transfers knowledge and skills to new contexts with some effectiveness</p> <p>→ makes connections within and between various contexts with some effectiveness</p>	<p>→ applies knowledge and skills in familiar contexts with considerable effectiveness</p> <p>→ transfers knowledge and skills to new contexts with considerable effectiveness</p> <p>→ makes connections within and between various contexts with considerable effectiveness</p>	<p>→ applies knowledge and skills in familiar contexts with a high degree of effectiveness</p> <p>→ transfers knowledge and skills to new contexts with a high degree of effectiveness</p> <p>→ makes connections within and between various contexts with a high degree of effectiveness</p>

## Physical Literacy

Individuals who are physically literate move with competence in a wide variety of physical activities that benefit the development of the whole person.

## Health Literacy

Health literacy involves the skills needed to get, understand and use information to make good decisions for health. The Canadian Public Health Association's Expert Panel on Health Literacy defines it as the ability to access, understand, evaluate and communicate information as a way to promote, maintain and improve health in a variety of settings across the life-course.



## Health and Physical Education: Strands, Subgroups, and Living Skills

### Living Skills

#### Personal Skills

- Self-awareness and self-monitoring skills
- Adaptive, management, and coping skills

#### Interpersonal Skills

- Communication skills
- Relationship and social skills

#### Critical and Creative Thinking

- Planning
- Processing
- Drawing conclusions/presenting results
- Reflecting/evaluating

### Active Living

#### Active Participation

- Regular participation, variety, lifelong activity
- Enjoyment, motivation

#### Physical Fitness

- Fitness development through daily physical activity, personal fitness plans

#### Safety

- Personal safety and safety of others during physical activity

### Movement Competence: Skills, Concepts, Strategies

#### Movement Skills and Concepts

- Movement skills – stability, locomotion, manipulation
- Movement concepts – body awareness, effort, spatial awareness, relationships
- Movement principles

#### Movement Strategies

- Components of physical activities
- Strategies and tactics in all physical activities

### Healthy Living

#### Understanding Health Concepts

- Understanding the factors that contribute to healthy growth and development

#### Making Healthy Choices

- Applying health knowledge, making decisions about personal health and well-being

#### Making Connections for Healthy Living

- Making connections to link personal health and well-being to others and the world around them

Expectations in the Healthy Living strand focus on the following four health topics. Positive behaviours in relation to each topic area contribute to overall mental health and emotional well-being.

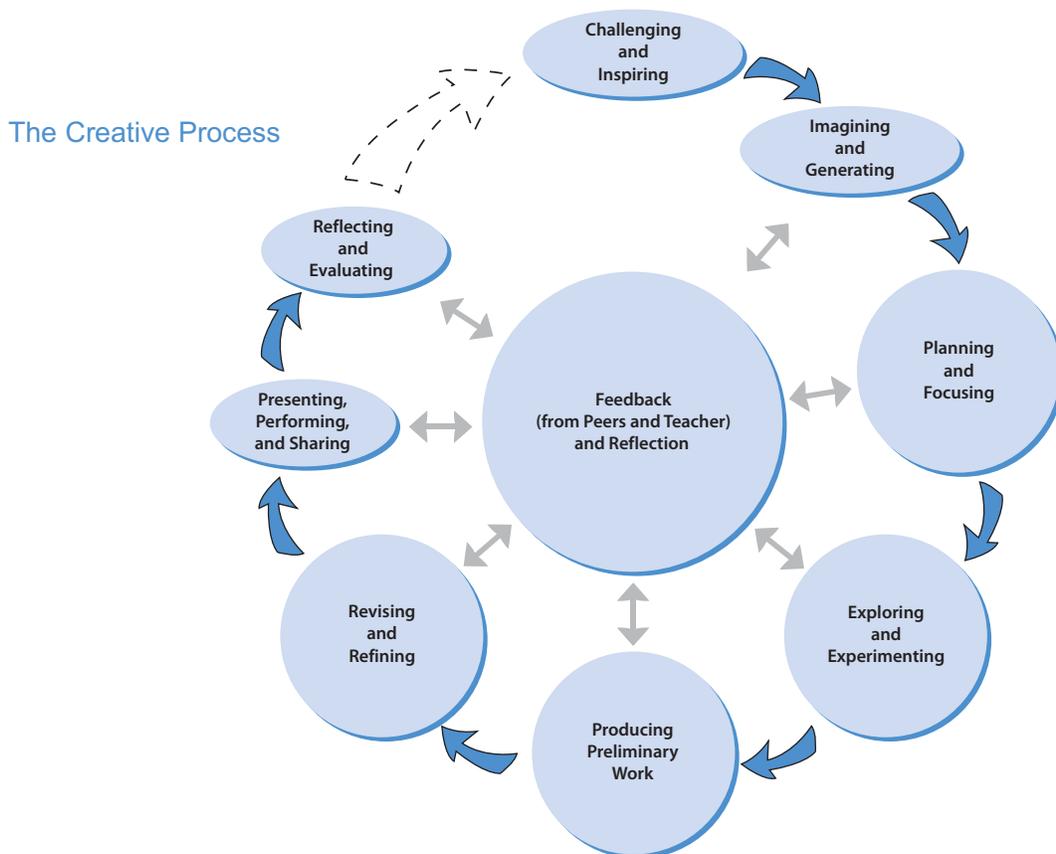
- Healthy Eating
- Personal Safety and Injury Prevention
- Substance Use, Addictions, and Related Behaviours
- Human Development and Sexual Health

**Mental Health and Emotional Well-being**

# The Importance of the Arts

Education in the arts is essential to students' intellectual, social, physical, and emotional growth and well-being. Experiences in the arts – in dance, drama, music, and visual arts – play a valuable role in helping students to achieve their potential as learners and to participate fully in their community and in society as a whole. The arts provide a natural vehicle through which students can explore and express themselves and through which they can discover and interpret the world around them. Participation in the arts contributes in important ways to students' lives and learning – it involves intense engagement, development of motivation and confidence, and the use of creative and

dynamic ways of thinking and knowing. It is well documented that the intellectual and emotional development of children is enhanced through study of the arts. Through the study of dance, drama, music, and visual arts, students develop the ability to think creatively and critically. The arts nourish and stimulate the imagination, and provide students with an expanded range of tools, techniques, and skills to help them gain insights into the world around them and to represent their understandings in various ways. Study of the arts also provides opportunities for differentiation of both instruction and learning environments.



# Achievement Chart - The Arts, Grades 1–8

Categories	Level 1	Level 2	Level 3	Level 4
<b>Knowledge and Understanding</b> <i>Subject-specific content acquired in each grade (knowledge), and the comprehension of its meaning and significance (understanding)</i>				
<b>The student:</b>				
<b>Knowledge of content</b> <i>(e.g., facts, genres, terms, definitions, techniques, elements, principles, forms, structures, conventions)</i>	- demonstrates limited knowledge of content	- demonstrates some knowledge of content	- demonstrates considerable knowledge of content	- demonstrates thorough knowledge of content
<b>Understanding of content</b> <i>(e.g., concepts, ideas, procedures, processes, themes, relationships among elements, informed opinions)</i>	- demonstrates limited understanding of content	- demonstrates some understanding of content	- demonstrates considerable understanding of content	- demonstrates thorough understanding of content
<b>Thinking</b> <i>The use of critical and creative thinking skills and/or processes</i>				
<b>The student:</b>				
<b>Use of planning skills</b> <i>(e.g., formulating questions, generating ideas, gathering information, focusing research, outlining, organizing an arts presentation or project, brainstorming/ bodystorming, blocking, sketching, using visual organizers, listing goals in a rehearsal log, inventing notation)</i>	- uses planning skills with limited effectiveness	- uses planning skills with some effectiveness	- uses planning skills with considerable effectiveness	- uses planning skills with a high degree of effectiveness
<b>Use of processing skills</b> <i>(e.g., analysing, evaluating, inferring, interpreting, editing, revising, refining, forming conclusions, detecting bias, synthesizing)</i>	- uses processing skills with limited effectiveness	- uses processing skills with some effectiveness	- uses processing skills with considerable effectiveness	- uses processing skills with a high degree of effectiveness
<b>Use of critical/creative thinking processes</b> <i>(e.g., creative and analytical processes, design process, exploration of the elements, problem solving, reflection, elaboration, oral discourse, evaluation, critical literacy, metacognition, invention, critiquing, reviewing)</i>	- uses critical/creative thinking processes with limited effectiveness	- uses critical/creative thinking processes with some effectiveness	- uses critical/creative thinking processes with considerable effectiveness	- uses critical/creative thinking processes with a high degree of effectiveness

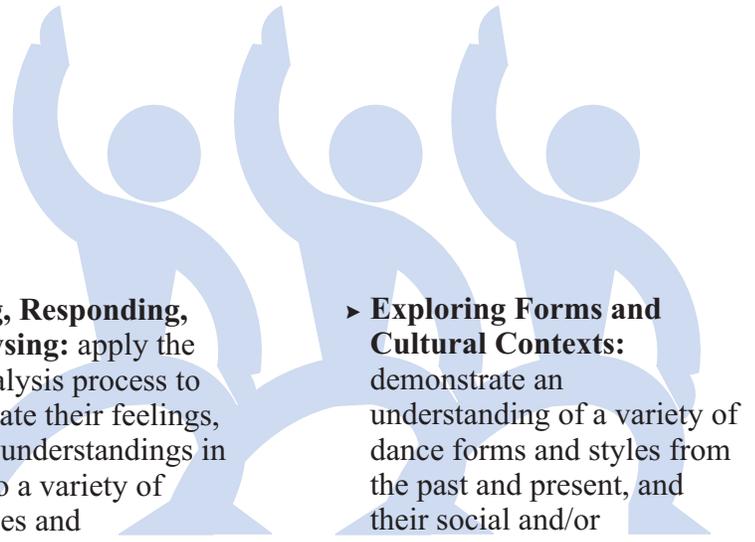
Categories	Level 1	Level 2	Level 3	Level 4
<b>Communication</b> <i>The conveying of meaning through various forms</i>				
<b>The student:</b>				
<b>Expression and organization of ideas and understandings in art forms</b> ( <i>dance, drama, music, and the visual arts</i> ), including media/multimedia forms ( <i>e.g., expression of ideas and feelings using visuals, movements, the voice, gestures, phrasing, techniques</i> ), and <b>in oral and written forms</b> ( <i>e.g., clear expression and logical organization in critical responses to art works and informed opinion pieces</i> )	- expresses and organizes ideas and understandings with limited effectiveness	- expresses and organizes ideas and understandings with some effectiveness	- expresses and organizes ideas and understandings with considerable effectiveness	- expresses and organizes ideas and understandings with a high degree of effectiveness
<b>Communication for different audiences</b> ( <i>e.g., peers, adults, younger children</i> ) and <b>purposes through the arts</b> ( <i>e.g., drama presentations, visual arts exhibitions, dance and music performances</i> ) and <b>in oral and written forms</b> ( <i>e.g., debates, analyses</i> )	- communicates for different audiences and purposes with limited effectiveness	- communicates for different audiences and purposes with some effectiveness	- communicates for different audiences and purposes with considerable effectiveness	- communicates for different audiences and purposes with a high degree of effectiveness
<b>Use of conventions in dance, drama, music, and the visual arts</b> ( <i>e.g., allegory, narrative or symbolic representation, style, articulation, drama conventions, choreographic forms, movement vocabulary</i> ) and <b>arts vocabulary and terminology in oral and written forms</b>	- uses conventions, vocabulary, and terminology of the arts with limited effectiveness	- uses conventions, vocabulary, and terminology of the arts with some effectiveness	- uses conventions, vocabulary, and terminology of the arts with considerable effectiveness	- uses conventions, vocabulary, and terminology of the arts with a high degree of effectiveness
<b>Application</b> <i>The use of knowledge and skills to make connections within and between various contexts</i>				
<b>The student:</b>				
<b>Application of knowledge and skills</b> ( <i>e.g., performance skills, composition, choreography, elements, principles, processes, technologies, techniques, strategies, conventions</i> ) <b>in familiar contexts</b> ( <i>e.g., guided improvisation, performance of a familiar work, use of familiar forms</i> )	- applies knowledge and skills in familiar contexts with limited effectiveness	- applies knowledge and skills in familiar contexts with some effectiveness	- applies knowledge and skills in familiar contexts with considerable effectiveness	- applies knowledge and skills in familiar contexts with a high degree of effectiveness
<b>Transfer of knowledge and skills</b> ( <i>e.g., concepts, strategies, processes, techniques</i> ) <b>to new contexts</b> ( <i>e.g., a work requiring stylistic variation, an original composition, student-led choreography, an interdisciplinary or multidisciplinary project</i> )	- transfers knowledge and skills to new contexts with limited effectiveness	- transfers knowledge and skills to new contexts with some effectiveness	- transfers knowledge and skills to new contexts with considerable effectiveness	- transfers knowledge and skills to new contexts with a high degree of effectiveness
<b>Making connections within and between various contexts</b> ( <i>e.g., between the arts; between the arts and personal experiences and the world outside the school; between cultural and historical, global, social, and/or environmental contexts; between the arts and other subjects</i> )	- makes connections within and between various contexts with limited effectiveness	- makes connections within and between various contexts with some effectiveness	- makes connections within and between various contexts with considerable effectiveness	- makes connections within and between various contexts with a high degree of effectiveness

## Dance: Grade 3

### *Overall Expectations*

By the end of Grade 3, students will:

- ▶ **Creating and Presenting:** apply the creative process to the composition of dance phrases, using the elements of dance to communicate feelings and ideas;
- ▶ **Reflecting, Responding, and Analysing:** apply the critical analysis process to communicate their feelings, ideas, and understandings in response to a variety of dance pieces and experiences;
- ▶ **Exploring Forms and Cultural Contexts:** demonstrate an understanding of a variety of dance forms and styles from the past and present, and their social and/or community contexts.

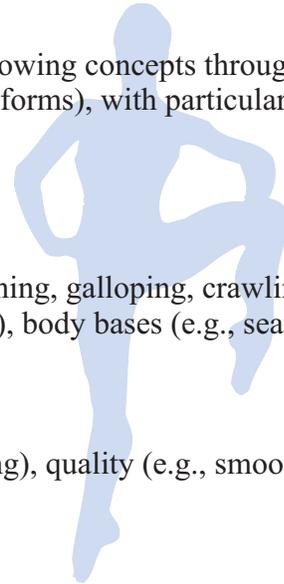


## Dance: Fundamental Concepts for Grade 3

Students in Grade 3 will develop or extend understanding of the following concepts through participation in various dance experiences (e.g., exploring movement and pattern forms), with particular emphasis on time and energy.

### ELEMENTS OF DANCE

- **body:** body actions, body shapes, locomotor movements (e.g., running, galloping, crawling), non-locomotor movements (e.g., lifting, pulling, marching, waving arms), body bases (e.g., seat as base), use of body zones (e.g., body areas of front and back)
- **space:** levels, pathways, directions, size of movement
- **time:** freeze, tempo (e.g., slow, sustained, fast)
- **energy:** force (e.g., lightness/strength), effort (e.g., pressing, gliding), quality (e.g., smoothly, cautiously, erratically, percussively)
- **relationship:** (e.g., interconnected shapes)

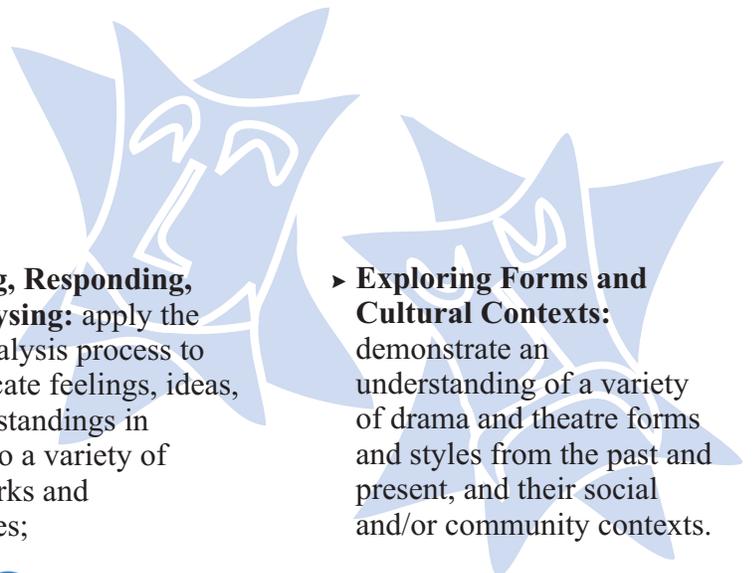


## Drama: Grade 3

### *Overall Expectations:*

By the end of Grade 3, students will:

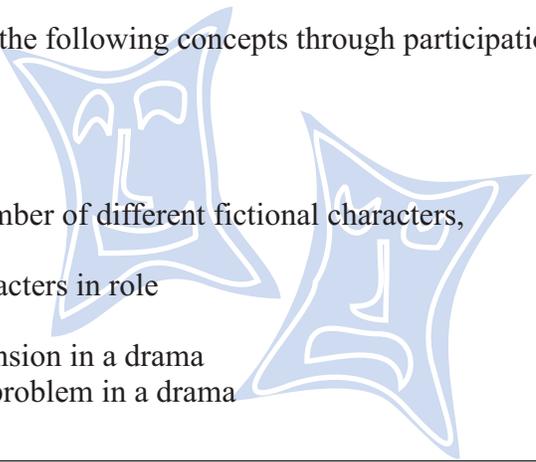
- ▶ **Creating and Presenting:** apply the creative process to dramatic play and process drama, using the elements and conventions of drama to communicate feelings, ideas, and stories;
- ▶ **Reflecting, Responding, and Analysing:** apply the critical analysis process to communicate feelings, ideas, and understandings in response to a variety of drama works and experiences;
- ▶ **Exploring Forms and Cultural Contexts:** demonstrate an understanding of a variety of drama and theatre forms and styles from the past and present, and their social and/or community contexts.



## Drama: Fundamental Concepts for Grade 3

Students in Grade 3 will develop or extend understanding of the following concepts through participation in various drama experiences.

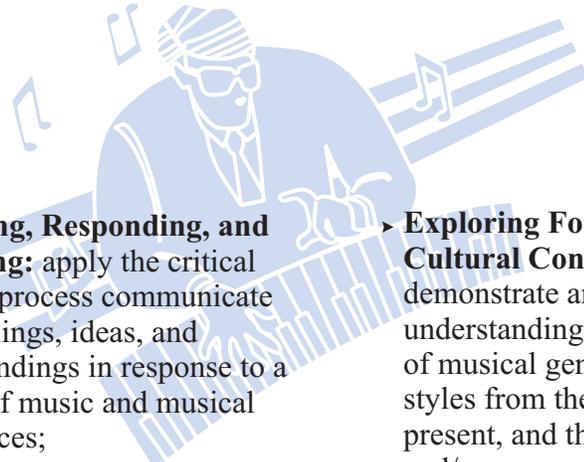
### ELEMENTS OF DRAMA

- **role/character:** adopting the attitude/point of view of a number of different fictional characters, dialogue
  - **relationship:** listening and responding in role to other characters in role
  - **time and place:** establishing a clear setting
  - **tension:** identifying factors that contribute to mystery or tension in a drama
  - **focus and emphasis:** identifying the central theme and/or problem in a drama
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## Music: Grade 3

### Overall Expectations

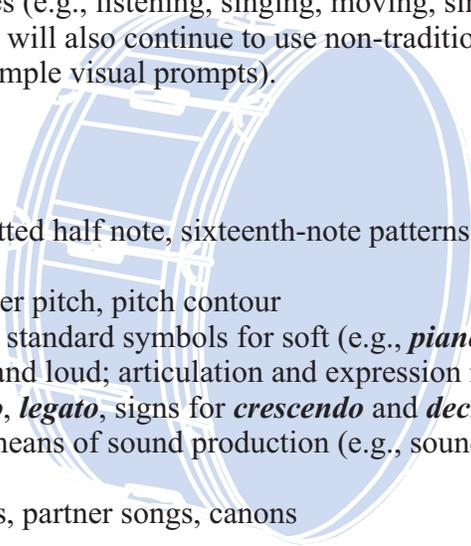
By the end of Grade 3, students will:

- ▶ **Creating and Performing:** apply the creative process to create and perform music for a variety of purposes, using the elements and techniques of music;
  - ▶ **Reflecting, Responding, and Analysing:** apply the critical analysis process communicate their feelings, ideas, and understandings in response to a variety of music and musical experiences;
  - ▶ **Exploring Forms and Cultural Contexts:** demonstrate an understanding of a variety of musical genres and styles from the past and present, and their social and/or community contexts.
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## Music: Fundamental Concepts for Grade 3

In Grade 3, students will build on their knowledge of the elements of music and related musical concepts that were introduced in Grades 1 and 2. Students will develop understanding of musical concepts through participation in various musical experiences (e.g., listening, singing, moving, simple instrumental playing, playing with musical manipulatives). They will also continue to use non-traditional forms of notation (e.g., simple rhythmic notation symbols, simple visual prompts).

### ELEMENTS OF MUSIC

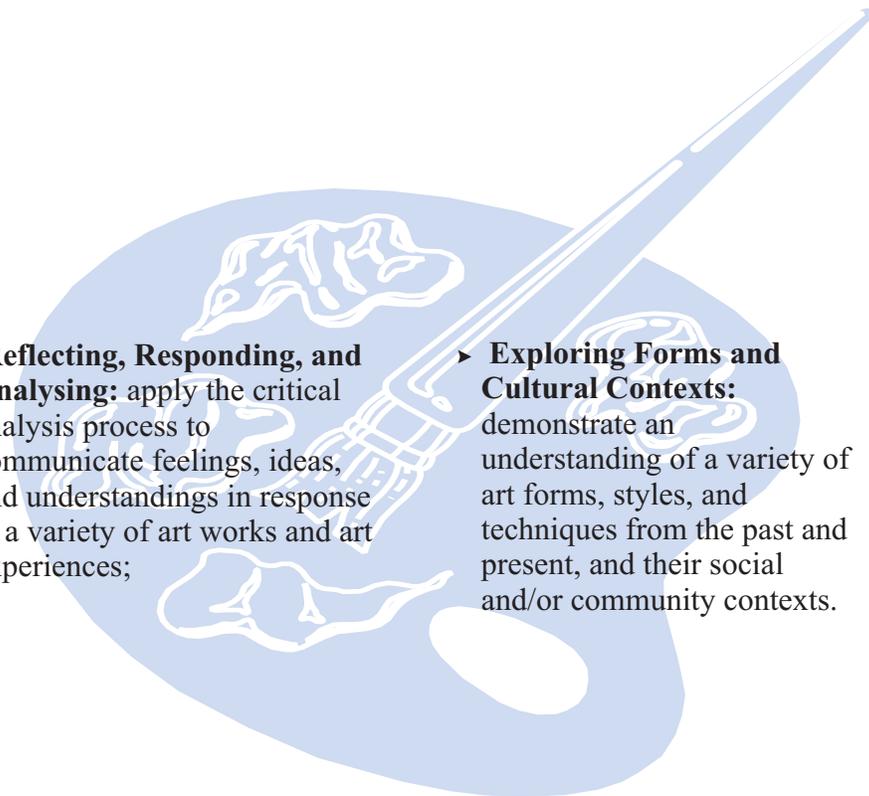
- **duration:** three beats per bar ( metre), dotted half note, sixteenth-note patterns, sixteenth rest; very fast (*presto*), very slow (*largo*)
  - **pitch:** low “so”, low “la”, higher and lower pitch, pitch contour
  - **dynamics and other expressive controls:** standard symbols for soft (e.g., *piano – p*) and loud (e.g., *forte – f*); invented symbols for soft and loud; articulation and expression marks encountered in music listened to, sung, and played (e.g., *staccato*, *legato*, signs for *crescendo* and *decrescendo*)
  - **timbre:** classification of instruments by means of sound production (e.g., sounds produced by strumming, striking, shaking, blowing)
  - **texture/harmony:** simple two-part rounds, partner songs, canons
  - **form:** section, ternary (ABA) form
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# Visual Arts: Grade 3

## Overall Expectations

By the end of Grade 3, students will:

- ▶ **Creating and Presenting:** apply the creative process to produce a variety of two- and three-dimensional art works, using elements, principles, and techniques of visual arts to communicate feelings, ideas, and understandings;
- ▶ **Reflecting, Responding, and Analysing:** apply the critical analysis process to communicate feelings, ideas, and understandings in response to a variety of art works and art experiences;
- ▶ **Exploring Forms and Cultural Contexts:** demonstrate an understanding of a variety of art forms, styles, and techniques from the past and present, and their social and/or community contexts.



## Visual Arts: Fundamental Concepts for Grade 3

In addition to the concepts introduced in Grades 1 and 2, students will develop understanding of the following concepts through participation in a variety of hands-on, open-ended visual arts experiences.

### ELEMENTS OF DESIGN

Students will develop understanding of all elements of design.

- **line:** variety of line (e.g., thick, thin, dotted)
- **shape and form:** composite shapes; symmetrical and asymmetrical shapes and forms in both the human-made environment and the natural world (e.g., symmetrical: insects, flowers, skyscrapers; asymmetrical: windblown trees, some contemporary additions to buildings [asymmetrical façade in Daniel Libeskind's design for the Royal Ontario Museum])
- **space:** foreground, middle ground, and background to give illusion of depth
- **colour:** colour for expression (e.g., warm and cool colours); colour to indicate emotion; mixing of colours with white to make a range of warm and cool tints
- **texture:** real versus visual or illusory texture (e.g., smooth surface of a ceramic work versus drawing of rough tree bark); etching by scratching through surfaces (e.g., crayon etching on a scratchboard)
- **value:** mixing a range of light colours and dark colours

### PRINCIPLES OF DESIGN

Students will develop understanding of all principles of design (that is, contrast, repetition and rhythm, variety, emphasis, proportion, balance, unity and harmony, and movement), but the focus in Grade 3 will be on variety.

- **variety:** slight variations on a major theme; strong contrasts (e.g., use of different lines, shapes, values, and colours to create interest [bright or light colour values, dark colour values])