Curriculum Expectations
GRADE 5

for

**English Language
French as a Second Language
Mathematics
Science and Technology
Social Studies
Health & Physical Education
The Arts**

2007

Oral Communication

Overall Expectations

5e1   1. listen in order to understand and respond appropriately in a variety of situations for a variety of purposes;

5e2   2. use speaking skills and strategies appropriately to communicate with different audiences for a variety of purposes;

5e3   3. reflect on and identify their strengths as listeners and speakers, areas for improvement, and the strategies they found most helpful in oral communication situations.

1. Listening to Understand

5e4   Purpose
1.1 identify a range of purposes for listening in a variety of situations, formal and informal, and set goals related to specific listening tasks *(e.g., to understand learning strategies modelled by the teacher during think-alouds; to develop a response to a commentary on an issue; to share information and ideas about a topic with peers during conversations, discussions, and meetings; to become familiar with and appreciate the sounds of different types of poetry)*

5e5   Active Listening Strategies
1.2 demonstrate an understanding of appropriate listening behaviour by adapting active listening strategies to suit a range of situations, including work in groups *(e.g., ask questions to clarify understanding before responding; affirm and build on the ideas of others; summarize and respond constructively to ideas expressed by others; use brief vocal prompts to signal agreement or interest during conversations:* Yes; Say that again, please; Tell me more*)*

5e6   Comprehension Strategies
1.3 identify a variety of listening comprehension strategies and use them appropriately before, during, and after listening in order to understand and clarify the meaning of oral texts *(e.g., ask questions about facts, inferences, and value judgements to focus and clarify understanding of the themes in an oral text; summarize and synthesize ideas to deepen understanding of an oral text; use self-questioning and predict questions that might be asked to monitor understanding while listening)*

5e7   Demonstrating Understanding
1.4 demonstrate an understanding of the information and ideas in oral texts by summarizing important ideas and citing a variety of supporting details *(e.g., summarize an episode of a favourite television program for a small group; summarize the ideas in a book read aloud to the class)*

5e8   Making Inferences/Interpreting Texts
1.5 make inferences about oral texts using stated and implied ideas in the texts as evidence *(e.g., ask questions to generate inferences about an oral text:* What would happen if…? I wonder what was meant by…?*)*

5e9   Extending Understanding
1.6 extend understanding of oral texts by connecting the ideas in them to their own knowledge, experience, and insights; to other texts, including print and visual texts; and to the world around them *(e.g., relate the content of an oral presentation to that of books, articles, movies, television shows, or videos on the same topic; discuss issues related to the topic of an oral text; use role play and drama to explore ideas, emotions, or issues presented in oral texts)*

5e10   Analysing Texts
1.7 analyse oral texts and explain how specific elements in them contribute to meaning *(e.g., ideas and information, word choice, tone of voice, pace of delivery, body language)*
Teacher prompt: "Did the speaker's tone of voice communicate a different message from his or her actual words?"

5e11   Point of View
1.8 identify the point of view presented in oral texts and ask questions to identify missing or possible alternative points of view *(e.g., use drama or role play to explore the perspective of the minor characters in a play; respond to a speaker who expresses an alternative point of view on an issue; ask a variety of people for their views about a topic)*
Teacher prompts: "How would the content of this text change if it were presented from a different point of view?" "How would the language the author uses need to change to reflect a different point of view?" "What other voices do you think should be heard on this topic?" "Is the text fair?"

5e12   Presentation Strategies
1.9 identify a range of presentation strategies used in oral texts and analyse their effect on the audience *(e.g., the use of emotive language, one-sided arguments, or exaggerated claims)*
Teacher prompt: "Why do you think the speaker repeats that phrase so often?"

2. Speaking to Communicate

5e13   Purpose
2.1 identify a variety of purposes for speaking *(e.g., to justify opinions and thinking in discussion and dialogue groups; to ask questions or explore solutions to problems in small groups; to share information or ideas about a topic with a group; to share data; to entertain; to interact in social situations; to contribute meaningfully and work constructively in groups)*

5e14   Interactive Strategies
2.2 demonstrate an understanding of appropriate speaking behaviour in a variety of situations, including paired sharing, dialogue, and small- and largegroup discussions *(e.g., ask questions to clarify understanding before responding; respond to a group member's comment by making a personal connection to their own experience; show awareness of and sensitivity towards the background and experiences of other group members when expressing their own views)*

5e15   Clarity and Coherence
2.3 communicate orally in a clear, coherent manner, presenting ideas, opinions, and information in a readily understandable form *(e.g., present an argument that has a clearly stated purpose, point-by-point development, and relevant supporting details)*

5e16   Appropriate Language
2.4 use appropriate words and phrases from the full range of their vocabulary, including inclusive and non-discriminatory language, and stylistic devices suited to the purpose, to communicate their meaning accurately and engage the interest of their audience *(e.g., use evocative images, personal anecdotes, quotations, vocabulary from curriculum subject areas, and appropriate technical terminology to achieve particular effects)*

5e17   Vocal Skills and Strategies
2.5 identify some vocal effects, including tone, pace, pitch, volume, and a variety of sound effects, and use them appropriately and with sensitivity towards cultural differences to help communicate their meaning *(e.g., use a formal or informal tone as required by the context)*

5e18   Non-Verbal Cues
2.6 identify a variety of 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 *(e.g., use facial expression appropriately to indicate agreement or confusion during a discussion)*

5e19   Visual Aids
2.7 use a variety of appropriate visual aids *(e.g., posters, charts, maps, globes, computer-generated organizers)* to support or enhance oral presentations *(e.g., use ministry-licensed software to create a Venn diagram to compare two different biographies)*

3. Reflecting on Oral Communication Skills and Strategies

5e20   Metacognition
3.1 identify, in conversation with the teacher and peers, what strategies they found most helpful before, during, and after listening and speaking and what steps they can take to improve their oral communication skills
Teacher prompts: "How do you check to be sure you understand correctly what others are saying during a discussion?" "How do you make decisions about when to speak and when to listen?"

5e21   Interconnected Skills
3.2 identify, in conversation with the teacher and peers, how their skills as viewers, representers, readers, and writers help them improve their oral communication skills
Teacher prompts: "What have you learned as a writer that you can use to make your oral presentations more effective?" "What do you think the connection is between your experience as a reader and your ability to understand what you hear?"

Reading

Overall Expectations

5e22   1. read and demonstrate an understanding of a variety of literary, graphic, and informational texts, using a range of strategies to construct meaning;

5e23   2. recognize a variety of text forms, text features, and stylistic elements and demonstrate understanding of how they help communicate meaning;

5e24   3. use knowledge of words and cueing systems to read fluently;

5e25   4. reflect on and identify their strengths as readers, areas for improvement, and the strategies they found most helpful before, during, and after reading.

1. Reading for Meaning

5e26   Variety of Texts
1.1 read a variety of texts from diverse cultures, including literary texts *(e.g., short stories, poetry, myths, culturally focused legends, plays, biographies, novels)*, graphic texts *(e.g., graphic novels, hobby or sports magazines, advertisements, logos, atlases, graphic organizers, charts and tables)*, and informational texts *(e.g., editorials, reports, biographies, textbooks and other non-fiction materials, print and online articles, personal electronic and online texts such as e-mails)*

5e27   Purpose
1.2 identify a variety of purposes for reading and choose reading materials appropriate for those purposes *(e.g., an online or print encyclopedia article for background information, dictionaries to clarify word meanings, biographies for information about authors or historical figures, print and online newspapers/magazines for information on current issues, e-mail and text messages from friends)*

5e28　　Comprehension Strategies

1.3 identify a variety of reading comprehension strategies and use them appropriately before, during, and after reading to understand texts *(e.g., activate prior knowledge through asking questions about or discussing a topic; develop mind maps to explore ideas; ask questions to focus reading; use visualization to clarify details of a character, scene, or concept in a text; make predictions about a text based on reasoning and related reading; reread to confirm or clarify meaning)*

5e29　　Demonstrating Understanding

1.4 demonstrate understanding of a variety of texts by summarizing important ideas and citing supporting details *(e.g., topic sentence and supporting points in paragraphs, reports, online and print newspaper articles, restaurant or cafeteria menus; theme and supporting plot details in short stories, myths, and fairy tales)*

5e30　　Making Inferences/Interpreting Texts

1.5 use stated and implied ideas in texts to make inferences and construct meaning

Teacher prompts: "What do you think will happen based on what the author has told you so far?" "What is the author suggesting 'between the lines'?"

5e31　　Extending Understanding

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

Teacher prompts: "How does your experience of a similar situation help you understand this character's choices?" "How does what you are reading now compare to what you have already read on this topic?"

5e32　　Analysing Texts

1.7 analyse texts and explain how various elements in them contribute to meaning *(e.g., narrative:* character development, plot development, mood, theme; *report:* introduction, body, conclusion*)*

Teacher prompts: "What devices did the author use to try to make you sympathize with the character? Were they effective?" "How did the author tie the concluding paragraph to the opening statement?"

5e33　　Responding to and Evaluating Texts

1.8 make judgements and draw conclusions about the ideas and information in texts and cite stated or implied evidence from the text to support their views *(e.g., sort and classify information from a text to see what conclusions it supports or suggests; create a profile of a character based on stated or implied information in the text)*

Teacher prompt: "Do you think this character's actions accurately reveal his thoughts? What evidence from the text supports your conclusion?"

5e34　　Point of View

1.9 identify the point of view presented in texts, ask questions to identify missing or possible alternative points of view, and suggest some possible alternative perspectives *(e.g., ask why the perspective of certain characters in a story is not presented and include some missing voices in a dramatization of a text; with a partner, role-play an interview with a person who represents one of the missing voices)*

Teacher prompts: "Whose point of view is fully explored? Why?" "Do you see any evidence of stereotyping in this text?"

2. Understanding Form and Style

5e35　　Text Forms

2.1 analyse a variety of text forms and explain how their particular characteristics help communicate meaning, with a focus on literary texts such as short stories *(e.g., how character, setting, and plot illustrate the theme),* graphic texts such as a logo *(e.g., how the elements work together to convey a message)*, and informational texts such as a movie review *(e.g., how the "lead" is used to signal whether the review is positive or negative)*

5e36 Text Patterns

2.2 identify a variety of organizational patterns in a range of texts and explain how they help readers understand the texts *(e.g., comparison in a report; time order in a biography; cause and effect in an explanation)*

5e37 Text Features

2.3 identify a variety of text features and explain how they help readers understand texts *(e.g., indexes, maps, charts, lists, photographs, menus, glossaries, tables of contents help the reader locate and verify information)*

5e38 Elements of Style

2.4 identify various elements of style – including word choice and the use of similes, personification, comparative adjectives, and sentences of different types, lengths, and structures – and explain how they help communicate meaning *(e.g., a series of short sentences can help communicate a sense of finality:* He didn't. He couldn't. He wouldn't. The matter was settled. It was time to move on*).*

3. Reading With Fluency

5e39 Reading Familiar Words

3.1 automatically read and understand most words in common use *(e.g., words from grade-level texts, subject-specific terminology used regularly in discussions and posted on anchor charts, words from shared- and guided-reading texts and some regularly used resource materials in the curriculum subject areas)*

5e40 Reading Unfamiliar Words

3.2 predict the meaning of and rapidly solve unfamiliar words using different types of cues, including:
• semantic (meaning) cues *(e.g., prefixes, suffixes, base words, phrases, sentences, and visuals that activate existing knowledge of oral and written language)* ;
• syntactic (language structure) cues*(e.g., word order, language patterns, punctuation)* ;
• graphophonic (phonological and graphic) cues *(e.g., familiar words within larger words, syllables within longer words, similarities between words with known spelling patterns and unknown words, visual cues that indicate irregular plurals)*

5e41 Reading Fluently

3.3 read appropriate texts with expression and confidence, adjusting reading strategies and reading rate to match the form and purpose *(e.g., read a poem aloud with appropriate phrasing and emphasis)*

4. Reflecting on Reading Skills and Strategies

5e42 Metacognition

4.1 identify the strategies they found most helpful before, during, and after reading and explain, in conversation with the teacher and/or peers or in a reader's notebook, how they can use these and other strategies to improve as readers

Teacher prompts: "Did preparing a list of questions to answer help you to find the information you needed from the biography?" "How do you know when you are not understanding during reading?" "What 'fix-up' strategies do you use when a passage is hard to understand?"

5e43 Interconnected Skills

4.2 explain, in conversations with peers and/or the teacher or in a reader's notebook, how their skills in listening, speaking, writing, viewing, and representing help them make sense of what they read *(e.g., viewing a television program or video about a topic before reading a text on the same topic builds background knowledge, introduces content-specific vocabulary, and offers a different perspective on the topic)*

Writing

Overall Expectations

5e44   1. generate, gather, and organize ideas and information to write for an intended purpose and audience;

5e45   2. draft and revise their writing, using a variety of informational, literary, and graphic forms and stylistic elements appropriate for the purpose and audience;

5e46   3. use editing, proofreading, and publishing skills and strategies, and knowledge of language conventions, to correct errors, refine expression, and present their work effectively;

5e47   4. 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.

1. Developing and Organizing Content

5e48   Purpose and Audience
1.1 identify the topic, purpose, and audience for a variety of writing forms *(e.g., a poem or song on a social issue for performance by the class; a formal letter to the teacher outlining their opinion on eliminating soft drinks from the school vending machine; an article explaining the water cycle and including a flow chart, for an online student encyclopedia)*

5e49   Developing Ideas
1.2 generate ideas about a potential topic and identify those most appropriate for the purpose

5e50   Research
1.3 gather information to support ideas for writing, using a variety of strategies and a range of print and electronic resources *(e.g., interview people with knowledge of the topic; identify and use graphic and multimedia sources; keep a record of sources used and information gathered)*

5e51   Classifying Ideas
1.4 sort and classify ideas and information for their writing in a variety of ways *(e.g., by underlining or highlighting key words or phrases; by using a graphic organizer such as a web or ranking ladder)*

5e52   Organizing Ideas
1.5 identify and order main ideas and supporting details and group them into units that could be used to develop several linked paragraphs, using a variety of strategies *(e.g., making jot notes; following a writing framework)* and organizational patterns *(e.g., chronological order, comparison, cause and effect)*

5e53   Review
1.6 determine whether the ideas and information they have gathered are relevant, appropriate, and adequate for the purpose, and do more research if necessary *(e.g., review material with a partner using a mind map or timeline)*

2. Using Knowledge of Form and Style in Writing

5e54   Form
2.1 write longer and more complex texts using a variety of forms *(e.g., a biographical sketch, based on research; a report, including research notes, describing the effect of the natural environment on an early civilization; an outline of the procedure for becoming a Canadian citizen; an explanation of how a human organ system functions, using pictures, captions, and notes; a review of or commentary on a book, movie, or video game; a myth using themes identified in reading; a pamphlet on a socially relevant topic they have studied this year)*

5e55   Voice
2.2 establish an appropriate voice in their writing, with a focus on modifying language and tone to suit different circumstances or audiences *(e.g., use a serious tone in a letter to the editor, a humorous tone in a letter to a friend)*

5e56   Word Choice
2.3 use some vivid and/or figurative language and innovative expressions to add interest *(e.g., some comparative adjectives; similes or personification; comparative adverbs: more slowly)*

5e57   Sentence Fluency
2.4 vary sentence types and structures, with a focus on using conjunctions to connect ideas, and pronouns to make links within and between sentences *(e.g., The latch was stiff, and the boy struggled to open the door. Finally, with much effort, he forced it open.)*

5e58   Point of View
2.5 identify their point of view and other possible points of view, and determine, when appropriate, if their own view is balanced and supported by evidence
Teacher prompt: "Identify a point of view other than your own and list the arguments that would support it. Have you included evidence in your work that would answer these arguments?"

5e59   Preparing for Revision
2.6 identify elements of their writing that need improvement, using feedback from the teacher and peers, with a focus on specific features*(e.g., effective use of language, logical organization)*
Teacher prompts: "Can you describe two nouns more specifically by adding appropriate adjectives?" "Are there ideas in the body of the paragraph that should be included in your topic sentence?"

5e60   Revision
2.7 make revisions to improve the content, clarity, and interest of their written work, using a variety of strategies *(e.g., use coloured pens and/or cutting and pasting to identify and move chunks of text that need to be reordered; add or substitute words and phrases, including vocabulary from other subjects and figurative language such as similes and personification, to achieve particular effects; adjust sentence length and complexity to suit the audience and purpose; check that language is inclusive and non-discriminatory)*
Teacher prompt: "Are your sentences too long and complicated/too short and simple/too much the same to appeal to your intended audience?"

5e61   Producing Drafts
2.8 produce revised, draft pieces of writing to meet identified criteria based on the expectations related to content, organization, style, and use of conventions

3. Applying Knowledge of Language Conventions and Presenting Written Work Effectively

5e62   Spelling Familiar Words
3.1 spell familiar words correctly *(e.g., words from their oral vocabulary, anchor charts, and shared-, guided-, and independent -reading texts; words used regularly in instruction across the curriculum)*

5e63 3.2 spell unfamiliar words using a variety of strategies that involve understanding sound-symbol relationships, word structures, word meanings, and generalizations about spelling *(e.g., pronounce the silent letters in words:* p-neumonia; *divide polysyllabic words into syllables; visualize irregular plurals; apply rules for adding* -ed*, -ing and* -er*, -est to base words; use memory tricks to memorize the letter order of irregular spellings; use the meaning of common prefixes and suffixes to understand and spell new words)*

5e64 Vocabulary
3.3 confirm spellings and word meanings or word choice using a variety of resources appropriate for the purpose *(e.g., locate guide words, word meanings, spelling charts, pronunciation keys, schwa symbol, idioms, inflected forms, and information about word origins in online or print dictionaries; use a variety of thematic dictionaries such as a bilingual dictionary or a crossword dictionary; use a thesaurus to find alternative words)*

5e65 Punctuation
3.4 use punctuation appropriately to help communicate their intended meaning, with a focus on the use of: a comma before *and* or *but* in compound sentences to join principal clauses; quotation marks for direct speech; and the placement of commas, question marks, and exclamation marks inside quotation marks in direct speech

5e66 Grammar
3.5 use parts of speech correctly to communicate their intended meaning clearly, with a focus on the use of: common, proper, and abstract nouns *(e.g., courage, hope)*; collective nouns *(e.g., flock of birds)*; adjectives, including comparative adjectives *(e.g., bigger, more expensive)*; the helping verb *have*; adverbs modifying verbs *(e.g., when, where, how)*; comparative adverbs *(e.g., faster, slower)*

5e67 Proofreading
3.6 proofread and correct their writing using guidelines developed with peers and the teacher *(e.g., an editing checklist specific to the writing task)*

5e68 Publishing
3.7 use a range of appropriate elements of effective presentation in the finished product, including print, script, different fonts, graphics, and layout *(e.g., use legible printing and cursive writing; include a labelled diagram, photographs, and a beginning glossary of terms in a read-aloud information book for younger children; use a formal letter layout for a letter to a public official)*

5e69 Producing Finished Works
3.8 produce pieces of published work to meet identified criteria based on the expectations related to content, organization, style, use of conventions, and use of presentation strategies

4. Reflecting on Writing Skills and Strategies

5e70 Metacognition
4.1 identify what strategies they found most helpful before, during, and after writing and what steps they can take to improve as writers *(e.g., use a threecolumn reflective journal to monitor the writing process:* What happened? How do I feel about it? What did I learn*)*
Teacher prompts: "What did you know about your audience that informed your planning process?" "What strategy did you find most helpful for organizing information?" "What editing strategies are most effective for you?"

5e71 Interconnected Skills
4.2 describe, with prompting by the teacher, how their skills in listening, speaking, reading, viewing, and representing help in their development as writers
Teacher prompts: "How has exploring different authors' perspectives on an issue helped you prepare for writing?" "Explain how dialogue with your peers can help you to express your opinion when you are writing."

5e72   Portfolio
               4.3 select pieces of writing that they think reflect their growth and competence as writers and explain
               the reasons for their choices

Media Literacy

Overall Expectations

5e73   1. demonstrate an understanding of a variety of media texts;

5e74   2. identify some media forms and explain how the conventions and techniques associated with them are
               used to create meaning;

5e75   3. create a variety of media texts for different purposes and audiences, using appropriate forms,
               conventions, and techniques;

5e76   4. 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.

1. Understanding Media Texts

5e77   Purpose and Audience
               1.1 identify the purpose and audience for a variety of media texts *(e.g., this sitcom is designed to
               appeal to teenagers; this comic book is designed to appeal to younger girls; this CD-ROM
               contains information for people interested in sharks)*
               Teacher prompt: "Who is this work intended/not intended for? What evidence in the work tells you
               that?"

5e78   Making Inferences/Interpreting Messages
               1.2 use overt and implied messages to draw inferences and construct meaning in media texts *(e.g.,
               overt message in an advertisement showing the product's user surrounded by friends:* This
               product is so good that you and your friends will all like it; *implied messages:* Using this product
               will make you popular; not using it may make you an outsider; popularity is based on having the
               right things*)*
               Teacher prompt: "What are the overt and implied messages conveyed by this T-shirt, which displays
               the logo of a popular rock band? Is the implied message more powerful than the overt message?
               Why, or why not? Do you think this T-shirt sends a message about the person wearing it?"

5e79   Responding to and Evaluating Texts
               1.3 express opinions about ideas, issues, and/or experiences presented in media texts, and give
               evidence from the texts to support their opinions *(e.g., explain why they think the coverage of an
               event by one media news source is more interesting and/or more reliable than the coverage of
               the same event by another source;defend an opinion about whether a media text that excludes
               groups such as girls or racial or ethnocultural minorities is sending a harmful message)*

5e80   Audience Responses
               1.4 explain why different audiences might respond differently to the same media text *(e.g., identify
               some different responses to their favourite music and suggest reasons for the differences)*
               Teacher prompts: "What do you think of this media text? Who might agree or disagree with your
               opinion?" "How does gender/age/culture seem to influence people's choices? Give examples."

5e81 Point of View
  1.5 identify whose point of view is presented or reflected in a media text, ask questions to identify missing or alternative points of view, and, where appropriate, suggest how a more balanced view might be represented *(e.g., this documentary about various athletes does not include athletes who have physical disabilities; another character could be included to represent their experience)*
  Teacher prompt: "Whose point of view is missing in this media text? How could the text be changed to include that point of view?"

5e82 Production Perspectives
  1.6 identify who produces various media texts, the reason for their production, how they are produced, and how they are funded *(e.g., publishers produce magazines for specific audiences to entertain, inform, and make money, using funds from sales and advertising; music companies produce CDs to entertain and make money, using funds from direct sales)*
  Teacher prompt: "What are the different professions that would be involved in producing a newspaper? A CD? How much would it cost to produce a newspaper or a CD? How could we find out?"

2. Understanding Media Forms, Conventions, and Techniques

5e83 Form
  2.1 describe in detail the main elements of some media forms *(e.g., television talk show:* host, studio audience, guests, commercial breaks; *news broadcast:* news anchor, reporters, video clips, commercial breaks; *television sitcom:* standard set, regular cast, visiting actors, laugh track, plot problem and complications, happy ending*)*
  Teacher prompt: "What do you expect to see when you watch a sitcom that you don't expect in a talk show?"

5e84 Conventions and Techniques
  2.2 identify the conventions and techniques used in some familiar media forms and explain how they help convey meaning and influence or engage the audience *(e.g. newspapers: separate sections for international/national news, sports, entertainment, and local events to appeal to a wide range of interests; headlines, photographs with captions, and graphics to add human interest and impact; photographs of columnists to signal that they are expressing a personal opinion)*
  Teacher prompts: "In what ways are the layouts of these two newspapers similar? In what ways are they different? Can you suggest reasons for the similarities and differences?" "How many sections are there in this newspaper? What sorts of advertisements appear in the different sections? Can you explain why they differ?"

3. Creating Media Texts

5e85 Purpose and Audience
  3.1 describe in detail the topic, purpose, and audience for media texts they plan to create *(e.g., an advertising campaign to encourage students to participate in a charity drive)*
  Teacher prompt: "What do you want to say? Who is your audience? How do you want to influence your audience?"

5e86 Form
  3.2 identify an appropriate form to suit the specific purpose and audience for a media text they plan to create, and explain why it is an appropriate choice *(e.g., a pamphlet or newsletter to inform parents, teachers, and students about environmental initiatives taken or planned by members of the school community)*
  Teacher prompt: "Why would a pamphlet or a newsletter be better than a poster to communicate this message?"

5e87   Conventions and Techniques

3.3 identify conventions and techniques appropriate to the form chosen for a media text they plan to create, and explain how they will use the conventions and techniques to help communicate their message *(e.g., the components of the dinner menu for a restaurant: different sections for each course, descriptions of ingredients, catchy titles for different dishes, and prices are included to interest diners in the various dishes and give them information they need to make choices)*

Teacher prompt: "In what ways would a menu for a fast-food restaurant differ from a menu for a fine-dining restaurant?"

5e88   Producing Media Texts

3.4 produce a variety of media texts for specific purposes and audiences, using appropriate forms, conventions, and techniques*(e.g.,*
- *a T-shirt to be worn by a character in a story or television show*
- *a pamphlet on a socially relevant topic they have studied this year*
- *a collection of images (downloaded, clipped, or scanned, as appropriate) from various sources, such as magazines, the Internet, newspapers, or textbooks, to illustrate a topic from a cross-curricular unit of study*
- *a flyer/poster, created using software, to advertise a school event*
- *a mock television commercial for a food product, drink, or item of clothing*

- *a news broadcast about a topic – such as immigration – from a cross-curricular unit of study*
- *a breakfast, lunch, or dinner menu for a restaurant depicted in a novel, short story, or film)*

4. Reflecting on Media Literacy Skills and Strategies

5e89   Metacognition

4.1 identify, with some support and direction, what strategies they found most helpful in making sense of and creating media texts, and explain how these and other strategies can help them improve as media viewers/listeners/producers

Teacher prompt: "Reflect on the media product(s) you have created. What did you learn from the process? How will that influence your next effort?"

5e90   Interconnected Skills

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

Teacher prompts: "How are reading, viewing, and listening similar? How can your strengths in one area help you in another?" "How can listening to a music soundtrack help you understand the feelings of a character?" "How are talking, writing, and creating media texts similar? How do strengths in one area help you in another? How can writing skills help you in producing media texts?"

Oral Communication, Reading, and Writing

Overall Expectations

5f1	• listen to and talk about short, simple oral texts dealing with familiar topics;
5f2	• read a variety of simple materials, 100 to 150 words long, and demonstrate understanding;
5f3	• write ideas and facts, or provide written responses to simple questions, using simple sentences;
5f4	• identify and use the vocabulary and the grammar and language conventions appropriate for this grade level.

Oral Communication

5f5	– follow and give basic classroom instructions;
5f6	– ask simple questions, and ask for repetition to clarify understanding;
5f7	– use visual and verbal cues to understand and convey the meaning of familiar material;
5f8	– use some conventions of oral language (e.g., pronunciation, intonation) to speak and to understand in familiar contexts;
5f9	– respond to oral texts, using simple but complete sentences (e.g., Il ya un cahier sur la table);
5f10	– give an oral presentation of five to ten sentences in length (e.g., description of clothing);
5f11	– make simple revisions to oral language in form and content (e.g., number and gender), using resources and feedback from the teacher and their peers.

Reading

5f12	– read at least nine simple passages or stories (e.g., poems, advertisements);
5f13	– read aloud with expression, using correct pronunciation and intonation;
5f14	– read and respond briefly to written materials (e.g., short, simple readers; a schedule or a television guide) by answering short questions or restating information;
5f15	– use various reading strategies to determine meaning and make sense of unfamiliar words (e.g., visual and verbal cues, and use of context and patterns).

Writing

5f16	– write simple phrases, short sentences, and questions, using learned vocabulary and simple language structures;
5f17	write, using a model, a first draft and corrected version in guided and cooperative writing tasks (e.g., create a personal ID card with information such as name, address, hair and eye colour, and personal interests);
5f18	– use and spell the vocabulary appropriate for this grade level.

Mathematical Process Expectations

Problem Solving

5m1 • develop, select, and apply problem-solving strategies as they pose and solve problems and conduct investigations, to help deepen their mathematical understanding;

Reasoning And Proving

5m2 • develop and apply reasoning skills (e.g., classification, recognition of relationships, use of counter-examples) to make and investigate conjectures and construct and defend arguments;

Reflecting

5m3 • 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 comparing and adjusting strategies used, by explaining why they think their results are reasonable, by recording their thinking in a math journal);

Selecting Tools and Computational Strategies

5m4 • 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

5m5 • make connections among mathematical concepts and procedures, and relate mathematical ideas to situations or phenomena drawn from other contexts (e.g., other curriculum areas, daily life, sports);

Representing

5m6 • create a variety of representations of mathematical ideas (e.g., by using physical models, pictures, numbers, variables, diagrams, graphs, onscreen dynamic representations), make connections among them, and apply them to solve problems;

Communicating

5m7 • communicate mathematical thinking orally, visually, and in writing, using everyday language, a basic mathematical vocabulary, and a variety of representations, and observing basic mathematical conventions.

Number Sense and Numeration

Overall Expectations

5m8 • read, represent, compare, and order whole numbers to 100 000, decimal numbers to hundredths, proper and improper fractions, and mixed numbers;

5m9 • demonstrate an understanding of magnitude by counting forward and backwards by 0.01;

5m10 • solve problems involving the multiplication and division of multi-digit whole numbers, and involving the addition and subtraction of decimal numbers to hundredths, using a variety of strategies;

5m11 • demonstrate an understanding of proportional reasoning by investigating whole-number rates.

Quantity Relationships

5m12 – represent, compare, and order whole numbers and decimal numbers from 0.01 to 100 000, using a variety of tools (e.g., number lines with appropriate increments, base ten materials for decimals);

5m13 – demonstrate an understanding of place value in whole numbers and decimal numbers from 0.01 to 100 000, using a variety of tools and strategies (e.g., use numbers to represent 23 011 as 20 000 + 3000 + 0 + 10 + 1; use base ten materials to represent the relationship between 1, 0.1, and 0.01) (Sample problem: How many thousands cubes would be needed to make a base ten block for 100 000?);

5m14 – read and print in words whole numbers to ten thousand, using meaningful contexts (e.g., newspapers, magazines);

5m15   – round decimal numbers to the nearest tenth, in problems arising from real-life situations;

5m16   – represent, compare, and order fractional amounts with like denominators, including proper and improper fractions and mixed numbers, using a variety of tools (e.g., fraction circles, Cuisenaire rods, number lines) and using standard fractional notation;

5m17   – demonstrate and explain the concept of equivalent fractions, using concrete materials (e.g., use fraction strips to show that); 3/4 is equal to 9/12

5m18   – demonstrate and explain equivalent representations of a decimal number, using concrete materials and drawings (e.g., use base ten materials to show that three tenths [0.3] is equal to thirty hundredths [0.30]);

5m19   – read and write money amounts to $1000 (e.g., $455.35 is 455 dollars and 35 cents, or four hundred fifty-five dollars and thirty-five cents);

5m20   – solve problems that arise from real-life situations and that relate to the magnitude of whole numbers up to 100 000 (Sample problem: How many boxes hold 100 000 sheets of paper, if one box holds 8 packages of paper, and one package of paper contains 500 sheets of paper?).

Counting

5m21   – count forward by hundredths from any decimal number expressed to two decimal places, using concrete materials and number lines (e.g., use base ten materials to represent 2.96 and count forward by hundredths: 2.97, 2.98, 2.99, 3.00, 3.01, …; "Two and ninety-six hundredths, two and ninety-seven hundredths, two and ninety-eight hundredths, two and ninety-nine hundredths, three, three and one hundredth, …") (Sample problem: What connections can you make between counting by hundredths and measuring lengths in centimetres and metres?).

Operational Sense

5m22   – solve problems involving the addition, subtraction, and multiplication of whole numbers, using a variety of mental strategies (e.g., use the commutative property: 5 x 18 x 2 = 5 x 2 x 18, which gives 10 x 18 = 180);

5m23   – add and subtract decimal numbers to hundredths, including money amounts, using concrete materials, estimation, and algorithms (e.g., use 10 x 10 grids to add 2.45 and 3.25);

5m24   – multiply two-digit whole numbers by two-digit whole numbers, using estimation, student-generated algorithms, and standard algorithms;

5m25   – divide three-digit whole numbers by one-digit whole numbers, using concrete materials, estimation, student-generated algorithms, and standard algorithms;

5m26   – multiply decimal numbers by 10, 100, 1000, and 10 000, and divide decimal numbers by 10 and 100, using mental strategies (e.g., use a calculator to look for patterns and generalize to develop a rule);

5m27   – use estimation when solving problems involving the addition, subtraction, multiplication, and division of whole numbers, to help judge the reasonableness of a solution (Sample problem: Mori used a calculator to add 7.45 and 2.39. The calculator display showed 31.35. Explain why this result is not reasonable, and suggest where you think Mori made his mistake.).

Proportional Relationships

5m28   – describe multiplicative relationships between quantities by using simple fractions and decimals (e.g., "If you have 4 plums and I have 6 plums, I can say that I have 1 1/2 or 1.5 times as many plums as you have.");

5m29   – determine and explain, through investigation using concrete materials, drawings, and calculators, the relationship between fractions (i.e., with denominators of 2, 4, 5, 10, 20, 25, 50, and 100) and their equivalent decimal forms (e.g., use a 10 x 10 grid to show that 2/5 = 40/100, which can also be represented as 0.4);

5m30   – demonstrate an understanding of simple multiplicative relationships involving whole-number rates, through investigation using concrete materials and drawings (Sample problem: If 2 books cost $6, how would you calculate the cost of 8 books?).

Measurement

Overall Expectations

5m31   • estimate, measure, and record perimeter, area, temperature change, and elapsed time, using a variety of strategies;

5m32   • determine the relationships among units and measurable attributes, including the area of a rectangle and the volume of a rectangular prism.

Attributes, Units, and Measurement Sense

5m33   – estimate, measure (i.e., using an analogue clock), and represent time intervals to the nearest second;

5m34   – estimate and determine elapsed time, with and without using a time line, given the durations of events expressed in minutes, hours, days, weeks, months, or years (Sample problem:You are travelling from Toronto to Montreal by train. If the train departs Toronto at 11:30 a.m. and arrives in Montreal at 4:56 p.m., how long will you be on the train?);

5m35   – measure and record temperatures to determine and represent temperature changes over time (e.g., record temperature changes in an experiment or over a season) (Sample problem: Investigate the relationship between weather, climate, and temperature changes over time in different locations.);

5m36   – estimate and measure the perimeter and area of regular and irregular polygons, using a variety of tools (e.g., grid paper, geoboard, dynamic geometry software) and strategies.

Measurement Relationships

5m37   – select and justify the most appropriate standard unit (i.e., millimetre, centimetre, decimetre, metre, kilometre) to measure length, height, width, and distance, and to measure the perimeter of various polygons;

5m38   – solve problems requiring conversion from metres to centimetres and from kilometres to metres (Sample problem: Describe the multiplicative relationship between the number of centimetres and the number of metres that represent a length. Use this relationship to convert 5.1 m to centimetres.);

5m39   – solve problems involving the relationship between a 12-hour clock and a 24-hour clock (e.g., 15:00 is 3 hours after 12 noon, so 15:00 is the same as 3:00 p.m.);

5m40   – create, through investigation using a variety of tools (e.g., pattern blocks, geoboard, grid paper) and strategies, two-dimensional shapes with the same perimeter or the same area (e.g., rectangles and parallelograms with the same base and the same height) (Sample problem: Using dot paper, how many different rectangles can you draw with a perimeter of 12 units? with an area of 12 square units?);

5m41   – determine, through investigation using a variety of tools (e.g., concrete materials, dynamic geometry software, grid paper) and strategies (e.g., building arrays), the relationships between the length and width of a rectangle and its area and perimeter, and generalize to develop the formulas [i.e., Area = length x width; Perimeter = (2 x length) + (2 x width)];

5m42   – solve problems requiring the estimation and calculation of perimeters and areas of rectangles (Sample problem:You are helping to fold towels, and you want them to stack nicely. By folding across the length and/or the width, you fold each towel a total of three times.You want the shape of each folded towel to be as close to a square as possible. Does it matter how you fold the towels?);

5m43 – determine, through investigation, the relationship between capacity (i.e., the amount a container can hold) and volume (i.e., the amount of space taken up by an object), by comparing the volume of an object with the amount of liquid it can contain or displace (e.g., a bottle has a volume, the space it takes up, and a capacity, the amount of liquid it can hold) (Sample problem: Compare the volume and capacity of a thin-walled container in the shape of a rectangular prism to determine the relationship between units for measuring capacity [e.g., millilitres] and units for measuring volume [e.g., cubic centimetres].);

5m44 – determine, through investigation using stacked congruent rectangular layers of concrete materials, the relationship between the height, the area of the base, and the volume of a rectangular prism, and generalize to develop the formula (i.e., Volume = area of base x height) (Sample problem: Create a variety of rectangular prisms using connecting cubes. For each rectangular prism, record the area of the base, the height, and the volume on a chart. Identify relationships.);

5m45 – select and justify the most appropriate standard unit to measure mass (i.e., milligram, gram, kilogram, tonne).

Geometry and Spatial Sense

Overall Expectations

5m46 • identify and classify two-dimensional shapes by side and angle properties, and compare and sort three-dimensional figures;

5m47 • identify and construct nets of prisms and pyramids;

5m48 • identify and describe the location of an object, using the cardinal directions, and translate two-dimensional shapes.

Geometric Properties

5m49 – distinguish among polygons, regular polygons, and other two-dimensional shapes;

5m50 – distinguish among prisms, right prisms, pyramids, and other three-dimensional figures;

5m51 – identify and classify acute, right, obtuse, and straight angles;

5m52 – measure and construct angles up to 90º, using a protractor;

5m53 – identify triangles (i.e., acute, right, obtuse, scalene, isosceles, equilateral), and classify them according to angle and side properties;

5m54 – construct triangles, using a variety of tools (e.g., protractor, compass, dynamic geometry software), given acute or right angles and side measurements (Sample problem: Use a protractor, ruler, and pencil to construct a scalene triangle with a 30° angle and a side measuring 12 cm.).

Geometric Relationships

5m55 – identify prisms and pyramids from their nets;

5m56 – construct nets of prisms and pyramids, using a variety of tools (e.g., grid paper, isometric dot paper, Polydrons, computer application).

Location and Movement

5m57 – locate an object using the cardinal directions (i.e., north, south, east, west) and a coordinate system (e.g., "If I walk 5 steps north and 3 steps east, I will arrive at the apple tree.");

5m58 – compare grid systems commonly used on maps (i.e., the use of numbers and letters to identify an area; the use of a coordinate system based on the cardinal directions to describe a specific location);

5m59 – identify, perform, and describe translations, using a variety of tools (e.g., geoboard, dot paper, computer program);

5m60 – create and analyse designs by translating and/or reflecting a shape, or shapes, using a variety of tools (e.g., geoboard, grid paper, computer program) (Sample problem: Identify translations and/or reflections that map congruent shapes onto each other in a given design.).

Patterning and Algebra

Overall Expectations

5m61 • determine, through investigation using a table of values, relationships in growing and shrinking patterns, and investigate repeating patterns involving translations;

5m62 • demonstrate, through investigation, an understanding of the use of variables in equations.

Patterns and Relationships

5m63 – create, identify, and extend numeric and geometric patterns, using a variety of tools (e.g., concrete materials, paper and pencil, calculators, spreadsheets);

5m64 – build a model to represent a number pattern presented in a table of values that shows the term number and the term;

5m65 – make a table of values for a pattern that is generated by adding or subtracting a number (i.e., a constant) to get the next term, or by multiplying or dividing by a constant to get the next term, given either the sequence (e.g., 12, 17, 22, 27, 32, …) or the pattern rule in words (e.g., start with 12 and add 5 to each term to get the next term);

5m66 – make predictions related to growing and shrinking geometric and numeric patterns (Sample problem: Create growing L's using tiles. The first L has 3 tiles, the second L has 5 tiles, the third L has 7 tiles, and so on. Predict the number of tiles you would need to build the 10th L in the pattern.);

5m67 – extend and create repeating patterns that result from translations, through investigation using a variety of tools (e.g., pattern blocks, dynamic geometry software, dot paper).

Variables, Expressions, and Equations

5m68 – demonstrate, through investigation, an understanding of variables as changing quantities, given equations with letters or other symbols that describe relationships involving simple rates (e.g., the equations $C = 3 \times n$ and $3 \times n = C$ both represent the relationship between the total cost (C), in dollars, and the number of sandwiches purchased (n), when each sandwich costs \$3);

5m69 – demonstrate, through investigation, an understanding of variables as unknown quantities represented by a letter or other symbol (e.g., $12 = 5 +$ or $12 = 5 + s$ can be used to represent the following situation: "I have 12 stamps altogether and 5 of them are from Canada. How many are from other countries?");

5m70 – determine the missing number in equations involving addition, subtraction, multiplication, or division and one- or two-digit numbers, using a variety of tools and strategies (e.g., modelling with concrete materials, using guess and check with and without the aid of a calculator) (Sample problem: What is the missing number in the equation $8 = 88 \div$?).

Data Management and Probability

Overall Expectations

5m71 • collect and organize discrete or continuous primary data and secondary data and display the data using charts and graphs, including broken-line graphs;

5m72 • read, describe, and interpret primary data and secondary data presented in charts and graphs, including broken-line graphs;

5m73 • represent as a fraction the probability that a specific outcome will occur in a simple probability experiment, using systematic lists and area models.

Collection and Organization of Data

5m74 – distinguish between discrete data (i.e., data organized using numbers that have gaps between them, such as whole numbers, and often used to represent a count, such as the number of times a word is used) and continuous data (i.e., data organized using all numbers on a number line that fall within the range of the data, and used to represent measurements such as heights or ages of trees);

5m75 – collect data by conducting a survey or an experiment (e.g., gather and record air temperature over a two-week period) to do with themselves, their environment, issues in their school or community, or content from another subject, and record observations or measurements;

5m76 – collect and organize discrete or continuous primary data and secondary data and display the data in charts, tables, and graphs (including broken-line graphs) that have appropriate titles, labels (e.g., appropriate units marked on the axes), and scales that suit the range and distribution of the data (e.g., to represent precipitation amounts ranging from 0 mm to 50 mm over the school year, use a scale of 5 mm for each unit on the vertical axis and show months on the horizontal axis), using a variety of tools (e.g., graph paper, simple spreadsheets, dynamic statistical software);

5m77 – demonstrate an understanding that sets of data can be samples of larger populations (e.g., to determine the most common shoe size in your class, you would include every member of the class in the data; to determine the most common shoe size in Ontario for your age group, you might collect a large sample from classes across the province);

5m78 – describe, through investigation, how a set of data is collected (e.g., by survey, measurement, observation) and explain whether the collection method is appropriate.

Data Relationships

5m79 – read, interpret, and draw conclusions from primary data (e.g., survey results, measurements, observations) and from secondary data (e.g., precipitation or temperature data in the newspaper, data from the Internet about heights of buildings and other structures), presented in charts, tables, and graphs (including broken-line graphs);

5m80 – calculate the mean for a small set of data and use it to describe the shape of the data set across its range of values, using charts, tables, and graphs (e.g., "The data values fall mainly into two groups on both sides of the mean."; "The set of data is not spread out evenly around the mean.");

5m81 – compare similarities and differences between two related sets of data, using a variety of strategies (e.g., by representing the data using tally charts, stem-and-leaf plots, double bar graphs, or broken-line graphs; by determining measures of central tendency [i.e., mean, median, and mode]; by describing the shape of a data set across its range of values).

Probability

5m82 – determine and represent all the possible outcomes in a simple probability experiment (e.g., when tossing a coin, the possible outcomes are heads and tails; when rolling a number cube, the possible outcomes are 1, 2, 3, 4, 5, and 6), using systematic lists and area models (e.g., a rectangle is divided into two equal areas to represent the outcomes of a coin toss experiment);

5m83 – represent, using a common fraction, the probability that an event will occur in simple games and probability experiments (e.g., "My spinner has four equal sections and one of those sections is coloured red. The probability that I will land on red is 1/4.");

5m84 – pose and solve simple probability problems, and solve them by conducting probability experiments and selecting appropriate methods of recording the results (e.g., tally chart, line plot, bar graph).

Science and Technology Expectations (2007)　　Grade 5

UNDERSTANDING LIFE SYSTEMS: Human Organ Systems

Overall Expectations

5s1 CR2007	1. analyse the impact of human activities and technological innovations on human health;
5s2 CR2007	2. investigate the structure and function of the major organs of various human body systems;
5s3 CR2007	3. demonstrate an understanding of the structure and function of human body systems and interactions within and between systems.

1. Relating Science and Technology to Society and the Environment

5s4 CR2007	1.1 assess the effects of social and environmental factors on human health, and propose ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial Sample problems: (a) Each year, about 90 000 children in Ontario try smoking. Smoking kills almost 12 000 people in Ontario each year. Ad campaigns about the dangers of smoking can encourage young people to stay away from tobacco products. But the media still often portray smoking as glamorous. Develop a personal plan of action to find the information you need to make good decisions about smoking (e.g., where you might find reliable information and data; whom you might ask for help and support). (b) Overexposure to the sun in childhood can cause skin cancer in adults. But the vitamin D that we create using sunlight during "safe" hours helps to build strong bones and increases our resistance to many kinds of diseases. Make a personal plan to get the recommended one hour a week of sunlight, taking into account the safety concerns about exposure to the sun.
5s5 CR2007	1.2 evaluate the effects, both beneficial and harmful, of various technologies on human body systems, taking different perspectives into account (e.g., the perspectives of the developers of the technologies, advertisers, children and young people, parents) Sample issue: Industrial technology (e.g., manufacturing and communication processes) has both helped and harmed human health. For example, new running shoe designs provide better body protection, but manufacturing them may involve social (e.g., unsafe working conditions, child labour) and environmental costs and marketing them increases social pressure to wear the latest shoes. Indoor and outdoor video technology can bring us messages that promote healthy living (e.g., the importance of drinking milk or getting lots of exercise), but it can also bring messages that encourage unhealthy choices (e.g., that drinking alcohol is "cool"; that driving fast is fun), and it exposes people to constant bombardment with sound and light.Sample guiding questions: What effects might playing video games, watching TV, or using Internet chat lines and e-mail have on human body systems? How can the increased ease of air travel affect individual and public health?

2. Developing Investigation and Communication Skills

5s6 CR2007	2.1 follow established safety procedures for physical activities (e.g., make the teacher aware of any physical limitations that might affect ability to perform activities)
5s7 CR2007	2.2 use scientific inquiry/experimentation skills (see page 12) to investigate changes in body systems (e.g., heart rate, breathing, body temperature) as a result of physical activity (e.g., exercise, resting, eating) Sample guiding questions: What observations did you make about the effect of exercise on your heart rate? What happened to your breathing as your heart rate changed? How long did it take for your heart rate and breathing to return to normal after physical exertion? How did your body temperature change? What other changes did you notice (e.g., sweating)? What conclusions can you make as a result of your investigations?
5s8 CR2007	2.3 design and build a model to demonstrate how organs or components of body systems in the human body work and interact with other components (e.g., build a model that shows how muscles, bones, and joints in the human body work together as a system to allow movement of the arms or legs; build a model to show how the lungs and heart work as a system)
5s9 CR2007	2.4 use appropriate science and technology vocabulary, including circulation, respiration, digestion, organs, and nutrients, in oral and written communication
5s10 CR2007	2.5 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 labelled charts or graphs to show changes in heart rate and breathing as a result of exercising)

3. Understanding Basic Concepts

5s11 **CR2007**	3.1 identify major systems in the human body (e.g., musculoskeletal system, digestive system, nervous system, circulatory system) and describe their roles and interrelationships
5s12 **CR2007**	3.2 describe the basic structure and function of major organs in the respiratory, circulatory, and digestive systems (e.g., we have two lungs; each one is about 25–30 cm long and cone-shaped; the right lung is slightly bigger because it has three lobes and the left lung has only two; our lungs are responsible for gas exchanges)
5s13 **CR2007**	3.3 identify interrelationships between body systems (e.g., the respiratory system provides oxygen and removes carbon dioxide for the circulatory system)
5s14 **CR2007**	3.4 identify common diseases and the organs and/or body systems that they affect (e.g., epilepsy affects the brain [central nervous system]; appendicitis affects the appendix [digestive system]; asthma and emphysema affect the lungs [respiratory system])

UNDERSTANDING STRUCTURES AND MECHANISMS: Forces Acting on Structures and Mechanisms

Overall Expectations

5s15 **CR2007**	1. analyse social and environmental impacts of forces acting on structures and mechanisms;
5s16 **CR2007**	2. investigate forces that act on structures and mechanisms;
5s17 **CR2007**	3. identify forces that act on and within structures and mechanisms, and describe the effects of these forces on structures and mechanisms.

1. Relating Science and Technology to Society and the Environment

5s18 **CR2007**	1.1 analyse the effects of forces from natural phenomena (e.g., tornadoes, hurricanes, earthquakes, tsunamis) on the natural and built environment Sample guiding questions: (a) What is a tornado? Where does the force of a tornado come from? What kinds of damage does a tornado inflict on the built environment (e.g., on structures such as houses and shopping malls)? What is the impact of a tornado on the natural environment (e.g., on trees, on animals such as fish and birds)? How can humans protect themselves from the force of a tornado? (b) What is an earthquake? Where does the force of an earthquake come from? How is the damage from an earthquake different from that of a tornado? What is the impact of an earthquake on the natural environment? What can humans do to protect themselves from the forces of an earthquake?
5s19 **CR2007**	1.2 evaluate the impact of society and the environment on structures and mechanisms, taking different perspectives into account (e.g., the perspectives of golfers, local bird-watching groups, families, a school board), and suggest ways in which structures and mechanisms can be modified to best achieve social and environmental objectives Sample issues: (a) The local golf course wants to expand into an area where bald eagles are known to winter. (b) People in the Far North have to construct buildings on ground that is permanently frozen just below the surface. If their buildings have normal foundations, the heat loss from them would melt the frozen ground and unsettle the structure.

2. Developing Investigation and Communication Skills

5s20 **CR2007**	2.1 follow established safety procedures for working with tools and materials (e.g., wear protective eyewear when testing structures to the breaking point)
5s21 **CR2007**	2.2 measure and compare, quantitatively and/or qualitatively, the force required to move a load (e.g., to lift a book, to open a drawer) using different mechanical systems (e.g., different pulley systems, a lever, a gear system), and describe the relationship between the force required and the distance over which the force moves

5s22 **CR2007**	2.3 use scientific inquiry/research skills (see page 15) to investigate how structures are built to withstand forces Sample guiding questions: What different materials and construction techniques are used to build structures that may be subjected to forces from natural phenomena such as earthquakes? In what ways are structures modified to allow them to stand up to forces from natural phenomena such as tornadoes and hurricanes? What standard building techniques are used to ensure that structures can withstand forces placed upon them (e.g., the force from the weight of snow on a roof)?
5s23 **CR2007**	2.4 use technological problem-solving skills (see page 16) to design, build, and test a frame structure (e.g., a bridge, a tower) that will withstand the application of an external force (e.g., a strong wind or simulated vibrations from a train) or a mechanical system that performs a specific function (e.g., a building crane) Sample guiding questions: What strategies will you use to ensure that you build a structure capable of withstanding an external force? What function is your device intended to perform? How will you test your structure or device? What safety measures do you need to consider when building and testing it? How will you know if your structure or device was successful? What changes might you suggest to improve its efficiency, functionality, or performance?
5s24 **CR2007**	2.5 use appropriate science and technology vocabulary, including tension, compression, torque, system, and load, in oral and written communication
5s25 **CR2007**	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., make an oral presentation explaining the techniques they used to build a model of a bridge that can withstand vibrations from a train)

3. Understanding Basic Concepts

5s26 **CR2007**	3.1 identify internal forces acting on a structure (e.g., compression [squeezing], tension [stretching]), and describe their effects on the structure
5s27 **CR2007**	3.2 identify external forces acting on a structure (e.g., the weight of people and furniture in a house, wind blowing on a tent, the movement caused by a passing train), and describe their effects on the structure, using diagrams
5s28 **CR2007**	3.3 explain the advantages and disadvantages of different types of mechanical systems (e.g., a hoist in a lifting system that comprises four pulleys will decrease the amount of force needed by four times, but the force will have to move four times as fast)
5s29 **CR2007**	3.4 describe forces resulting from natural phenomena that can have severe consequences for structures in the environment (e.g., a house loses its roof in a wind storm), and identify structural features that help overcome some of these forces (e.g., cross supports for roofs, steel beams in bridges)
5s30 **CR2007**	3.5 describe how protective sports equipment protects the body from the impact of forces (e.g., helmets reduce the intensity of the force of the impact, spreading the impact over a larger area and preventing direct impact to the skull; knee and shin pads spread the impact over a larger area and protect against cuts and scrapes)

UNDERSTANDING MATTER AND ENERGY: Properties of and Changes in Matter

Overall Expectations

5s31 **CR2007**	1. evaluate the social and environmental impacts of processes used to make everyday products;
5s32 **CR2007**	2. conduct investigations that explore the properties of matter and changes in matter;
5s33 **CR2007**	3. demonstrate an understanding of the properties of matter, changes of state, and physical and chemical change.

Science and Technology Expectations — Grade 5

1. Relating Science and Technology to Society and the Environment

5s34
CR2007

1.1 evaluate the environmental impacts of processes that change one product into another product through physical or chemical changes Sample issues: Consider the impacts on the environment of changing grains such as wheat, corn, and rice into flours, and the flours into breads, pasta, crackers, or wallpaper paste; changing new trees, lumberyard scraps, and recycled paper products into pulp, and pulp into paper and paper products; changing petroleum into plastic, and plastic into everyday items such as rulers and soft drink bottles, some of which end up in landfills and some of which are recycled into clothing or rugs.

5s35
CR2007

1.2 assess the social and environmental impact of using processes that rely on chemical changes to produce consumer products, taking different perspectives into account (e.g., the perspectives of food manufacturers, consumers, landfill operators, people concerned about the environment), and make a case for maintaining the current level of use of the product or for reducing it Sample issues: The use of chemical preservatives makes foods last longer, but the preservatives may have an impact on human health. Recycling paper, cardboard, plastics, and organics can keep materials out of landfills for a longer period of time, but the processes involved may have their own impacts.

2. Developing Investigation and Communication Skills

5s36
CR2007

2.1 follow established safety procedures for working with heating appliances and hot materials (e.g., switch hot plates off immediately after use)

5s37
CR2007

2.2 measure temperature and mass, using appropriate instruments (e.g., a thermometer, a single-pan balance)

5s38
CR2007

2.3 use scientific inquiry/experimentation skills (see page 12) to investigate changes of state and changes in matter Sample guiding questions: What change of state happens during condensation? During solidification? Do the changes of state you are observing take place because of a release of heat or an absorption of heat? Explain. What physical changes in matter did you observe? What caused those changes to take place? What would have to happen to reverse those changes? What chemical changes in matter did you observe? What caused those changes to take place? What conclusions did you make about changes in matter?

5s39
CR2007

2.4 use scientific inquiry/experimentation skills (see page 12) to determine how the physical properties of materials make them useful for particular tasks (e.g., when cleaning up a liquid spill in the kitchen, which material is best suited to do the job: a piece of sponge, a piece of terry cloth, a paper towel?) Sample guiding questions: How will you ensure that your test of the materials is fair? What properties of the materials make them useful for the task? What is the environmental impact of using each of the materials? Which of their properties might hamper the task? How might you improve one of these products to make it better suited to the task?

5s40
CR2007

2.5 use appropriate science and technology vocabulary, including mass, volume, properties, matter, physical/reversible changes, and chemical/irreversible changes, in oral and written communication

5s41
CR2007

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., create a labelled chart or graph to show the time required for an ice cube to melt completely)

3. Understanding Basic Concepts

5s42
CR2007

3.1 identify matter as everything that has mass and occupies space

5s43
CR2007

3.2 identify properties of solids, liquids, and gases (e.g., solids have definite volume and hold their shape; liquids have definite volume but take the shape of their container or spread when they are not contained; gases have no definite volume and take the volume and shape of their container or spread when they are not contained), and state examples of each

5s44
CR2007

3.3 explain changes of state in matter (e.g., evaporation, condensation, solidification or freezing, fusion or melting, sublimation), and give examples of each (e.g., water from wet clothes evaporates; steam from a boiling kettle condenses on a cold window; water in ponds and lakes solidifies or freezes in winter; a frozen treat melts on a warm summer day; a moth ball sublimates in the closet)

5s45
CR2007

3.4 describe physical changes in matter as changes that are reversible (e.g., a melted ice cube can be refrozen; a bottle of frozen water can be thawed to a liquid state again; water vapour that has condensed on a cold window can evaporate into a vaporous state again; water from a puddle that has evaporated will fall to the ground as rain)

5s46 CR2007	3.5 describe chemical changes in matter as changes that are irreversible (e.g., when the chrome on a bicycle rusts, it can never go back to being chrome; when an egg is boiled it can never go back to being a raw egg)
5s47 CR2007	3.6 explain how changes of state involve the release of heat (e.g., when water freezes it releases heat) or the absorption of heat (e.g., when an ice cube melts, it absorbs heat)
5s48 CR2007	3.7 identify indicators of a chemical change (e.g., production of a gas, change in colour, formation of precipitate)
5s49 CR2007	3.8 distinguish between a physical change and a chemical change (e.g., a physical change can be reversed [ice to water to ice], whereas a chemical change creates new substance[s] [wood to smoke and ash])

UNDERSTANDING EARTH AND SPACE SYSTEMS: Convservation of Energy and Resources

Overall Expectations

5s50 CR2007	1. analyse the immediate and long-term effects of energy and resource use on society and the environment, and evaluate options for conserving energy and resources;
5s51 CR2007	2. investigate energy transformation and conservation;
5s52 CR2007	3. demonstrate an understanding of the various forms and sources of energy and the ways in which energy can be transformed and conserved.

1. Relating Science and Technology to Society and the Environment

5s53 CR2007	1.1 analyse the long-term impacts on society and the environment of human uses of energy and natural resources, and suggest ways to reduce these impacts (e.g., turning off the faucet while brushing teeth or washing and rinsing dishes conserves water; reusing or recycling products, or using fewer products, conserves natural resources and energy) Sample issue: Natural gas is a clean, reliable, and safe fuel for heating our homes, but it is non-renewable and its use contributes to climate change (although not as much as other fossil fuels). Alternative forms of energy such as solar energy or wind energy do not deplete natural resources or contribute to climate change, but they may have other drawbacks (such as being more expensive and less reliable).
5s54 CR2007	1.2 evaluate the effects of various technologies on energy consumption (e.g., improving our home's insulation allows us to conserve heat and reduce energy consumption; aerodynamic design can improve the energy efficiency of cars and buses; household appliances designed to make our lives easier use large amounts of energy; some cars and recreational vehicles use energy less efficiently than others), and propose ways in which individuals can improve energy conservation Sample problem: Conduct an energy audit of your home (e.g., look for places where there are drafts; check the wattage of light bulbs; with the help of an adult, estimate the standard of insulation; check the energy efficiency ratings of heating and cooling equipment and large appliances), and create a plan for how your family could improve their energy conservation efforts.

2. Developing Investigation and Communication Skills

5s55 CR2007	2.1 follow established safety procedures for using tools and materials (e.g., use hand drills correctly when making holes in wood)
5s56 CR2007	2.2 use scientific inquiry/research skills (see page 15) to investigate issues related to energy and resource conservation (e.g., interview an Aboriginal person about his or her traditional teachings on conservation) Sample guiding questions: Why did you choose this issue to research? Where will you find information about it? How will you determine if the source of information is a good one (e.g., unbiased, current, knowledgeable)? Why might some of the sources be biased one way or another on the issue? What are some of the concerns that were raised in your research? How might this issue be relevant to our local community? Who can take action on this issue? How might you as an individual influence the outcome of the issue?
5s57 CR2007	2.3 use technological problem-solving skills (see page 16) to design, build, and test a device that transforms one form of energy into another (e.g., create a child's toy that uses the electrical energy from a battery or solar cell to move across the floor [kinetic energy] and make a noise [sound energy]), and examine ways in which energy is being "lost" in the device Sample guiding questions: Describe the energy transformations that are taking place in your device. What challenges did you encounter in making these transformations take place? As one form of energy is being transformed into another, where is energy being lost in your device? How might you minimize that loss?

5s58

CR2007

2.4 use appropriate science and technology vocabulary, including energy, heat, light, sound, electrical, mechanical, and chemical, in oral and written communication

5s59

CR2007

2.5 use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes (e.g., in a small group, discuss ways in which technological innovations increase and/or decrease our ability to conserve energy

3. Understanding Basic Concepts

5s60

CR2007

3.1 identify a variety of forms of energy (e.g., electrical, chemical, mechanical, heat, light, kinetic) and give examples from everyday life of how that energy is used (e.g., electrical energy for cooking; chemical/electrical energy to run our cars; mechanical energy to hit a baseball; light energy for managing traffic on the roads; heat energy to warm homes and schools)

5s61

CR2007

3.2 identify renewable and non-renewable sources of energy (e.g., renewable: sun, wind, ocean waves and tides, wood; non-renewable: fossil fuels such as coal and natural gas)

5s62

CR2007

3.3 describe how energy is stored and transformed in a given device or system (e.g., in a portable electric device, chemical energy stored in a battery is transformed into electrical energy and then into other forms of energy such as mechanical, sound, and/or light energy)

5s63

CR2007

3.4 recognize that energy cannot be created or destroyed but can only be changed from one form to another (e.g., chemical energy in a battery becomes electrical energy)

5s64

CR2007

3.5 explain that energy that is apparently "lost" from a system has been transformed into other energy forms (usually heat or sound) that are not useful to the system (e.g., sound from a car's engine does not help the car move)

HC: Early Civilizations

Overall Expectations

5z1 • identify and compare the ways in which people in various early civilizations met their physical and social needs, including how they interacted with and used the natural environment;

5z2 • use a variety of resources and tools to investigate characteristics of a number of early civilizations, including their significant innovations and technological advances;

5z3 • show how innovations made by various early civilizations have influenced the modern world.

Knowledge and Understanding

5z4 – identify major early civilizations (e.g., Mediterranean, African, Asian, North/Central/South American) and locate them on a world map;

5z5 – describe the physical features and climate of two or more regions where early civilizations developed (e.g., the flood plains of the Tigris and Euphrates Rivers, the Nile River Valley, the inland delta of the upper Niger River, the mountainous islands of Greece, the fertile plains of China, the rain forest of the Amazon, the deserts of the United States);

5z6 – explain how two or more early civilizations shaped and used the environment to meet their physical needs for food, homes, clothing, and health (e.g., use of irrigation in agriculture in Egypt, planting of olive groves and orchards in Greece, use of bamboo for homes in China, pottery making in Mesopotamia, growing of maize by Mayans, use of cedar trees by Haida people);

5z7 – compare how two or more early civilizations were governed (e.g., pharaohs in Egypt; early democracy in Greece; emperors in China; republican government in Rome; nobles, priests, and military in Aztec society; chiefdoms in the Indus Valley; city states on the Swahili Coast; clan mothers and chiefs in the Iroquois Confederacy);

5z8 – outline how social needs were met in two or more early civilizations (e.g., family roles, recreation, sports, arts, entertainment, sanitation, education, written language);

5z9 – identify important values and beliefs in two or more early civilizations and describe how they affected daily life (e.g., world views, including religious beliefs and practices; government; social structure; family structure and roles);

5z10 – identify some scientific and technological advances made by two or more early civilizations (e.g., written language, calendar, time-keeping methods, invention of the wheel, medicine, sculpture, irrigation, building methods, architecture, embalming, aqueducts, metalwork);

5z11 – identify and compare the distinguishing features of two or more early civilizations (e.g., class structure, location, governance, beliefs, arts).

Inquiry/Research and Communication Skills

5z12 – formulate questions to develop a research focus (e.g., What farming methods were used by the Aztecs? How did trade between early African civilizations contribute to mutual prosperity? How did social organization differ among various North American First Nation peoples?);

5z13 – use primary and secondary sources to locate information about early civilizations (e.g., primary sources: artefacts, field trips; secondary sources: atlases, encyclopedias and other print materials, illustrations, videos, CD-ROMs, Internet sites);

5z14 – use graphic organizers and graphs to sort information and make connections (e.g., Venn diagrams comparing governments, subject webs illustrating physical needs, year-round calendar to show agricultural cycles, bar graph for temperature data);

5z15 – compare maps of early civilizations with modern maps of the same area;

5z16   – use knowledge of map-making techniques and conventions to map sites of early civilizations (e.g., grids and direction symbols to show locations; colour and shading to show elevations/physical features);

5z17   – use media works, oral presentations, written notes and descriptions, drawings, tables, charts, maps, and graphs to communicate information about early communities;

5z18   – use appropriate vocabulary (e.g., *culture, myth, legend, civilization, technology, democracy*) to describe their inquiries and observations.

Application

5z19   – make connections between some elements of modern life and similar elements from early civilizations (e.g., the Olympic ideal, democracy, money as a medium of exchange, citizenship, philosophy, mythology, trade, social structures, legal systems, theatre, architecture);

5z20   – compare and respond to myths and legends from two or more early civilizations;

5z21   – report on the relevance to modern society of selected scientific and technological discoveries made by early civilizations (e.g., written language, astronomy, irrigation, mathematics, navigational instruments, medicine, architecture, the mining and smelting of metals).

CWC: Aspects of Citizenship and Government in Can

Overall Expectations

5z22   • summarize the structures, functions, and interactions of Canada's federal, provincial/territorial, and municipal governments, and identify and describe significant Canadian symbols, ceremonies, buildings, and political figures;

5z23   • use a variety of resources and tools to gather and analyse information about government processes, the rights of groups and individuals, and the responsibilities of citizenship in Canada, including participation in the electoral process;

5z24   • identify concrete examples of how government plays a role in contemporary society and of how the rights of groups and individuals and the responsibilities of citizenship apply to their own lives.

Knowledge and Understanding

5z25   – describe the structure and components of Canada's federal, provincial/territorial, and municipal governments;

5z26   – describe the rights of groups and individuals and the responsibilities of citizenship in Canada, including participation in the electoral process and the granting of voting rights to various groups (e.g., women, First Nation peoples);

5z27   – identify responsibilities that accompany particular rights (e.g., the right to vote / the responsibility to become informed; the right of freedom of speech / the responsibility to respect the free speech rights of others; the right to freedom from discrimination and harassment / the responsibility to treat people with fairness and respect);

5z28   – explain the processes of electing governments in Canada;

5z29   – identify services provided by the federal, provincial/territorial, and municipal governments (e.g., defence, health, education, social assistance, garbage collection);

5z30   – describe the basic rights that are specified in the Canadian Charter of Rights and Freedoms;

5z31   – describe the process by which immigrants become Canadian citizens (e.g., applying; residing in Canada for three years; learning English or French; preparing for and writing the test; participating in the citizenship ceremony);

5z32   – identify current and historical political figures and their significance (e.g., provincial/territorial, municipal, and federal leaders; members of provincial legislatures and the federal Parliament; members of municipal council);

5z33   – explain the significance of civic buildings and symbols (e.g., the federal Parliament Buildings, the Peace Tower, the Speaker's Mace, the national anthem, Queen's Park, flags and coats of arms, local public buildings and memorials);

5z34   – describe some civic ceremonies and celebrations, and explain what they mean or commemorate (e.g., citizenship and reaffirmation ceremonies, the changing of the guard, the opening of Parliament, public events for International Day for the Elimination of Racism, Aboriginal Solidarity Day, Canada Day celebrations, Remembrance Day services).

Inquiry/Research and Communication Skills

5z35   – formulate questions to develop a research focus (e.g., What are the duties of a member of Parliament? What are the responsibilities of the members of the Supreme Court of Canada? Why is the Chief Electoral Officer not allowed to vote? How can citizens have an influence on government decision making?);

5z36   – use primary and secondary sources to locate information about the structure and functions of government (e.g., *primary sources*: interviews, classroom visitors, field trips; *secondary sources*: atlases, encyclopedias and other print materials, illustrations, videos, CD-ROMs, Internet sites);

5z37   – use media works, oral presentations, written notes and descriptions, drawings, tables, and graphs to explain how the different levels of government share responsibility for providing selected services (e.g., in the areas of taxation, health care, roads, environmental protection, sports, arts and culture, recreation);

5z38   – use graphic organizers and graphs to sort, classify, and connect information (e.g., charts of services provided by three levels of government; a flow chart of how tax dollars are collected and used);

5z39   – use media works, oral presentations, written notes and descriptions, drawings, and tables to present information about processes or sequences of events (e.g., the immigrant journey towards Canadian citizenship; the process of law making; the process of becoming a member of Parliament);

5z40   – use appropriate vocabulary (e.g., *government, local, municipal, provincial, federal, democracy, citizenship, legislature, constituency, prime minister, premier, mayor, governor general, monarchy, lieutenant-governor, cabinet, opposition, election, majority, minority, electors, riding, county, civil servant, right, responsibility*) to describe their inquiries and observations.

Map, Globe, and Graphic Skills *

5z41   – construct and read a variety of maps, graphs, diagrams, and/or models to display and interpret information for specific purposes (e.g., maps showing local electoral ridings, major municipalities of Canada, time zones that determine the closing of electoral polls; bar graphs showing party standings after each election; a diagram of the House of Commons).

Application

5z42   – research and report on concrete examples of how the three levels of government work together to meet challenges or perform tasks (e.g., in responding to crises, in organizing Olympics or World Fairs/ Expositions);

5z43   – identify the relevance to their own lives of individual and group rights (e.g., language rights, equality rights);

5z44   – model activities and processes of responsible citizenship (e.g., re-enact or model a citizenship ceremony; engage in democratic class meetings; hold a mock election; create a series of diary entries that a new Canadian might have written throughout the immigration and citizenship process; plan and participate in a heritage-day event).

Healthy Living

Overall Expectations

5p1   • analyse information that has an impact on healthy eating practices (e.g., food labels, food guides, care-of-teeth brochures);

5p2   • describe physical, emotional, and interpersonal changes associated with puberty;

5p3   • apply strategies to deal with threats to personal safety (e.g., in response to harassment) and to prevent injury (e.g., from physical assault);

5p4   • identify the influences (e.g., the media, peers, family) affecting alcohol use, as well as the effects and legalities of, and healthy alternatives to, alcohol use.

Healthy Eating

5p5   – explain the purpose and function of calories and the major food nutrients;

5p6   – identify critical content information on food labels (e.g., ingredients, calories, additives, fat content);

5p7   – describe the influence of the media on body image (e.g., shape and size);

5p8   – explain how changes in our bodies sometimes affect our eating habits (e.g., increased appetite during growth spurts);

Growth and Development

5p9   – identify strategies to deal positively with stress and pressures that result from relationships with family and friends;

5p10   – identify factors (e.g., trust, honesty, caring) that enhance healthy relationships with friends, family, and peers;

5p11   – describe the secondary physical changes at puberty (e.g., growth of body hair, changes in body shape);

5p12   – describe the processes of menstruation and spermatogenesis;

5p13   – describe the increasing importance of personal hygiene following puberty;

Personal Safety / Injury Prevention

5p14   – explain how people's actions (e.g., bullying, excluding others) can affect the feelings and reactions of others;

5p15   – apply strategies (e.g., anger management, assertiveness, conflict resolution) to deal with personal-safety and injury-prevention situations (e.g., swarming, threatening, harassment);

Substance Use / Abuse

5p16   – describe the short- and long-term effects of alcohol use and abuse;

5p17   – apply decision-making skills to make healthy choices about alcohol use, and recognize factors (e.g., the media, family members, friends, laws) that can influence the decision to drink alcohol;

5p18   – demonstrate resistance techniques (e.g., avoidance, walking away) and assertiveness skills (e.g., saying no) to deal with peer pressure in situations pertaining to substance use and abuse.

Fundamental Movement Skills

Overall Expectations

5p19   • perform the movement skills required to participate in games, gymnastics, dance, and outdoor pursuits alone and with others: locomotion/travelling (e.g., running in patterns in game activities), manipulation (e.g., catching, throwing), and stability (e.g., transferring their weight);

5p20   • demonstrate the principles of movement while refining their movement skills (e.g., matching the movements of a partner in a sequence).

Locomotion / Travelling Skills

5p21 – perform a combination of locomotion/ travelling movements, incorporating a variety of speeds, in relationship to objects or others (e.g., square dancing, dodging or faking to escape or deceive an opponent);

Manipulation Skills

5p22 – catch, while moving, objects of various sizes and shapes (e.g., balls, Frisbees) using one or two hands;

5p23 – use a piece of equipment to send and receive an object to a partner or a target (e.g., propel a ball with a scoop, hit a badminton bird with a racquet, pass a ball using a floor-hockey stick);

5p24 – stick-handle an object (e.g., a ball, a disc) while moving in different directions and at different speeds, alone or with a partner;

5p25 – hit a ball with various parts of the body (e.g., heading a soccer ball);

Stability Skills

5p26 – perform a sequence of movements (e.g., rolling, balancing, jumping, landing);

5p27 – perform rotations, both single rolls and rolls in sequence, in a variety of directions on mats;

5p28 – transfer body weight in a variety of ways, using changes in

5p29 – dismount safely from equipment (e.g., from a bench or box-horse).

Active Participation

Overall Expectations

5p30 • participate on a regular basis in physical activities that maintain or improve physical fitness (e.g., one-on-one or two-on-two soccer-type games);

5p31 • identify the components of physical fitness and describe physical activities that improve these components;

5p32 • apply living skills (e.g., goal setting, conflict-resolution techniques, and interpersonal skills that contribute to positive group interaction) to physical activities (e.g., games, gymnastics, dance, outdoor pursuits);

5p33 • follow safety procedures related to physical activity, equipment, and facilities.

Physical Activity

5p34 – participate vigorously in all aspects of the program (e.g., gymnastic stations, fitness circuit);

5p35 – describe the factors that motivate participation in daily physical activity (e.g., seeing an activity on TV, idolizing a sports hero, doing an activity with your family) and connect them to various activities;

Physical Fitness

5p36 – improve their fitness levels by participating in vigorous physical activities (e.g., rope skipping to music) for a minimum of twenty minutes each day, including appropriate warm-up and cool-down procedures;

5p37 – describe the components of physical fitness and relate each component to an appropriate physical activity (e.g., cardiorespiratory – skipping; muscle endurance – abdominal crunches; muscle strength – push-ups; flexibility – sit and reach);

5p38 – assess their progress in fitness-enhancing activities at regular intervals (e.g., weekly monitoring of their pulses before and after running or completing exercise circuits);

Living Skills

5p39 – incorporate time-management and organizational skills in the goal-setting process (e.g., set a realistic goal, identify and address barriers, prepare an action plan, decide who can help, and identify how to know when the goal has been reached) related to physical activity or personal fitness;

5p40   – follow the rules of fair play in games and activities (e.g., by displaying sports etiquette, by encouraging others with positive comments).

Music

Overall Expectations

5a1 • demonstrate an understanding of the basic elements of music specified for this grade (see below) through listening to, performing, and creating music;

5a2 • create and perform music, using a variety of sound sources;

5a3 • use correctly the musical terminology associated with the specific expectations for this grade;

5a4 • read simple musical notation;

5a5 • identify and perform music from various cultures and historical periods;

5a6 • communicate their response to music in ways appropriate for this grade (e.g., through language, visual arts, drama, creative movement).

Knowledge of Elements

5a7 – interpret correctly whole notes, half-notes, quarter-notes, and eighth-notes, and the corresponding rests in 4/4 time;

5a8 – conduct in 4/4 and 2/4 time, using stand-ard conducting patterns;

5a9 – recognize the major scale through listening and in notation;

5a10 – demonstrate understanding of the meaning of the sharp, flat, and natural symbols;

5a11 – explain the use of key signatures and identify the key (e.g., G major) of music they sing or play;

5a12 – begin to sing or play the major scale in keys that occur in the music they sing or play;

5a13 – identify the form of introduction, verse, and chorus in music that they sing, play, or hear;

5a14 – recognize different kinds of tone colour in pieces of music (e.g., the sound of steel drums);

5a15 – recognize and classify various instruments (e.g., as woodwind, brass, stringed, or percussion instruments);

5a16 – sing or play in tune (e.g., in unison songs, "partner" songs, rounds);

5a17 – demonstrate an understanding of correct breathing technique and posture when playing and/or singing.

Creative Work

5a18 – create an accompaniment for a story, poem, or drama presentation, using their knowledge of beat, rhythm, tone colour, and melody;

5a19 – sing or play expressively, showing awareness of different tone colours;

5a20 – create musical compositions that show appropriate use of various elements of music (e.g., tempo, dynamics, melody, form, tone colour), and perform them;

5a21 – create and perform a song based on a scene from a story or poem;

5a22 – sing familiar songs and manipulate a musical element to change the overall effect (e.g., change tempo or rhythm in "Hot Cross Buns").

Critical Thinking

5a23 – describe how various elements of music are combined to create different moods (e.g., compare tempo and melody in "Hard Day's Night" and "Yesterday" by the Beatles);

5a24 – communicate their thoughts and feelings about the music they hear, using language and a variety of art forms and media (e.g., computer graphics, charcoal drawings);

5a25 – listen to music from the Renaissance period (e.g., Now Is the Month of Maying by Thomas Morley) and identify its main characteristics (e.g., polyphonic texture).

Visual Arts

Overall Expectations

5a26 • produce two- and three-dimensional works of art that communicate a range of ideas (thoughts, feelings, experiences) for specific purposes and to specific audiences;

5a27 • define the elements of design (colour, line, shape, form, space, texture), and use them in ways appropriate for this grade when producing and responding to works of art;

5a28 • describe their interpretation of a variety of art works, basing their interpretation on evidence from the works (especially on ways in which an artist has used the elements of design to clarify meaning) and on their own knowledge and experience;

5a29 • use correctly vocabulary and art terminology associated with the specific expectations for this grade.

Knowledge of Elements

5a30 – identify the three pairs of complementary colours (red and green, purple and yellow, blue and orange);

5a31 – describe how line may be used to define shapes and forms and to create movement and depth;

5a32 – identify how the shading of shapes can be used to create the illusion of depth (e.g., create a spherical form by shading one side of a circle);

5a33 – identify negative and positive shapes in works of art and the environment (e.g., shapes created by both the branches of a tree and the spaces between the branches);

5a34 – recognize and describe the relationship between a work of art and its surroundings (e.g., the size and type of sculpture that is displayed in the foyer of a building should be appropriate for the building);

5a35 – identify tools and techniques used by artists to create the illusion of texture (e.g., a pencil for cross-hatching, a paint brush for producing thick layers of paint);

5a36 – describe the strengths and limitations of various art tools, materials, and techniques (e.g., identify drawing tools, such as charcoal, pencil crayons, and pastels, and describe their effectiveness on specific surfaces);

5a37 – select the most appropriate tools, materials, and techniques for a particular purpose, and use them correctly.

Creative Work

5a38 – organize their art works to create a specific effect, using the elements of design (e.g., create a still life depicting their favourite foods, and explain how they used colour, texture, and shape to appeal to the viewer's senses);

5a39 – produce two- and three-dimensional works of art (i.e., works involving media and techniques used in drawing, painting, sculpting, printmaking) that communicate a range of thoughts, feelings, and ideas for specific purposes and to specific audiences (e.g., using electronic media, design an eye-catching title page for their science notebook that clearly communicates the topic for a specific unit of study);

5a40 – identify, in their plan for a work of art, the artistic problem and a number of possible solutions (e.g., identify different types of subject matter that they could use to express their concern for the environment);

5a41 – identify strengths and areas for improvement in their own work and that of others.

Critical Thinking

5a42 – compare works on a similar theme (e.g., seasons) from various periods and cultures, and describe the impact of time and location on style (e.g., The Red Maple by A.Y. Jackson; The Harvesters by Pieter Brueghel the Elder; and an Egyptian fresco, The Fields of the Blest);

5a43 – describe the connection between an element of design and a specific artistic purpose, using appropriate vocabulary (e.g., the artist has used soft colours and circular shapes to emphasize the loving relationship between the mother and child);

5a44 – defend their preference for specific art works with reference to at least three elements of design (e.g., the artist's use of curved lines to show movement, shading to create the illusion of texture, and colour to define form communicates a feeling of excitement).

Drama & Dance

Overall Expectations

5a45 • demonstrate understanding of some of the principles (e.g., contrast, harmony) involved in the structuring of works in drama and dance;

5a46 • interpret and communicate the meaning of stories, films, plays, songs, and other material drawn from different sources and cultures, using a range of drama and dance techniques (e.g., using a "corridor of voices");

5a47 • create dance pieces, using a variety of techniques;

5a48 • describe, orally and in writing, their response to their own and others' work in drama and dance, gather others' responses (e.g., through interviews, research), and compare the responses;

5a49 • solve problems presented through drama and dance, working in large and small groups and using various strategies;

5a50 • use different forms of available technology to enhance their work in drama and dance.

Knowledge of Elements

5a51 – demonstrate awareness of audience when writing in role, and use the appropriate language, tone of voice, gestures, and body movements when speaking as a character in a drama;

5a52 – use drama and dance vocabulary in describing and interpreting their own and others' work (e.g., conflict, setting, rhythm, pace);

5a53 – explain drama and dance techniques (e.g., body language, group formations) and use them to convey information and feelings;

5a54 – identify the significance of symbols or objects in drama and dance, and use props appropriately;

5a55 – demonstrate the ability to sustain concentration in drama and dance (e.g., by adding transitions between tableaux);

5a56 – describe the use of sequential patterns in both drama and dance (e.g., in the organization of a plot; in movements in various dance types);

5a57 – demonstrate understanding of the use of technology in creating contrasting effects (e.g., fast/slow, dark/light, loud/soft);

5a58 – describe various dance forms (e.g., creative dances, social dances).

Creative Work

5a59 – create characters and portray their motives and decisions through speech (e.g., vocabulary, volume) and movement (e.g., hand gestures, facial expressions, pace);

5a60 – rehearse and perform small-group drama and dance presentations drawn from novels, poems, stories, plays, and other source materials;

5a61 – select words, visual images, and sounds from other subjects in the curriculum for interpretation and dramatization;

5a62   – identify the elements of drama and dance that are best suited for conveying a specific subject or theme in drama and dance.

Critical Thinking

5a63   – explain how elements of drama and of dance work together to create different effects on the audience (e.g., staging, lighting, use of music);

5a64   – describe some drama and dance performances, and compare events in them with their own experiences;

5a65   – describe, orally and in writing, the differences between their own responses to a situation and the responses of a character they have portrayed (e.g., record their responses in a journal);

5a66   – evaluate drama and dance presentations done in class;

5a67   – solve problems in drama and dance individually and in groups (e.g., negotiate the "best" ending to an improvisation), and evaluate the solutions;

5a68   – provide support for their interpretations of personal experiences and aspects of history, which they have presented through drama and dance (e.g., arrival in a new country, life in a medieval village), using various research resources to gather information;

5a69   – explain the use of rhythm and movement in their dance pieces.