

# GRADE 2

## The Ontario Curriculum

## Expectations for Grade 2

### 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*

# 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

- ✓ Read a variety of materials with your child: poems, recipes, stories, magazines, etc.
- ✓ Support your child's spelling attempts and praise their willingness to try.

## Oral Communication: Grade 2

### Overall Expectations

By the end of Grade 2, students will:

- ▶ listen in order to understand and respond appropriately in a variety of situations for a variety of purposes

### Specific Expectations

By the end of Grade 2, students will:

#### Listen to Understand

##### Purpose

- identify purposes for listening in a variety of situations, formal and informal, and set personal goals for listening, initially with support and direction

##### Active Listening Strategies

- demonstrate an understanding of appropriate listening behaviour by using active listening strategies in a variety of situations

##### Comprehension Strategies

- identify several listening comprehension strategies and use them 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 oral texts by retelling the story or restating the information, including the main idea and several interesting details

##### Making Inferences/Interpreting Texts

- use stated and implied information and ideas in oral texts to make simple inferences and reasonable predictions, and support the inferences with evidence from the text

##### 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 words or phrases that indicate whether an oral text is fact or opinion, initially with support and direction

##### Point of View

- identify, initially with support and direction, who is speaking in an oral text, and demonstrate an understanding that the speaker has his or her own

### **Presentation Strategies**

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

### **Overall Expectations**

By the end of Grade 2, 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 2, 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 paired sharing and small- and large-group discussions

##### **Clarity and Coherence**

- communicate ideas, opinions, and information orally in a clear, coherent manner using simple but appropriate organizational patterns

##### **Appropriate Language**

- choose a variety of appropriate words and phrases 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 few different visual aids, (e.g., *photographs, artefacts, a story map*) to support or enhance oral presentations

### **Overall Expectations**

By the end of Grade 2, 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 2, students will:

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

##### **Metacognition**

- identify, initially with support and direction, a few strategies they found helpful before, during, and after listening and speaking

##### **Interconnected Skills**

- identify, initially with support and direction, how their skills as viewers, representers, readers, and writers help them improve their oral communication skills

## **Reading: Grade 2**

### **Overall Expectations**

By the end of Grade 2, 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 2, students will:

#### **Read for Meaning**

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

- read some different literary texts, graphic texts (e.g., *simple maps, charts, diagrams, graphs*), and informational texts (e.g., *non-fiction books about topics of personal interest, electronic texts, primary dictionaries*)

##### **Purpose**

- identify several different purposes for reading and choose reading materials appropriate for those purposes

##### **Comprehension Strategies**

- identify several reading comprehension strategies and use them before, during, and after reading to understand texts

##### **Demonstrating Understanding**

- demonstrate understanding of a text by retelling the story or restating information from the text, with the inclusion of a few interesting details

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

- use stated and implied information and ideas in texts to make simple inferences and reasonable predictions about them

### **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 the main idea and some additional elements of texts

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

- express personal thoughts and feelings about what has been read

### **Point of View**

- identify, initially with support and direction, the speaker and the point of view presented in a text and suggest one or two possible alternative perspectives

### **Overall Expectations**

By the end of Grade 2, 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 2, students will:

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

##### **Text Forms**

- identify and describe the characteristics of a few simple text forms, with a focus on literary texts such as a fairy tale (e.g., *plot, characters, setting*), graphic texts such as a primary dictionary and informational texts such as a “How to” book

##### **Text Patterns**

- recognize simple organizational patterns in texts of different types, and explain, initially with support and direction, how the patterns help readers understand the texts

##### **Text Features**

- identify some text features and explain how they help readers understand texts

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

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

# Writing: Grade 2

## Overall Expectations

By the end of Grade 2, students will:

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

## Specific Expectations

By the end of Grade 2, students will:

### Read with Fluency

#### Reading Familiar Words

- automatically read and understand many high-frequency words, some words with common spelling patterns, and words of personal interest or significance, in a variety of reading contexts

#### Reading Unfamiliar Words

- predict the meaning of and quickly 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 to the reader and to an audience

## Overall Expectations

By the end of Grade 2, 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 2, students will:

### Reflect on Reading Skills and Strategies

#### Metacognition

- identify, initially with support and direction, a few strategies that they found helpful before, during, and after reading

#### Interconnected Skills

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

## Overall Expectations

By the end of Grade 2, students will:

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

## Specific Expectations

By the end of Grade 2, 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, with support and direction

#### Organizing Ideas

- identify and order main ideas and supporting details, using graphic organizers and organizational patterns

#### Review

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

## Overall Expectations

By the end of Grade 2, 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 2, students will:

### Use Knowledge of Form and Style in Writing

#### Form

- write short texts using several simple forms

#### Voice

- establish a personal voice in their writing, with a focus on using familiar words that convey their attitude or feeling towards the subject or audience

## Word Choice

- use familiar words and phrases to communicate relevant details

## Sentence Fluency

- use a variety of sentence types

## Point of View

- identify, initially with support and direction, their point of view and one or more possible different points of view about the topic

## Preparing for Revision

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

## Revision

- make simple 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 criteria identified by the teacher, based on the expectations

## Overall Expectations

By the end of Grade 2, 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 2, students will:

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

#### Spelling Familiar Words

- spell many high-frequency 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 a few different types of resources

#### Punctuation

- use punctuation to help communicate their intended meaning, with a focus on the use of: question marks, periods, or exclamation marks at the end of a sentence; commas to mark pauses; and some uses of quotation marks

## Grammar

- use parts of speech appropriately to communicate their meaning clearly, with a focus on the use of: proper nouns for local, provincial, and national place names and for holidays; the personal object pronouns *me, you, him, her, us, them*; adjectives to describe a noun; verbs in the simple present and past tenses; joining words (*e.g., and, but*); simple prepositions of place and time (*e.g., under, with, before, after*)

## Proofreading

- proofread and correct their writing using a simple checklist or a few guiding questions developed with the teacher and posted for reference

## Publishing

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

## Producing Finished Works

- produce pieces of published work to meet criteria identified by the teacher, based on the expectations

## Overall Expectations

By the end of Grade 2, 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 2, students will:

### Reflect on Writing Skills and Strategies

#### Metacognition

- identify some strategies they found helpful before, during, and after writing

#### 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 2

## Overall Expectations

By the end of Grade 2, students will:

- ▶ demonstrate an understanding of a variety of media texts

## Specific Expectations

By the end of Grade 2, students will:

### Understand Media Texts

#### Purpose and Audience

- identify the purpose and intended audience of some simple media texts

#### Making Inferences/Interpreting Messages

- identify overt and implied messages in simple media texts

#### Responding to and Evaluating Texts

- express personal thoughts and feelings about simple media works and explain their responses

#### Audience Responses

- describe how different audiences might respond to specific media texts

#### Point of View

- identify, initially with support and direction, whose point of view is presented in a simple media text and suggest how the text might change if a different point of view were used

#### Production Perspectives

- identify, initially with support and direction, who makes some of the

## Overall Expectations

By the end of Grade 2, 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 2, students will:

### Understand Media Forms, Conventions and Techniques

#### Form

- identify some of the elements and characteristics of selected media forms

#### Conventions and Techniques

- identify the conventions and techniques used in some familiar media forms

## Overall Expectations

By the end of Grade 2, 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 2, 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 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 2, 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 2, 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

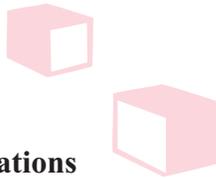
Categories	Level 1	Level 2	Level 3	Level 4
<b>Communication</b> <i>The conveying of meaning through various forms</i>				
<b>The student:</b>				
<b>Expressing and organization of ideas and information</b> (e.g., clear expression, logical organization) <b>in oral, visual, and written forms including 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 2: Mathematical Process Expectations

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

Throughout Grade 2, 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

- ✓ With your child explore ways of determining how many people could fit in your livingroom.
- ✓ Ask your children to help you when baking, by measuring out the ingredients.

## Number Sense and Numeration: Grade 2

### Overall Expectations

By the end of Grade 2, students will:

- ▶ read, represent, compare, and order whole numbers to 100, and use concrete materials to represent fractions and money amounts to 100¢;
- ▶ demonstrate an understanding of magnitude by counting forward to 200 and backwards from 50, using multiples of various numbers as starting points;
- ▶ solve problems involving the addition and subtraction of one- and two-digit whole numbers, using a variety of strategies, and investigate multiplication and division.

### Specific Expectations

By the end of Grade 2, students will:

#### Quantity Relationships

- represent, compare, and order whole numbers to 100, including money amounts to 100¢, using a variety of tools (e.g., ten frames, base ten materials, coin manipulatives, number lines, hundreds charts and hundreds carpets);
- read and print in words whole numbers to twenty, using meaningful contexts (e.g., storybooks, posters, signs);
- compose and decompose two-digit numbers in a variety of ways, using concrete materials (e.g., place 42 counters on ten frames to show 4 tens and 2 ones; compose 37¢ using one quarter, one dime, and two pennies) (**Sample problem:** Use base ten blocks to show 60 in different ways.);
- determine, using concrete materials, the ten that is nearest to a given two-digit number, and justify the answer (e.g., use counters on ten frames to determine that 47 is closer to 50 than to 40);
- determine, through investigation using concrete materials, the relationship between the number of fractional parts of a whole and the size of the fractional parts (e.g., a paper plate divided into fourths has larger parts than a paper plate divided into eighths) (**Sample problem:** Use paper squares to show which is bigger, one half of a square or one fourth of a square.);
- regroup fractional parts into wholes, using concrete materials (e.g., combine nine fourths to form two wholes and one fourth);

- compare fractions using concrete materials, without using standard fractional notation (e.g., use fraction pieces to show that three fourths are bigger than one half, but smaller than one whole);
- estimate, count, and represent (using the ¢ symbol) the value of a collection of coins with a maximum value of one dollar.

#### Counting

- count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10 (e.g., count by 5's from 15; count by 25's from 125);
- count backwards by 1's from 50 and any number less than 50, and count backwards by 10's from 100 and any number less than 100, using number lines and hundreds charts (**Sample problem:** Count backwards from 87 on a hundreds carpet, and describe any patterns you see.);
- locate whole numbers to 100 on a number line and on a partial number line (e.g., locate 37 on a partial number line that goes from 34 to 41).

#### Operational Sense

- solve problems involving the addition and subtraction of whole numbers to 18, using a variety of mental strategies (e.g., "To add  $6 + 8$ , I could double 6 and get 12 and then add 2 more to get 14.");
- describe relationships between quantities by using whole-number addition and subtraction (e.g., "If you ate 7 grapes and I ate 12 grapes, I can say that I ate 5 more grapes than you did, or you ate 5 fewer grapes than I did.");
- represent and explain, through investigation using concrete materials and drawings, multiplication as the combining of equal groups (e.g., use counters to show that 3 groups of 2 is equal to  $2 + 2 + 2$  and to  $3 \times 2$ );
- represent and explain, through investigation using concrete materials and drawings, division as the sharing of a quantity equally (e.g., "I can share 12 carrot sticks equally among 4 friends by giving each person 3 carrot sticks.");
- solve problems involving the addition and subtraction of two-digit numbers, with and without regrouping, using concrete materials (e.g., base ten materials, counters), student-generated algorithms, and standard algorithms;
- add and subtract money amounts to 100¢, using a variety of tools (e.g., concrete materials, drawings) and strategies (e.g., counting on, estimating, representing using symbols).

## Measurement: Grade 2

### Overall Expectations

By the end of Grade 2, students will:

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

### Specific Expectations

By the end of Grade 2, students will:

#### Attributes, Units, and Measurement Sense

- ▶ choose benchmarks – in this case, personal referents – for a centimetre and a metre (e.g., "My little finger is about as wide as one centimetre. A really big step is about one metre.") to help them perform measurement tasks;
- ▶ estimate and measure length, height, and distance, using standard units (i.e., centimetre, metre) and non-standard units;
- ▶ record and represent measurements of length, height, and distance in a variety of ways (e.g., written, pictorial, concrete) (**Sample problem:** Investigate how the steepness of a ramp affects the distance an object travels. Use cash-register tape for recording distances.);
- ▶ select and justify the choice of a standard unit (i.e., centimetre or metre) or a nonstandard unit to measure length (e.g., "I needed a fast way to check that the two teams would race the same distance, so I used paces.");
- ▶ estimate, measure, and record the distance around objects, using non-standard units (**Sample problem:** Measure around several different doll beds using string, to see which bed is the longest around.);
- ▶ estimate, measure, and record area, through investigation using a variety of non-standard units (e.g., determine the number of yellow pattern blocks it takes to cover an outlined shape) (**Sample problem:** Cover your desk with index cards in more than one way. See if the number of index cards needed stays the same each time.);
- ▶ estimate, measure, and record the capacity and/or mass of an object, using a variety of non-standard units (e.g., "I used the pan balance and found that the stapler has the same mass as my pencil case.");
- ▶ tell and write time to the quarter-hour, using demonstration digital and analogue clocks (e.g., "My clock shows the time recess will start [10:00], and my friend's clock shows the time recess will end [10:15].");

## Patterning & Algebra: Grade 2

### Overall Expectations

By the end of Grade 2, students will:

- ▶ identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns;
- ▶ demonstrate an understanding of the concept of equality between pairs of expressions, using concrete materials, symbols, and addition and subtraction to 18.

### Specific Expectations

By the end of Grade 2, students will:

#### Patterns and Relationships

- identify and describe, through investigation, growing patterns and shrinking patterns generated by the repeated addition or subtraction of 1's, 2's, 5's, 10's, and 25's on a number line and on a hundreds chart (e.g., the numbers 90, 80, 70, 60, 50, 40, 30, 20, 10 are in a straight line on a hundreds chart);
- identify, describe, and create, through investigation, growing patterns and shrinking patterns involving addition and subtraction, with and without the use of calculators (e.g.,  $3 + 1 = 4$ ,  $3 + 2 = 5$ ,  $3 + 3 = 6$ , ...);
- identify repeating, growing, and shrinking patterns found in real-life contexts (e.g., a geometric pattern on wallpaper, a rhythm pattern in music, a number pattern when counting dimes);
- represent a given growing or shrinking pattern in a variety of ways (e.g., using pictures, actions, colours, sounds, numbers, letters, number lines, bar graphs) (**Sample problem:** Show the letter pattern A, AA, AAA, AAAA, ... by clapping or hopping.);
- create growing or shrinking patterns (**Sample problem:** Create a shrinking pattern using cut-outs of pennies and/or nickels, starting with 20 cents.);
- create a repeating pattern by combining two attributes (e.g., colour and shape; colour and size) (**Sample problem:** Use attribute blocks to make a train that shows a repeating pattern involving two attributes.);
- demonstrate, through investigation, an understanding that a pattern results from repeating an operation (e.g., addition, subtraction) or making a repeated change to an attribute (e.g., colour, orientation).

- construct tools for measuring time intervals in non-standard units (e.g., a particular bottle of water takes about five seconds to empty);
- describe how changes in temperature affect everyday experiences (e.g., the choice of clothing to wear);
- use a standard thermometer to determine whether temperature is rising or falling (e.g., the temperature of water, air).

### Measurement Relationships

- describe, through investigation, the relationship between the size of a unit of area and the number of units needed to cover a surface (**Sample problem:** Compare the numbers of hexagon pattern blocks and triangle pattern blocks needed to cover the same book.);
- compare and order a collection of objects by mass and/or capacity, using non-standard units (e.g., "The coffee can holds more sand than the soup can, but the same amount as the small pail.");
- determine, through investigation, the relationship between days and weeks and between months and years.

## Geometry & Spatial Sense: Grade 2

### Overall Expectations

By the end of Grade 2, students will:

- ▶ identify two-dimensional shapes and three-dimensional figures and sort and classify them by their geometric properties;
- ▶ compose and decompose two-dimensional shapes and three-dimensional figures;
- ▶ describe and represent the relative locations of objects, and represent objects on a map.

### Specific Expectations

By the end of Grade 2, students will:

#### Geometric Properties

- ▶ distinguish between the attributes of an object that are geometric properties (e.g., number of sides, number of faces) and the attributes that are not geometric properties (e.g., colour, size, texture), using a variety of tools (e.g., attribute blocks, geometric solids, connecting cubes);
- ▶ identify and describe various polygons (i.e., triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons) and sort and classify them by their geometric properties (i.e., number of sides or number of vertices), using concrete materials and pictorial representations (e.g., "I put all the figures with five or more vertices in one group, and all the figures with fewer than five vertices in another group.");

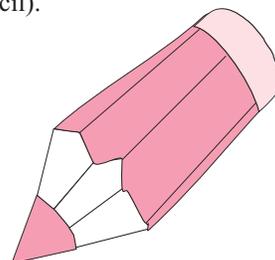
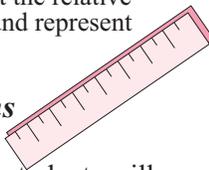
- identify and describe various three-dimensional figures (i.e., cubes, prisms, pyramids) and sort and classify them by their geometric properties (i.e., number and shape of faces), using concrete materials (e.g., "I separated the figures that have square faces from the ones that don't.");
- create models and skeletons of prisms and pyramids, using concrete materials (e.g., cardboard; straws and modelling clay), and describe their geometric properties (i.e., number and shape of faces, number of edges);
- locate the line of symmetry in a two-dimensional shape (e.g., by paper folding; by using a Mira).

### Geometric Relationships

- compose and describe pictures, designs, and patterns by combining two-dimensional shapes (e.g., "I made a picture of a flower from one hexagon and six equilateral triangles.");
- compose and decompose two-dimensional shapes (**Sample problem:** Use Power Polygons to show if you can compose a rectangle from two triangles of different sizes.);
- cover an outline puzzle with two-dimensional shapes in more than one way;
- build a structure using three-dimensional figures, and describe the two-dimensional shapes and three-dimensional figures in the structure (e.g., "I used a box that looks like a triangular prism to build the roof of my house.").

### Location and Movement

- describe the relative locations (e.g., beside, two steps to the right of) and the movements of objects on a map (e.g., "The path shows that he walked around the desk, down the aisle, and over to the window.");
- draw simple maps of familiar settings, and describe the relative locations of objects on the maps (**Sample problem:** Draw a map of the classroom, showing the locations of the different pieces of furniture.);
- create and describe symmetrical designs using a variety of tools (e.g., pattern blocks, tangrams, paper and pencil).



## Expressions and Equality

- demonstrate an understanding of the concept of equality by partitioning whole numbers to 18 in a variety of ways, using concrete materials (e.g., starting with 9 tiles and adding 6 more tiles gives the same result as starting with 10 tiles and adding 5 more tiles);
- represent, through investigation with concrete materials and pictures, two number expressions that are equal, using the equal sign (e.g., “I can break a train of 10 cubes into 4 cubes and 6 cubes. I can also break 10 cubes into 7 cubes and 3 cubes. This means  $4 + 6 = 7 + 3$ .”);
- determine the missing number in equations involving addition and subtraction to 18, 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:** Use counters to determine the missing number in the equation  $6 + 7 = \square + 5$ .);
- identify, through investigation, and use the commutative property of addition (e.g., create a train of 10 cubes by joining 4 red cubes to 6 blue cubes, or by joining 6 blue cubes to 4 red cubes) to facilitate computation with whole numbers (e.g., “I know that  $9 + 8 + 1 = 9 + 1 + 8$ . Adding becomes easier because that gives  $10 + 8 = 18$ .”);
- identify, through investigation, the properties of zero in addition and subtraction (i.e., when you add zero to a number, the number does not change; when you subtract zero from a number, the number does not change).

## Data Management & Probability: Grade 2

### Overall Expectations

By the end of Grade 2, students will:

- ▶ collect and organize categorical or discrete primary data and display the data, using tally charts, concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers, with labels ordered appropriately along horizontal axes, as needed;
- ▶ read and describe primary data presented in tally charts, concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers;
- ▶ describe probability in everyday situations and simple games.

## Specific Expectations

By the end of Grade 2, students will:

### Collection and Organization of Data

- demonstrate an ability to organize objects into categories, by sorting and classifying objects using two attributes simultaneously (e.g., sort attribute blocks by colour and shape at the same time);
- gather data to answer a question, using a simple survey with a limited number of responses (e.g., “What is your favourite season?; How many letters are in your first name?”);
- collect and organize primary data (e.g., data collected by the class) that is categorical or discrete (i.e., that can be counted, such as the number of students absent), and display the data using one-to-one correspondence in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers (e.g., tally charts, diagrams), with appropriate titles and labels and with labels ordered appropriately along horizontal axes, as needed (**Sample problem:** Record the number of times that specific words are used in a simple rhyme or poem.).

### Data Relationships

- read primary data presented in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers (e.g., tally charts, diagrams), and describe the data using mathematical language (e.g., “Our bar graph shows that 4 more students walk to school than take the bus.”);
- pose and answer questions about class-generated data in concrete graphs, pictographs, line plots, simple bar graphs, and tally charts (e.g., “Which is the least favourite season?”);
- distinguish between numbers that represent data values (e.g., “I have 4 people in my family.”) and numbers that represent the frequency of an event (e.g., “There are 10 children in my class who have 4 people in their family.”);
- demonstrate an understanding of data displayed in a graph (e.g., by telling a story, by drawing a picture), by comparing different parts of the data and by making statements about the data as a whole (e.g., “I looked at the graph that shows how many students were absent each month. More students were away in January than in September.”).

## Probability

- describe probability as a measure of the likelihood that an event will occur, using mathematical language (i.e., *impossible, unlikely, less likely, equally likely, more likely, certain*) (e.g., “If I take a new shoe out of a box without looking, it’s equally likely that I will pick the left shoe or the right shoe.”);
- describe the probability that an event will occur (e.g., getting heads when tossing a coin, landing on red when spinning a spinner), through investigation with simple games and probability experiments and using mathematical language (e.g., “I tossed 2 coins at the same time, to see how often I would get 2 heads. I found that getting a head and a tail was more likely than getting 2 heads.”) (**Sample problem:** Describe the probability of spinning red when you spin a spinner that has one half shaded yellow, one fourth shaded blue, and one fourth shaded red. Experiment with the spinner to see if the results are what you expected.).



# 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 skill 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 Animals

Fundamental Concepts	Big Ideas
<p><b>Structure and Function</b></p> <p><b>Sustainability and Stewardship</b></p>	<p>Animals have distinct characteristics. (Overall expectations 2 and 3)</p> <p>Humans are animals. (Overall expectations 1, 2, and 3)</p> <p>There are similarities and differences among different kinds of animals. (Overall expectation 2)</p> <p>Humans need to protect animals and the places where they live. (Overall expectation 1)</p>

### Understanding Life Systems - Growth and Changes in Animals: Grade 2

#### Overall Expectations

By the end of Grade 2, students will:

1. assess ways in which animals have an impact on society and the environment, and ways in which humans have an impact upon animals and the places where they live;
2. investigate similarities and differences in the characteristics of various animals;
3. demonstrate an understanding that animals grow and change and have distinct characteristics.

#### Specific Expectations

By the end of Grade 2, students will:

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

- 1.1 identify positive and negative impacts that animals have on humans (society) and the environment, form an opinion about one of them, and suggest ways in which the impact can be minimized or enhanced
- 1.2 identify positive and negative impacts that different kinds of human activity have on animals and where they live (e.g., actions of animal lovers and groups that protect animals and their rights, the home

owner who wants a nice lawn, people who visit zoos and wildlife parks, pet owners), form an opinion about one of them, and suggest ways in which the impact can be minimized or enhanced

#### Specific Expectations

By the end of Grade 2, students will:

#### Developing Investigation and Communication Skills

- 2.1 follow established safety procedures and humane practices specific to the care and handling of live animals, where appropriate, during science and technology investigations (e.g., make the teacher aware of any allergies; handle animals gently or know when it is better not to handle them at all; wash hands after handling animals)
- 2.2 observe and compare the physical characteristics (e.g., fur or feathers; two legs or no legs) and the behaviour characteristics (e.g., predator or prey) of a variety of animals, including insects, using student-generated questions and a variety of methods and resources (e.g., observation of live animals in the schoolyard; books, videos/DVDs, CD-ROMs, and/or Internet sources that depict animals in a positive light)
- 2.3 investigate the life cycle of a variety of animals (e.g., butterflies, frogs, chickens), using a variety of methods and resources (e.g., observation of live animals in the classroom and in the schoolyard; books, videos/DVDs, CD-ROMs, and/or the Internet)

2.4 observe and compare changes in the appearance and activity of animals as they go through a complete life cycle (e.g., frog, butterfly)

2.5 investigate the ways in which a variety of animals adapt to their environment and/or to changes in their environment, using various methods (e.g., read simple non-fiction texts and Aboriginal stories; observe animal activity in the schoolyard and surrounding areas, and record findings)

2.6 use scientific inquiry/research skills and knowledge acquired from previous investigations, to investigate the basic needs, characteristics, behaviour, and adaptations of an animal of their choice

2.7 use appropriate science and technology vocabulary, including life cycle, migration, adaptation, body coverings, and classify, in oral and written communication

2.8 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes (e.g., use a model constructed of modelling clay and a tree branch to explain how a caterpillar feeds)

#### Specific Expectations

By the end of Grade 2, students will:

#### Understanding Basic Concepts

- 3.1 identify and describe major physical characteristics of different types of animals (e.g., insects, mammals, reptiles)

**3.2** describe an adaptation as a characteristic body part, shape, or behaviour that helps a plant or animal survive in its environment (e.g., some birds migrate to a warmer climate for the winter; the design of a whale’s flipper allows the whale to turn, steer, and balance; the cecropia moth has the pattern of a snake’s head on its wings: the hypothesis is that this is to frighten its predators away)

**3.3** identify ways in which animals are helpful to, and ways in which they meet the needs of, living things, including humans, to explain why humans should protect animals and the places where they live (e.g., bats control mosquito populations; birds and wildlife provide pleasurable viewing experiences; the buffalo provided some Aboriginal people with everything they needed to survive: food, shelter, clothing,

tools, ornamentation, and weapons; horses can be used for labour; cats and dogs provide companionship for humans; animals, including humans, disperse plant seeds)

**3.4** identify ways in which animals can be harmful to humans (e.g., some people have an allergic reaction to bee and wasp venom when they are stung; deer, moose, and bears on roads can pose a hazard to people driving at night)

## *Understanding Structures and Mechanisms*

### *Movement*

Fundamental Concepts	Big Ideas
<p><b>Structure and Function</b></p> <p><b>Energy</b></p>	<p>Movement is a change in position of an object. <i>(Overall expectations 2 and 3)</i></p> <p>Simple machines help objects to move. <i>(Overall expectations 1, 2, and 3)</i></p> <p>Mechanisms are made up of one or more simple machines. <i>(Overall expectation 2)</i></p> <p>Simple machines and mechanisms make life easier and/or more enjoyable for humans. <i>(Overall expectation 1)</i></p>

## Understanding Structures and Mechanisms - Movement: Grade 2

### *Overall Expectations*

By the end of Grade 2, students will:

1. assess the impact on society and the environment of simple machines and mechanisms;
2. investigate mechanisms that include simple machines and enable movement;
3. demonstrate an understanding of movement and ways in which simple machines help to move objects.

### *Specific Expectations*

By the end of Grade 2, students will:

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

- 1.1 assess the impact on society and the environment of simple machines that allow movement

### *Specific Expectations*

By the end of Grade 2, students will:

#### **Developing Investigation and Communication Skills**

- 2.1 follow established safety procedures during science and technology investigations (e.g., return tools to their designated area when they are done with them; carry tools and materials safely)

- 2.2 investigate and describe different kinds of movement (e.g., by observing how toys and other everyday objects move)

- 2.3 investigate the structure and function of simple machines (e.g., by building a wheel and axle for a toy car; by exploring the effects of changing the slope of a ramp)

- 2.4 use technological problem-solving skills, and knowledge and skills acquired from previous investigations, to design, build, and test a mechanism that includes one or more simple machines (e.g., a toy, a model vehicle)

- 2.5 use appropriate science and technology vocabulary, including push, pull, beside, above, wheel, axle, and inclined plane, 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., orally explain to the class the process they followed in building a mechanism that includes one or more simple machines)

**Specific Expectations**

By the end of Grade 2, students will:

**Understanding Basic Concepts**

**3.1** describe different ways in which objects move (e.g., turning, spinning, swinging, bouncing, vibrating, rolling)

**3.2** identify ways in which the position of an object can be changed (e.g., by pushing, by pulling, by dropping)

**3.3** identify the six basic types of simple machines lever; inclined plane; pulley; wheel and axle, including gear; screw; and

wedge and give examples of ways in which each is used in daily life to make tasks easier

**3.4** describe how each type of simple machine allows humans to move objects with less force than otherwise would be needed (e.g., an inclined plane allows a heavy object to be moved upwards more easily than if it were lifted and carried up stairs; a wheel and axle allow an object to roll, which creates less friction than if it were dragged; a lever activated by a piano key strikes [pushes] a string, which vibrates to make a sound)

**3.5** identify simple machines used in devices that move people (e.g., the wheel and axle on a bicycle or a car; the pulleys on an elevator; the inclined planes of moving ramps in parking garages and malls)



# Understanding Matter and Energy

## Properties of Liquids and Solids

Fundamental Concepts	Big Ideas
<p><b>Energy</b></p> <p><b>Matter</b></p>	<p>Materials that exist as liquids and solids have specific properties. <i>(Overall expectations 2 and 3)</i></p> <p>Liquids and solids interact in different ways <i>(Overall expectations 2 and 3)</i></p> <p>Some liquids and solids can be harmful to us and the environment. <i>(Overall expectations 1 and 2)</i></p>

### Understanding Matter and Energy - Properties of Liquids and Solids :Grade 2

**Overall Expectations**

By the end of Grade 2, students will:

1. assess ways in which the uses of liquids and solids can have an impact on society and the environment;
2. investigate the properties of and interactions among liquids and solids;
3. demonstrate an understanding of the properties of liquids and solids.

**Specific Expectations**

By the end of Grade 2, students will:

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

**1.1** assess the ways in which liquids and solids in the home are used, stored, and disposed of in terms of the effect on personal safety and the health of the environment, and suggest responsible actions to replace inappropriate practices

**1.2** assess the impacts of changes in state of solids and liquids on individuals and society

**Specific Expectations**

By the end of Grade 2, students will:

**Developing Investigation and Communication Skills**

**2.1** follow established safety procedures during science and technology investigations (e.g., clean up spills as soon as they happen)

**2.2** investigate the properties of liquids (e.g., conduct experiments to compare the rate at which different liquids flow) and solids (e.g., conduct experiments to find out ways in which solids can be changed)

**2.3** investigate, through experimentation, interactions that occur as a result of mixing and/or dissolving liquids and solids (e.g., salt and water, sand and water), liquids and liquids (e.g., oil and water), and solids and solids (e.g., salt and sand)

**2.4** use scientific inquiry/experimentation skills to investigate liquids and solids in terms of their capacity for buoyancy

(e.g., wood floats, coins sink) and/or absorption (e.g., paper towel absorbs liquid, plastic wrap repels liquid)

**2.5** use technological problem-solving skills, and knowledge acquired from previous investigations, to design, build, and test a structure that involves interactions between liquids and solids (e.g., an object that floats)

**2.6** use appropriate science and technology vocabulary, including clear, opaque, runny, hard, greasy, and granular, 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., use a simple drawing program to write a booklet for the school library describing class experiments in investigating liquids and solids)

**Specific Expectations**

By the end of Grade 2, students will:

**Understanding Basic Concepts**

**3.1** identify objects in the natural and built environment as solids (e.g., sand, ice, rocks, tables, sidewalks, walls) or liquids (e.g., water, tree sap, milk, gasoline)

**3.2** describe the properties of solids (e.g., they maintain their shape and cannot be

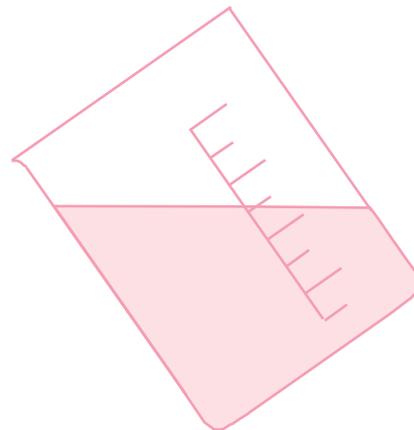
poured) and liquids (e.g., they take the shape of the container they are in and can be poured)

**3.3** describe the characteristics of liquid water (e.g., it takes the shape of the container it is in) and solid water (e.g., ice floats), and identify the conditions that cause changes from one to the other (e.g., water turns to ice when the temperature goes below zero; ice turns to water when heated)

**3.4** identify conditions in which the states of liquids and solids remain constant (e.g., solids remain solid when broken; liquids remain liquid when poured) and conditions that can cause their states to change (e.g., liquids may freeze when the temperature drops; solids may melt when heated)

**3.5** describe some ways in which solids and liquids can be combined to make useful substances (e.g., flour and water make paste; milk and chocolate powder make chocolate milk)

**3.6** explain the meaning of international symbols that give us information on the safety of substances (e.g., a skull-and-crossbones symbol means that the substance is poisonous; a flame inside a hexagon means that the substance is flammable)



# Understanding Earth and Space Systems

## Air and Water in the Environment

Fundamental Concepts	Big Ideas
<p><b>Change and Continuity</b></p> <p><b>Sustainability and Stewardship</b></p>	<p>Air and water are a major part of the environment. <i>(Overall expectations 1, 2, and 3)</i></p> <p>Living things need air and water to survive. <i>(Overall expectations 1 and 3)</i></p> <p>Changes to air and water affect living things and the environment. <i>(Overall expectations 1 and 3)</i></p> <p>Our actions affect the quality of air and water, and its ability to sustain life. <i>(Overall expectations 1, 2, and 3)</i></p>

# Understanding Earth and Space Systems - Air and Water in the Environment: Grade 2

## Overall Expectations

By the end of Grade 2, students will:

1. assess ways in which the actions of humans have an impact on the quality of air and water, and ways in which the quality of air and water has an impact on living things;
2. investigate the characteristics of air and water and the visible/invisible effects of and changes to air and/or water in the environment;
3. demonstrate an understanding of the ways in which air and water are used by living things to help them meet their basic needs.

## Specific Expectations

By the end of Grade 2, students will:

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

**1.1** assess the impact of human activities on air and water in the environment, taking different points of view into consideration (e.g., the point of view of parents, children, other community members), and plan a course of action to help keep the air and water in the local community clean

**1.2** assess personal and family uses of water as responsible/efficient or wasteful, and create a plan to reduce the amount of water used, where possible

## Specific Expectations

By the end of Grade 2, students will:

### Developing Investigation and Communication Skills

**2.1** follow established safety procedures during science and technology investigations (e.g., use caution around hot kettles and the steam they produce; clean up water spills as soon as they happen)

**2.2** investigate, through experimentation, the characteristics of air (e.g., air takes up space, has mass) and its uses (e.g., living things breathe the air to stay alive; air makes certain activities possible: helps keep a kite flying and a sailboat moving)

**2.3** investigate, through experimentation, the characteristics of water (e.g., water

takes up space, flows or moves when not contained, has mass) and its uses (e.g., living things need water to stay alive; water makes things move: spins a water wheel; water makes certain activities possible: keeps a white-water raft afloat)

**2.4** investigate the stages of the water cycle, including evaporation (e.g., heat water in a kettle), condensation (e.g., collect the water vapour from the kettle on an overturned mirror), precipitation (e.g., allow the water vapour on the overturned mirror to collect, cool, and drop), and collection (e.g., let the dripping water accumulate in a container)

**2.5** investigate water in the natural environment (e.g., observe and measure precipitation; observe and record cloud formations; observe water flow and describe where it goes; observe a puddle over time and record observations)

**2.6** use appropriate science and technology vocabulary, including solid, liquid, vapour, evaporation, condensation, and precipitation, 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., create posters or media ads that encourage care and concern for water and air in the community)

## Specific Expectations

By the end of Grade 2, students will:

### Understanding Basic Concepts

**3.1** identify air as a gaseous substance that surrounds us and whose movement we feel as wind

**3.2** identify water as a clear, colourless, odourless, tasteless liquid that exists in three states a that is necessary for the life of most animals and plants

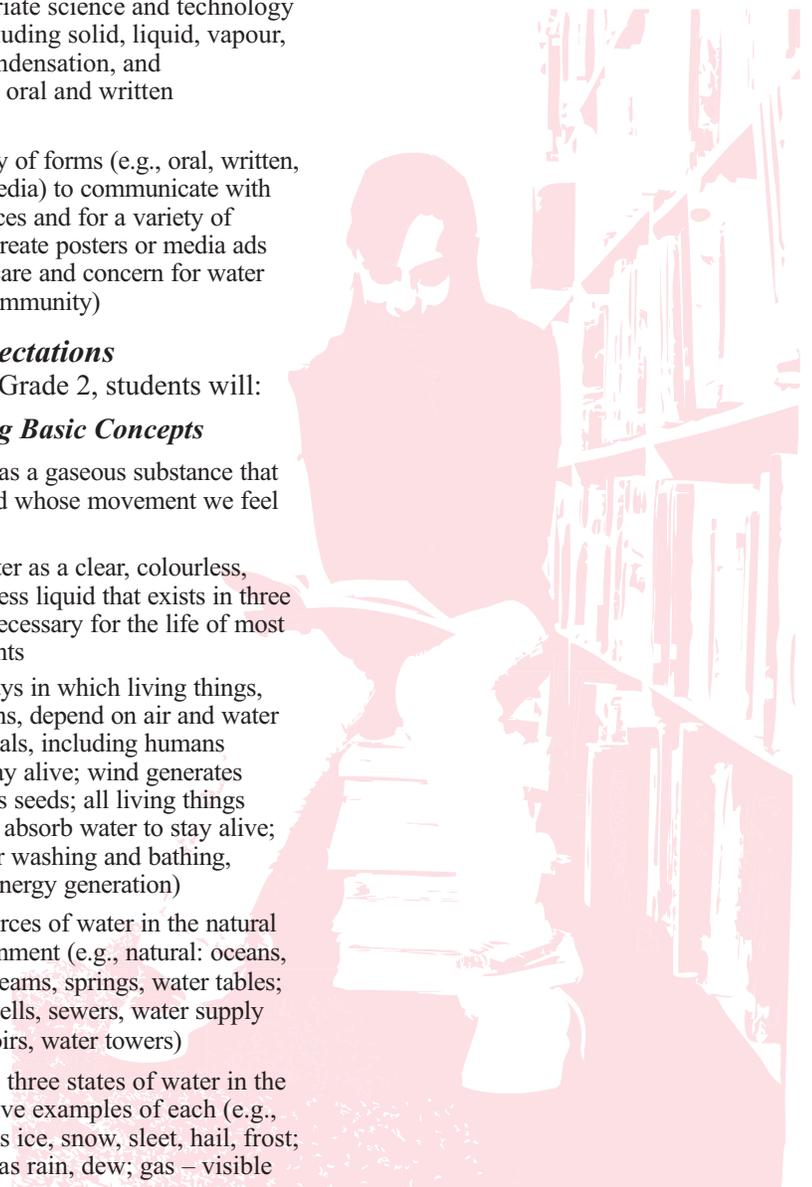
**3.3** describe ways in which living things, including humans, depend on air and water (e.g., most animals, including humans breathe air to stay alive; wind generates energy, disperses seeds; all living things need to drink or absorb water to stay alive; water is used for washing and bathing, transportation, energy generation)

**3.4** identify sources of water in the natural and built environment (e.g., natural: oceans, lakes, ponds, streams, springs, water tables; human-made: wells, sewers, water supply systems, reservoirs, water towers)

**3.5** identify the three states of water in the environment, give examples of each (e.g., solid – visible as ice, snow, sleet, hail, frost; liquid – visible as rain, dew; gas – visible

as fog, water vapour), and show how they fit into the water cycle when the temperature of the surrounding environment changes (e.g., heat – evaporation; cooling – condensation and precipitation)

**3.6** state reasons why clean water is an increasingly scarce resource in many parts of the world



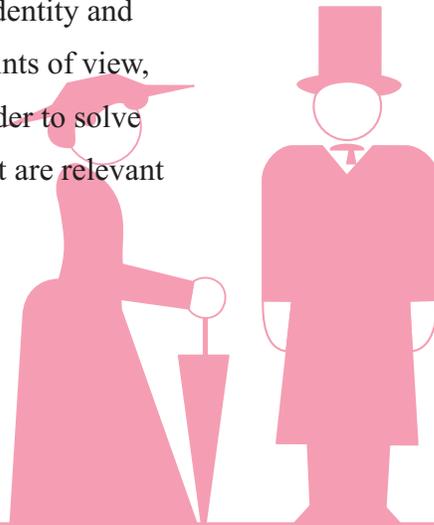
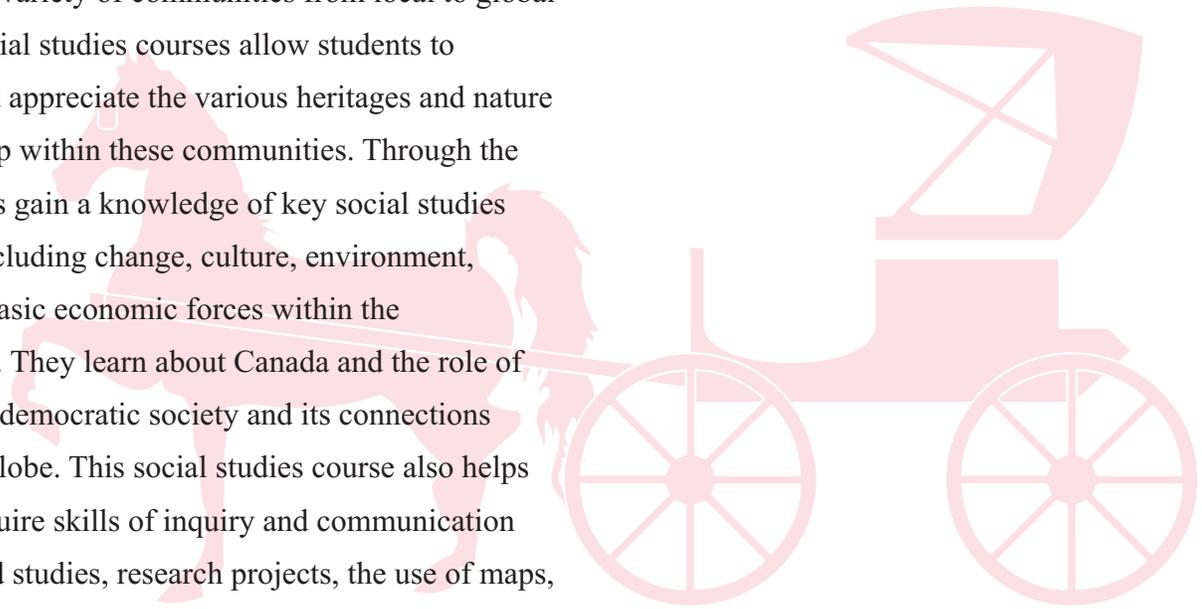
## Achievement Chart - Science and Technology, - Grades 1-8

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: Traditions & Celebrations: Grade 2

### **Overview:**

Students examine the wide variety of cultures and traditions that co-exist in Canada. Students investigate family histories and traditions and report on how these histories and traditions contribute to and enrich Canadian society. Students relate their investigations to examples from their own local community.

### **Overall Expectations**

By the end of Grade 2, students will:

- ▶ demonstrate an understanding that Canada is a country of many cultures;
- ▶ use a variety of resources and tools to gather, process, and communicate information about similarities and differences among family traditions and celebrations;
- ▶ explain how the various cultures of individuals and groups contribute to the local community.



## Canada & World Connections: Features of Communities Around the World: Grade 2

### **Overview:**

Students develop their awareness of physical and human geography by examining contemporary global communities. They use map, globe, and research skills to compare the culture and physical features of a variety of communities. Students explore how the environment influences people's lives, and begin to recognize that the lifestyles of people in other countries may be both similar to and different from their own.

### **Overall Expectations**

By the end of Grade 2, students will:

- ▶ demonstrate an understanding that the world is made up of countries, continents, and regions and that people's lifestyles may differ from country to country;
- ▶ use a variety of resources and tools to gather, process, and communicate geographic information about the countries studied;
- ▶ explain how the environment affects people's lives and the ways in which their needs are met.

# 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 skill 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>				
Communication for different audiences (e.g., peers, adults) and purposes (e.g., to inform, to persuade) 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 (e.g., conventions of form, map conventions), vocabulary, and terminology of the discipline 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 (e.g., concepts, procedures, processes, and/or technologies) 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 (e.g., concepts, procedures, methodologies, technologies) 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., past, present, and future; environmental; social; cultural; spatial; personal; multidisciplinary)	→ 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 2

### **Overall Expectations:**

By the end of Grade 2, 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 2, 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, and become effective team members

#### **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, and evaluating their choices in connection with learning in health and physical education

## Active Living: Grade 2

### **Overall Expectations:**

By the end of Grade 2, 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 2, 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
- ▶ identify reasons for 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
- ▶ describe different types of activities that improve the strength of the heart and lungs
- ▶ recognize their degree of exertion in physical activities by using simple assessment methods and identify factors that affect their performance level
- ▶ participate in setting and achieving realistic personal and group goals related to physical activity

#### **Safety:**

- ▶ demonstrate behaviours and apply procedures that maximize their safety and that of others during physical activity
- ▶ identify ways of protecting themselves and others, including those with medical conditions, from safety risks while participating in physical activity

# Movement Competence: Skills, Concepts, and Strategies: Grade 2

## **Overall Expectations:**

By the end of Grade 2, 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 2, students will:

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

- ▶ perform a variety of static balances with and without equipment, using different body parts at different levels and making different body shapes
- ▶ demonstrate the ability to jump, hop, and land safely and in control, taking off from one foot or from two feet
- ▶ perform a variety of locomotor movements with and without equipment, travelling in different directions and at different speeds, and using different pathways
- ▶ send objects of different shapes and sizes at different levels and in different ways, using different body parts
- ▶ receive objects of different shapes and sizes at different levels and in various ways, using different body parts

### **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 2

## **Overall Expectations:**

By the end of Grade 2, 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 2, students will:

### **Understanding Health Concepts:**

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

- ▶ demonstrate an understanding of practices that enhance personal safety in the home and outdoors
- ▶ identify common food allergies and sensitivities and the reactions they might cause

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

- ▶ describe the difference between prescription medicines and non-prescription medicines, giving examples of each, and identify rules for the proper use of all medicines

### **Making Healthy Choices:**

#### **Healthy Eating**

- ▶ use Canada's Food Guide to assess the nutritional value of meals, and identify food and beverage choices that enhance healthy growth and development
- ▶ demonstrate an understanding of how to make healthy food choices for meals and snacks, considering the factors they can and cannot control

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

- ▶ explain the importance of standing up for themselves, and demonstrate the ability to apply behaviours that enhance their personal safety in threatening situations

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

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

- ▶ describe how to relate positively to others, and describe behaviours that can be harmful in relating to others

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

- ▶ describe methods that may be used instead of or in combination with medication to maintain good health and prevent or treat various health problems



# 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.

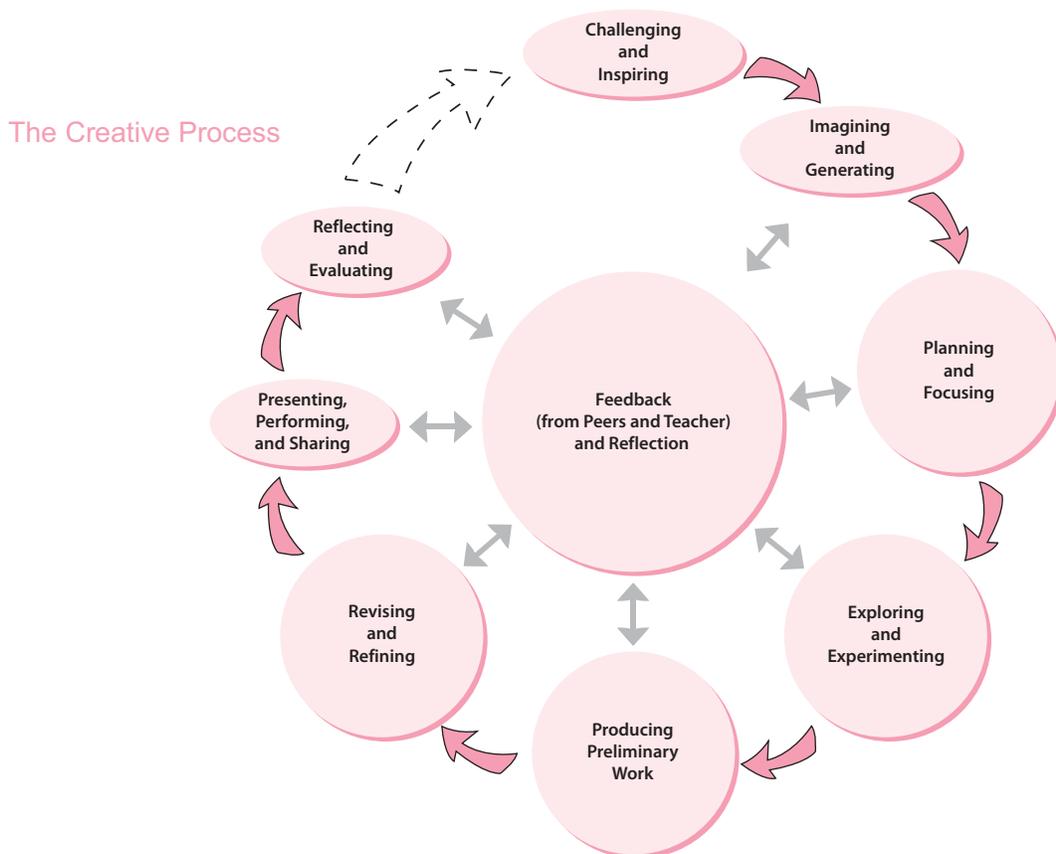
- Healthy Eating
- Personal Safety and Injury Prevention
- Substance Use, Addictions, and Related Behaviours
- Human Development and Sexual Health

**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**

**Communication** *The conveying of meaning through various forms*

**The student:**

**Expression and organization of ideas and understandings in art forms** (*dance, drama, music, and the visual arts*), including media/multimedia forms (*e.g., expression of ideas and feelings using visuals, movements, the voice, gestures, phrasing, techniques*), and **in oral and written forms** (*e.g., clear expression and logical organization in critical responses to art works and informed opinion pieces*)

- 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

**Communication for different audiences** (*e.g., peers, adults, younger children*) and **purposes through the arts** (*e.g., drama presentations, visual arts exhibitions, dance and music performances*) and **in oral and written forms** (*e.g., debates, analyses*)

- 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 in dance, drama, music, and the visual arts** (*e.g., allegory, narrative or symbolic representation, style, articulation, drama conventions, choreographic forms, movement vocabulary*) and **arts vocabulary and terminology in oral and written forms**

- 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

**Application** *The use of knowledge and skills to make connections within and between various contexts*

**The student:**

**Application of knowledge and skills** (*e.g., performance skills, composition, choreography, elements, principles, processes, technologies, techniques, strategies, conventions*) **in familiar contexts** (*e.g., guided improvisation, performance of a familiar work, use of familiar forms*)

- 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** (*e.g., concepts, strategies, processes, techniques*) **to new contexts** (*e.g., a work requiring stylistic variation, an original composition, student-led choreography, an interdisciplinary or multidisciplinary project*)

- 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., 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*)

- 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

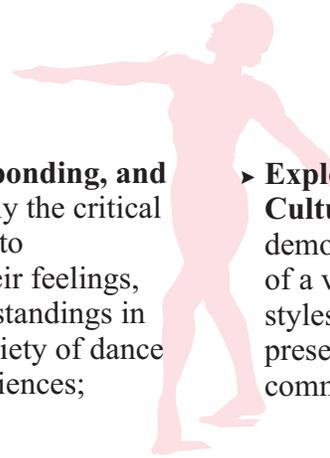
- makes connections within and between various contexts with a high degree of effectiveness

## Dance: Grade 2

### Overall Expectations

By the end of Grade 2, students will:

- ▶ **Creating and Presenting:** apply the creative process to the composition of simple 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.

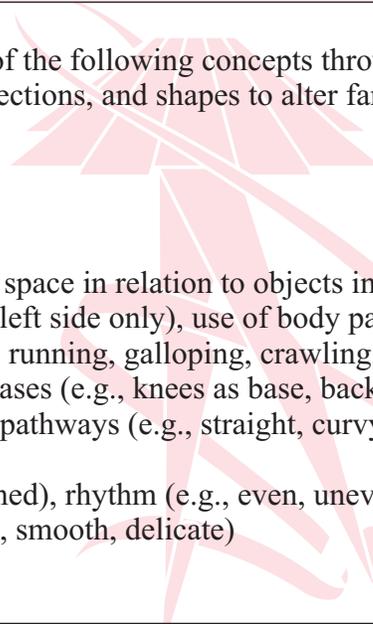


## Dance: Fundamental Concepts for Grade 2

Students in Grade 2 will develop or extend understanding of the following concepts through participation in various dance experiences (e.g., exploring pathways, directions, and shapes to alter familiar activities), with particular emphasis on body and space.

### ELEMENTS OF DANCE

- **body:** body awareness (e.g., awareness of where one is in space in relation to objects in class), use of body zones (e.g., the right side of the body only versus the left side only), use of body parts (e.g., arms, legs, fingertips, torso), shapes, locomotor movements (e.g., running, galloping, crawling, creeping), non-locomotor movements (e.g., jumping, turning), body bases (e.g., knees as base, back as base)
- **space:** levels (e.g., middle level, expanding movements), pathways (e.g., straight, curvy, zigzag), directions (e.g., diagonal), size of movement
- **time:** freeze, tempo (e.g., stop/start, sudden, quick, sustained), rhythm (e.g., even, uneven)
- **energy:** force, quality (e.g., exploding, bouncing, shaking, smooth, delicate)
- **relationship:** (e.g., shadowing with a partner)



## Drama: Grade 2

### Overall Expectations

By the end of Grade 2, 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 2

Students in Grade 2 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 fictional character (e.g., in dialogue and writing in role); using body language (e.g., posture, gestures, facial expression), costumes, and props appropriate to a character; varying vocal levels, tones, and ranges to support the depiction of a character
- **relationship:** listening and responding in role to other characters in role
- **time and place:** establishing a fictional setting and relating to it in role
- **tension:** being aware of a sense of mystery or a problem to be solved
- **focus and emphasis:** identifying the main idea or central theme of the drama

## Music: Grade 2

### Overall Expectations

By the end of Grade 2, 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 to 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.

## Music: Fundamental Concepts for Grade 2

In Grade 2, students will build on their knowledge of the elements of music and related musical concepts that were introduced in Grade 1. Students will develop understanding of musical concepts through participation in various musical experiences (e.g., listening, singing, moving, playing with musical instruments and manipulatives). These experiences will include reading simple rhythmic notation and interpreting simple visual representations (e.g., long and short lines, contour patterns on a one-line staff or a two-line staff, various icon symbols such as pictures or invented symbols).

### ELEMENTS OF MUSIC

- **duration:** half note (oral prompt: “ta-ah”), half rest, whole note (oral prompt: “ta-ah-ah-ah”), whole rest

- **pitch:** high “do”, simple melodic ostinato, melodic patterns, melodic patterns using notes of a pentatonic scale (e.g., “do–re–mi–so–la”, “do–re–fa–so–la”)
- **dynamics and other expressive controls:** gradations in volume encountered in music listened to, sung, and played (e.g., getting louder [*crescendo*], getting softer [*decrescendo/diminuendo*]); articulation (e.g., smooth [*legato*], detached [*staccato*])
- **timbre:** classification of instruments by listening to their sound (e.g., wind [woodwind, brass], stringed, electronic, membrane, pitched percussion instruments)
- **texture/harmony:** single melodic line in unison song with simple accompaniment (homophony), bordun patterns on “do” and “so”
- **form:** phrase, binary (AB) form, simple verse and chorus

# Visual Arts: Grade 2

## Overall Expectations

By the end of Grade 2, 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 2

In addition to the concepts introduced in Grade 1, 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:** horizontal, vertical, diagonal lines; lines that show motion (e.g., pointy, curvy); lines inside shapes
- **shape and form:** symmetrical shapes and forms (e.g., shapes and forms in buildings)
- **space:** overlapping of objects to show depth
- **colour:** secondary colours (various colours made by mixing equal amounts of primary colours, such as violet, orange, green); mixing of colours with a limited palette
- **texture:** textures of familiar objects (e.g., rough tree bark, smooth plastic plate, ridged corduroy fabric); illusion of texture (e.g., a rough texture created by patterns of lines); impasto (thick, textured paint)
- **value:** mixing of a tint; identification of light and dark

### 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 2 will be on repetition and rhythm.

- **repetition and rhythm:** repetition of colour and shape in patterns; random, alternating, and regular patterns in everyday objects (e.g., textiles, ceramics) and in art (e.g., works by M. C. Escher)