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# Assessment of Reading, Writing and Mathematics, Primary Division (Grades 1–3), Framework, 2022

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This framework provides a detailed description of the EQAO primary-division Assessment of Reading, Writing and Mathematics, which is conducted once a year in Ontario. The framework also describes how the assessment aligns with the expectations in *The Ontario Curriculum*.

## Who Is This Framework For?

This framework has been prepared for

- educators;
- parents, guardians; and
- members of the general public.

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- What Is Assessed?
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# Assessment of Reading, Writing and Mathematics, Primary Division (Grades 1–3)

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## LANGUAGE COMPONENT

### WHAT IS ASSESSED?

#### What Is Assessed in the Reading and Writing Components of the Primary-Division Assessment?

Since language is the basis for learning, the concept of “success for all” in education means that all students must attain at least a minimum level of language knowledge and skill as part of their education. For the purpose of the primary-division assessment, language constitutes the reading and writing skills required to understand reading selections and to communicate through written forms as expected in *The Ontario Curriculum, Grades 1–8: Language* (2006) up to the end of Grade 3.

EQAO’s primary-division assessment is a standards-referenced large-scale assessment based on *Ontario Curriculum* expectations and standards (levels of achievement) for student performance.

#### Reading

Reading is defined as the process of actively making meaning across a variety of fiction and non-fiction written texts that students are expected to understand according to the expectations in *The Ontario Curriculum* across all subjects up to the end of Grade 3. The primary-division assessment focuses on three reading skills:

1. understanding explicitly stated information and ideas;
2. understanding implicitly stated information and ideas (making inferences); and
3. responding to a reading selection by making connections and integrating the reader’s personal knowledge and experience with the information and ideas in a text.

#### Writing

Writing is defined as the constructive process of communicating in the written forms in which students are expected to write according to the expectations in *The Ontario Curriculum* across all subjects up to the end of Grade 3. The primary-division assessment focuses on three writing skills:

1. developing a main idea with sufficient supporting details;
2. organizing information and ideas in a coherent manner; and
3. using conventions (spelling, grammar, punctuation) in a manner that does not distract from clear communication.

## THE ASSESSMENT PROCESS AND DESIGN

### What Is in the Language Component of the Primary-Division Assessment?

The language component of the primary-division assessment is computer-based and consists of four sessions (Sessions A, B, C and D) containing a total of 29 questions: 26 selected-response questions (e.g., single-select, multiple-select, drag and drop, drop-down menu, checklist) and three constructed open-response questions.



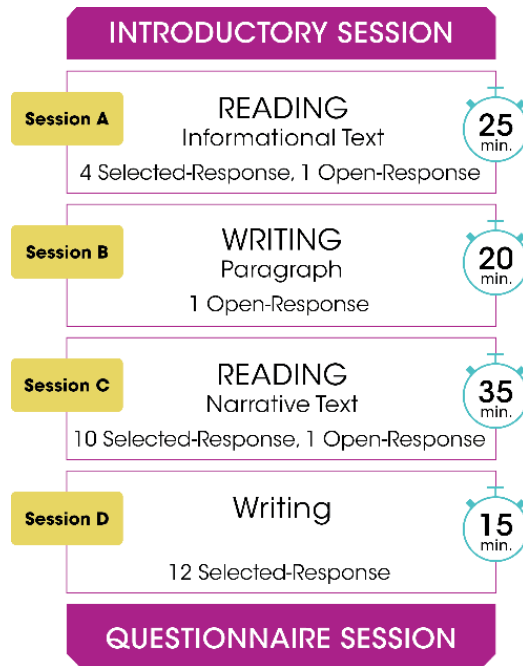
**Introductory session:** Students will have the opportunity to participate in an introductory session that will familiarize them with the primary-division assessment. During this introductory session, students will have access to a sample test for both the language and mathematics components. The sample test for the language component will consist of two sessions, which include the various types of questions that will be on the assessment. Students will also be able to try out the tools (e.g., text-to-speech, zoom in and zoom out, highlighter) available in the assessment during the sample test. The sample test is also available on the EQAO public website.



**Assessment:** The language component of the primary-division assessment contains a total of four sessions. Each session is designed to be completed within 15 to 35 minutes, depending on the session, and students must complete each session in one sitting. The sessions can be completed back to back with breaks in between or on different dates and times.



**Questionnaire:** Students will also be presented with a questionnaire that asks them about their attitudes and perceptions with respect to reading and writing. EQAO will use this data to provide schools, boards, teachers and parents/guardians with information on how student attitudes and perceptions are related to students' reading and writing achievement.



The language component of the assessment contains 29 questions that are operational: they count toward the student's score. The following table provides information on the number of questions by type:



**The Primary-Division Assessment Language Component:  
Number of Questions by Type**

	Selected-Response Questions	Open-Response Questions	Total Questions
Reading	14	2	16
Writing	12	1	13
<b>Total</b>	<b>26</b>	<b>3</b>	<b>29</b>

The following table provides information on the number of raw score points and the percentage of total raw score points by question type:

**Reading: Number of Raw Score Points and  
Percentage of Total Raw Score Points by Question Type**

Question Type	Number of Raw Score Points	Percentage of Total Raw Score Points
Selected-Response	19	70%
Open-Response	8	30%
<b>Total</b>	<b>27</b>	<b>100%</b>

## Writing: Number of Raw Score Points and Percentage of Total Raw Score Points by Question Type

Question Type	Number of Raw Score Points	Percentage of Total Raw Score Points
Selected-Response	13	65%
Open-Response	7	35%
<b>Total</b>	<b>20</b>	<b>100%</b>

### What Is the Design of the Language Component of the Primary-Division Assessment?

The language component of the primary-division assessment uses a testlet-based linear on-the-fly (tLOFT) design. In this method, test forms are generated through the selection of pre-constructed and pre-equated groups of questions and, where applicable, the associated reading texts. All test forms taken by students meet the same content and statistical criteria.

The four sessions are presented to students with the following types of questions:

- **Informational Text (IT):** a reading text, four selected-response reading questions and one open-response question
- **Writing (WP):** one open-response question based on a prompt
- **Narrative Text (NT):** a reading text, 10 selected-response reading questions and one open-response question
- **Writing Selected-Response (WSR):** 12 selected-response writing questions

<p style="background-color: #800080; color: white; padding: 2px;"><b>Session A</b></p> <p style="font-size: small;">25 minutes, 5 questions</p> <p style="text-align: center; border-top: 1px solid black;"><b>Reading: Informational Text</b></p> <div style="text-align: center; padding: 10px;"> </div> <p style="font-size: x-small; text-align: center;">4 selected-response 1 open-response</p>	<p style="background-color: #800080; color: white; padding: 2px;"><b>Session B</b></p> <p style="font-size: small;">20 minutes, 1 question</p> <p style="text-align: center; border-top: 1px solid black;"><b>Writing: Paragraph</b></p> <div style="text-align: center; padding: 10px;"> </div> <p style="font-size: x-small; text-align: center;">1 open-response</p>	<p style="background-color: #800080; color: white; padding: 2px;"><b>Session C</b></p> <p style="font-size: small;">35 minutes, 11 questions</p> <p style="text-align: center; border-top: 1px solid black;"><b>Reading: Narrative Text</b></p> <div style="text-align: center; padding: 10px;"> </div> <p style="font-size: x-small; text-align: center;">10 selected-response 1 open-response</p>	<p style="background-color: #800080; color: white; padding: 2px;"><b>Session D</b></p> <p style="font-size: small;">15 minutes, 12 questions</p> <p style="text-align: center; border-top: 1px solid black;"><b>Writing: Selected-Response</b></p> <div style="text-align: center; padding: 10px;"> </div> <p style="font-size: x-small; text-align: center;">12 selected-response</p>
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## INSIGHT:

### Understanding Ontario’s Student Achievement Levels

After all the questions in a student’s assessment are scored, the data from the questions are used to determine the student’s level of achievement. The Individual Student Report shows both the level and the range within the level at which the student performed. This may provide information for parents/guardians and teachers to use in planning for improvement.

EQAO uses the definitions from the Ontario Ministry of Education levels of achievement for the levels it reports: Level 1 represents achievement that falls much below the provincial standard. Level 2 identifies achievement that is below but approaching the provincial standard. Level 3 represents achievement at the provincial standard. Level 4 identifies achievement that surpasses the

standard. The characteristics given for Level 3 in the achievement charts in *The Ontario Curriculum* correspond to the provincial standard for achievement of the curriculum expectations. Parents/guardians of students achieving Level 3 can be confident that their children will be prepared for work in the next grade.

It should be noted that achievement at Level 4 does not mean that the student has achieved expectations beyond those specified for a particular grade. Level 4 represents that the student has achieved all or almost all of the expectations for that grade, and that the student demonstrates the ability to use the knowledge and skills specified for that grade in more sophisticated ways than a student achieving at Level 3 (*The Ontario Curriculum, Grades 1–8: Language* [2006], p. 16).

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## THE BLUEPRINT FOR THE PRIMARY-DIVISION ASSESSMENT

### How Are Curriculum Expectations Reflected in the Language Component of the Primary-Division Assessment?

The assessment blueprint presents the expectations in clusters and gives the number and types of questions on the assessment.

Some expectations cannot be appropriately assessed within the limits of a large-scale assessment. For instance, on a large-scale assessment, it is difficult to measure writing expectations that require students to identify elements of their writing that need improvement, using feedback from the teacher and peers, with a focus on specific features.

Although the primary-division assessment focuses on the Grade 3 curriculum expectations, there may be questions from the curriculum from Grades 1 and 2.

In the blueprint, the expectations and parts of expectations that cannot be measured appropriately by a large-scale assessment appear in italics.



## Reading Component

Reading		Question Type by Reading Text	
Number	Grade 3 Reading Expectations	Narrative Texts (450–500 words)	Non-Narrative Informational Texts (200–250 words)
<b>3R1.0</b>	read and demonstrate an understanding of a variety of literary, graphic, and informational texts, <i>using a range of strategies to construct meaning</i>	1 open-response question  4 selected-response questions	1 open-response question  1 selected-response question
<b>3R1.1</b>	read a variety of literary texts, graphic texts, and informational texts		
<b>3R1.2</b>	identify a variety of purposes for reading and <i>choose reading materials appropriate for those purposes</i>		
<b>3R1.3</b>	<i>identify a variety of reading comprehension strategies and use them appropriately before, during, and after reading to understand texts</i>		
<b>3R1.4</b>	demonstrate understanding of a variety of texts by identifying important ideas and some supporting details		
<b>3R1.5</b>	make inferences about texts using stated and implied ideas from the texts as evidence		
<b>3R1.6</b>	extend understanding of texts by connecting the ideas in them to their own knowledge and experience, to other familiar texts, and to the world around them		
<b>3R1.7</b>	identify specific elements of texts and explain how they contribute to the meaning of the texts		
<b>3R1.8</b>	express personal opinions about ideas presented in texts		
<b>3R1.9</b>	identify the point of view presented in a text and suggest some possible alternative perspectives		

**Reading Component (continued)**

<b>Reading</b>		<b>Question Type by Reading Text</b>	
<b>Number</b>	<b>Grade 3 Reading Expectations</b>	<b>Narrative Texts (450–500 words)</b>	<b>Non-Narrative Informational Texts (200–250 words)</b>
<b>3R2.0</b>	recognize a variety of text forms, text features, and stylistic elements and demonstrate understanding of how they help communicate meaning	3 selected-response questions	1 open-response question
<b>3R2.1</b>	identify and describe the characteristics of a variety of text forms, with a focus on literary texts such as a fable or adventure story, graphic texts such as a comic book, and informational texts such as a nature magazine		
<b>3R2.2</b>	recognize a few organizational patterns in texts of different types, and explain how the patterns help readers understand the texts		
<b>3R2.3</b>	identify a variety of text features and explain how they help readers understand texts		
<b>3R2.4</b>	identify some elements of style, including voice, word choice, and different types of sentences, and explain how they help readers understand texts		



**Reading Component (continued)**

<b>Reading</b>		<b>Question Type by Reading Text</b>	
<b>Number</b>	<b>Grade 3 Reading Expectations</b>	<b>Narrative Texts (450–500 words)</b>	<b>Non-Narrative Informational Texts (200–250 words)</b>
<b>3R3.0</b>	use knowledge of words and cueing systems to read fluently	3 selected-response questions	2 selected-response questions
<b>3R3.1</b>	automatically read and understand most high-frequency words, many regularly used words, and words of personal interest or significance, in a variety of reading contexts		
<b>3R3.2</b>	predict the meaning of and rapidly solve unfamiliar words using different types of cues, including semantic (meaning) cues, syntactic (language structure) cues and graphophonic (phonological and graphic) cues		
<b>3R3.3</b>	<i>read appropriate texts at a sufficient rate and with sufficient expression to convey the sense of text readily to the reader and an audience</i>		
<b>3R4.0</b>	<i>reflect on and identify their strengths as readers, areas for improvement, and the strategies they found most helpful before, during, and after reading</i>		
<b>3R4.1</b>	<i>identify, initially with some support and direction, what strategies they found most helpful before, during, and after reading and how they can use these and other strategies to improve as readers</i>		
<b>3R4.2</b>	<i>explain, initially with some support and direction, how their skills in listening, speaking, writing, viewing, and representing help them make sense of what they read</i>		
<b>Total</b>		10 selected-response questions  1 open-response question	4 selected-response questions  1 open-response question



## Writing Component

Number	Grade 3 Writing Expectations	Question Types
<b>3W1.0</b>	generate, gather, and organize ideas and information to write for an intended purpose and audience	<p>1 writing prompt (100 words)</p> <p>Writing Genres:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> description</li> <li><input type="checkbox"/> sequence of events</li> <li><input type="checkbox"/> paragraph about a trip</li> <li><input type="checkbox"/> personal or factual recount</li> <li><input type="checkbox"/> procedure/directions (e.g., recipe)</li> <li><input type="checkbox"/> simple how-to report</li> <li><input type="checkbox"/> explanatory paragraph</li> <li><input type="checkbox"/> advertisement</li> </ul> <p>12 selected-response questions <b>(Expectations are in boldface.)</b></p>
<b>3W1.1</b>	<i>identify the topic, purpose, audience and form for writing</i>	
<b>3W1.2</b>	generate ideas about a potential topic, using a variety of strategies and resources	
<b>3W1.3</b>	<i>gather information to support ideas for writing in a variety of ways and/or from a variety of sources</i>	
<b>3W1.4</b>	sort ideas and information for their writing in a variety of ways	
<b>3W1.5</b>	<b>identify and order main ideas and supporting details into units that could be used to develop a short, simple paragraph, using graphic organizers and organizational patterns</b>	
<b>3W1.6</b>	determine whether the ideas and information they have gathered are relevant and adequate for the purpose, <i>and gather new material if necessary</i>	
<b>3W2.0</b>	draft and revise their writing, using a variety of informational, literary, and graphic forms and stylistic elements appropriate for the purpose and audience	
<b>3W2.1</b>	write short texts using a variety of forms	
<b>3W2.2</b>	<i>establish a personal voice in their writing, with a focus on using concrete words and images to convey their attitude or feeling towards the subject or audience</i>	
<b>3W2.3</b>	<b>use words and phrases that will help convey their meaning as specifically as possible</b>	
<b>3W2.4</b>	<b>vary sentence structures and maintain continuity by using joining words to combine simple sentences and using words that indicate time and sequence to link sentences</b>	
<b>3W2.5</b>	identify their point of view and other possible points of view on the topic, and determine if their information supports their own view	
<b>3W2.6</b>	<i>identify elements of their writing that need improvement, using feedback from the teacher and peers, with a focus on specific features</i>	
<b>3W2.7</b>	<b>make revisions to improve the content, clarity, and interest of their written work, using several types of strategies</b>	
<b>3W2.8</b>	<i>produce revised draft pieces of writing to meet identified criteria based on the expectations related to content, organization, style, and use of conventions</i>	
<b>3W3.0</b>	use editing, proofreading, and publishing skills and strategies, and knowledge of language conventions, to correct errors, refine expression, and present their work effectively	
<b>3W3.1</b>	<b>spell familiar words correctly</b>	

Writing Component (continued)			
Number	Grade 3 Writing Expectations	Question Types	
3W3.2	spell unfamiliar words using a variety of strategies that involve understanding sound-symbol relationships, word structures, word meanings, and generalizations about spelling		
3W3.3	<i>confirm spellings and word meanings or word choice using several different types of resources</i>		
3W3.4	use punctuation to help communicate their intended meaning, with a focus on the use of: quotation marks to indicate direct speech; commas to mark grammatical boundaries within sentences; capital letters and final punctuation to mark the beginning and end of sentences		
3W3.5	use parts of speech appropriately to communicate their meaning clearly with a focus on the use of: proper nouns for titles, the possessive pronouns my, mine, your, yours, his, her, hers, its; action verbs in the present and simple past tenses; adjectives and adverbs; question words		
3W3.6	<i>proofread and correct their writing using guidelines developed with peers and the teacher</i>		
3W3.7	<i>use some appropriate elements of effective presentation in the finished product, including print, script, different fonts, graphics, and layout</i>		
3W3.8	<i>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</i>		
3W4.0	<i>reflect on and identify their strengths as writers, areas for improvement, and the strategies they found most helpful at different stages of the writing process</i>		
3W4.1	<i>identify what strategies they found most helpful before, during, and after writing and what steps they can take to improve as writers</i>		
3W4.2	<i>describe, with prompting by the teacher, how some of their skills in listening, speaking, reading, viewing, and representing help in their development as writers</i>		
3W4.3	<i>select pieces of writing that they think show their best work and explain the reasons for their selection</i>		
<b>Total</b>			12 selected-response questions  1 writing prompt (100 words)

## Specific Expectations

Please note that the conventions (spelling, grammar, punctuation) of writing are assessed in both selected-response and open-response answers. This enables EQAO to ensure that students are applying the conventions properly.

## HOW THE ASSESSMENT IS SCORED

### How Are the Questions in the Language Component of the Primary-Division Assessment Scored?

The selected-response questions are scored automatically (computer-scored), while open-response questions are scored by qualified educators who are trained to follow the principles of clear and consistent rubrics. Each open-response question on the assessment is scored according to a guide called an “item-specific rubric.” The following are the general (or “generic”) rubrics from which the item-specific rubrics are developed.

### How Is a Student’s Overall Level of Achievement Determined?

The Individual Student Report provides a level for reading and writing for each student. This information enables students, parents/guardians and teachers to plan for improvement. A student’s outcome is assigned using a statistical procedure that takes into account the student’s responses to the questions on the assessment *and* the characteristics of each question, such as difficulty. This procedure, known as Item Response Theory, assumes a continuum of reading and writing ability (as reflected by the achievement levels 1 to 4), and locates the student’s outcome along that continuum.

## Generic EQAO Scoring Rubrics for the Primary-Division Assessment



### Generic Primary Reading Rubric—Open-Response

Code	Descriptor
<b>B</b>	<ul style="list-style-type: none"><li>blank: nothing written, drawn (paper version only) or typed in the space provided</li></ul>
<b>I</b>	<ul style="list-style-type: none"><li>illegible: cannot be read; completely crossed out/erased (paper version only); not written in English, OR</li><li>irrelevant content: does not attempt assigned question (e.g., comment on the task, drawings, “?”, “!”, “I don’t know”), OR</li><li>off topic: no relationship of written work to the question</li></ul>
<b>10</b>	<ul style="list-style-type: none"><li>response does not refer to ideas and information from the reading selection</li><li>response indicates a significant misunderstanding of the reading selection; ideas and information from the reading selection are inaccurate</li></ul>
<b>20</b>	<ul style="list-style-type: none"><li>response addresses only part of the question</li><li>response is developed with limited support; ideas and information from the reading selection are minimal, vague and/or irrelevant</li></ul>
<b>30</b>	<ul style="list-style-type: none"><li>response addresses the complete question</li><li>response is developed with some accurate, specific and relevant ideas and information from the reading selection; some ideas and information are inaccurate, vague and/or irrelevant</li></ul>
<b>40</b>	<ul style="list-style-type: none"><li>response addresses the complete question</li><li>response is developed with accurate, specific and relevant ideas and information from the reading selection</li></ul>



## Generic Primary Writing Rubric—Topic Development

Code	Descriptor
B	<ul style="list-style-type: none"><li>blank: nothing written, drawn (paper version only) or typed in the space provided</li></ul>
I	<ul style="list-style-type: none"><li>illegible: cannot be read; completely crossed out/erased (paper version only); not written in English, OR</li><li>irrelevant content: does not attempt assigned prompt (e.g., comment on the task, drawings, “?”, “!”, “I don’t know”), OR</li><li>off topic: no relationship of written work to the prompt, OR</li><li>Errors in conventions prevent communication</li></ul>
10	<ul style="list-style-type: none"><li>Response is not developed; ideas and information are limited and unclear. Organization is random with no links between ideas. Response has a limited relationship to the assigned task.**</li></ul>
20	<ul style="list-style-type: none"><li>Response is minimally developed with few ideas and little information. Organization* is minimal with weak links between ideas. Response is partly related to the assigned task.**</li></ul>
30	<ul style="list-style-type: none"><li>Response has a clear focus, adequately developed with ideas and supporting details. Organization* is simple or mechanical with adequate links between ideas. Response is clearly related to the assigned task.**</li></ul>
40	<ul style="list-style-type: none"><li>Response has a clear focus, well-developed with sufficient specific and relevant ideas and supporting details. Organization* is logical and coherent with effective links between ideas. Response has a thorough relationship to the assigned task.**</li></ul>

\* **Organization** refers to the sequencing of information and events. The links may be explicit (e.g., signalled with transition words) or implicit (e.g., the right information at the right time).

\*\* **Task** refers to form, purpose and audience.



## Generic Primary Writing Rubric—Conventions\*

Code	Descriptor
<b>B</b>	<ul style="list-style-type: none"><li>• blank: nothing written, drawn (paper version only) or typed in the space provided</li><li>• nothing is typed in the text box</li></ul>
<b>I</b>	<ul style="list-style-type: none"><li>• Illegible: cannot be read; completely crossed out/erased (paper version only); not written in English, OR</li><li>• Insufficient evidence to assess the use of conventions, OR</li><li>• Errors in conventions prevent communication</li></ul>
<b>10</b>	<ul style="list-style-type: none"><li>• Errors in conventions interfere with communication</li></ul>
<b>20</b>	<ul style="list-style-type: none"><li>• Errors in conventions do not interfere with communication</li></ul>
<b>30</b>	<ul style="list-style-type: none"><li>• Conventions are used appropriately to communicate</li></ul>

\* **Conventions** refers to grammar, usage, spelling and punctuation.

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## Assessment of Reading, Writing and Mathematics, Primary Division (Grades 1–3)

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### MATHEMATICS COMPONENT

#### WHAT IS ASSESSED?

#### What Is Assessed in the Mathematics Component of the Primary-Division Assessment?

Students in Grade 3 learn the knowledge and skills that are defined in the expectations found in *The Ontario Curriculum, Grades 1–8: Mathematics* (2020). The mathematics curriculum includes a new focus on coding, financial literacy and mathematical modelling. The curriculum also emphasizes fundamental mathematics concepts and skills, and making connections between related math concepts and between mathematics and everyday life. Mathematics spans several content strands or domains. The strands in the elementary mathematics curriculum are the following:

- A. Social-Emotional Learning (SEL) Skills in Mathematics and the Mathematical Processes
- B. Number
- C. Algebra
- D. Data
- E. Spatial Sense
- F. Financial Literacy

EQAO's primary-division assessment is a curriculum-based, standards-referenced, large-scale assessment. The mathematics component is developed in relation to *Ontario Curriculum* expectations and standards for student proficiency. The assessment will consist of questions that cover students' knowledge and skills in the following strands: Number, Algebra, Data, Spatial Sense, and Financial Literacy. Although the assessment does not measure the content in the Social-Emotional Learning (SEL) Skills in Mathematics and the Mathematical Processes strand, students may be required to apply mathematical processes while completing the assessment.



## Mathematics Content Descriptors: Grade 3

The following are highlights of student learning in Grade 3 from *The Ontario Curriculum*, listed by strand.

### Number

- Number Sense
  - Whole Numbers
  - Fractions
- Operations
  - Properties and Relationships
  - Math Facts
  - Mental Math
  - Addition and Subtraction
  - Multiplication and Division

### Algebra

- Patterns and Relationships
  - Patterns
- Equations and Inequalities
  - Variables
  - Equalities and Inequalities
- Coding
  - Coding Skills
- Mathematical Modelling

### Data

- Data Literacy
  - Data Collection and Organization
  - Data Visualization
  - Data Analysis
- Probability
  - Probability

### Spatial Sense

- Geometric and Spatial Reasoning
  - Geometric Reasoning
  - Location and Movement
- Measurement
  - Length, Mass, and Capacity
  - Time
  - Area

### Financial Literacy

- Money and Finances
  - Money Concepts

## THE ASSESSMENT PROCESS AND DESIGN

### What Is in the Mathematics Component of the Primary-Division Assessment?

The mathematics component of the primary-division assessment is computer-based and consists of four stages (Stages 1, 2, 3 and 4). During the assessment, students will complete a total of 44 questions that include both operational questions that count toward a student's final result and field-test questions.



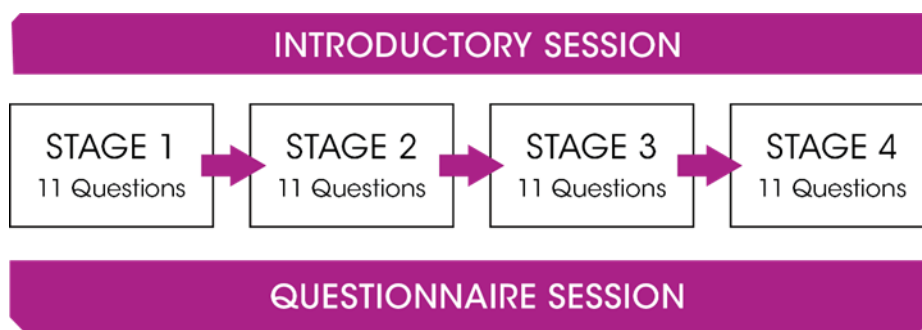
**Introductory session:** Students will have the opportunity to participate in an introductory session that will familiarize them with the primary-division assessment. During this introductory session, students will have access to a sample test for both the language and mathematics components. The sample test for the mathematics component will consist of two stages (11 questions per stage), which include the various types of questions that will be on the assessment. Students will also be able to try out the tools (e.g., text-to-speech, zoom in and zoom out, calculator) available in the assessment during the sample test. The sample test is also available on the EQAO public website.



**Assessment:** The mathematics component of the primary-division assessment contains a total of four stages. Each stage is designed to be completed in approximately 30 minutes, and students must complete each stage in one sitting. The stages can be completed back to back with breaks in between or on different dates and times.



**Questionnaire:** Students will also be presented with a questionnaire that asks them about their attitudes and perceptions with respect to mathematics. EQAO will use this data to provide schools, boards, teachers and parents/guardians with information on how student attitudes and perceptions are related to students' math achievement.



The mathematics component of the assessment contains 40 questions that are from all of the content strands (Number, Algebra, Data, Spatial Sense, and Financial Literacy). The mathematics component also contains four embedded field-test questions, which are fewer than 10% of the total number of questions that are completed by students.



## The Primary-Division Assessment Mathematics Component: Number of Questions

	Total Number of Questions
Operational	40
Field Test	4
Total Number of Mathematics Questions for Each Student	44

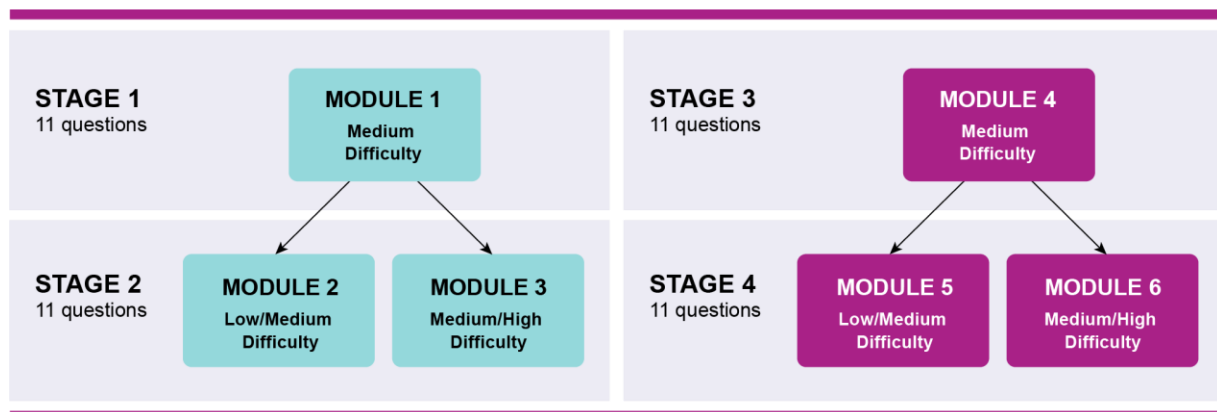
The assessment will consist of various selected-response questions, such as drag and drop, ordering, and single- and multiple-select questions.

### What Is the Design of the Mathematics Component of the Primary-Division Assessment?

The mathematics component of the primary-division assessment uses a multi-stage computer adaptive testing model that adapts to the individual student's performance as the student progresses through the stages.

Each stage is made up of modules that contain questions of a specific overall level of difficulty (medium, low/medium, or medium/high). The module that is presented to students in Stage 2 and Stage 4 is based on their achievement in the previous stage.

Each student begins with Stage 1 and completes a set of questions with a medium overall level of difficulty contained in the module. Based on the student's achievement on questions in this first module, the student will either be presented with a module in Stage 2 of low/medium (Module 2) or medium/high (Module 3) difficulty. The same process repeats for Stage 3 and Stage 4. With this approach, students are presented with questions that are tailored to their proficiency level. Some studies suggest that this may help improve student engagement on the assessment. For more information, refer to the literature review: [Leveraging Multi-Stage Computer Adaptive Testing for Large-Scale Assessments—EQAO](#).



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**INSIGHT:****Understanding Ontario’s Student Achievement Levels**

After all the questions in a student’s assessment are scored, the data from the operational questions are used to determine the student’s overall level of achievement. The Individual Student Report shows both the level and the range within the level at which the student performed. This may provide information for parents/guardians and teachers to use in planning for improvement.

EQAO uses the definitions from the Ontario Ministry of Education levels of achievement for the levels it reports: Level 1 represents

achievement that falls much below the provincial standard. Level 2 represents achievement that is below but approaching the provincial standard. Level 3 represents achievement at the provincial standard. Level 4 identifies achievement that surpasses the standard. The characteristics given for Level 3 in the achievement charts in *The Ontario Curriculum* correspond to the provincial standard for achievement of the curriculum expectations. Parents/guardians of students achieving Level 3 can be confident that their children will be prepared for work in the next grade.

It should be noted that achievement at Level 4 does not mean that the student has achieved expectations beyond those specified for a particular grade.

## THE BLUEPRINT FOR THE PRIMARY-DIVISION ASSESSMENT

### How Are Curriculum Expectations Reflected in the Mathematics Component of the Primary-Division Assessment?

The blueprint for the mathematics component of the primary-division assessment includes the overall and specific expectations from Strands B to F in *The Ontario Curriculum, Grades 1–8: Mathematics* (2020). The blueprint also provides the number of questions on the assessment from each strand. The Financial Literacy strand has been combined with the Number strand, as the Financial Literacy strand has only one specific expectation.

Although the primary-division assessment focuses on the Grade 3 curriculum expectations, there may be questions that involve the curriculum from Grades 1 and 2.



#### Mathematics Component

##### Mathematical Processes

Although the primary-division assessment does not measure the mathematical processes, these are the processes through which students apply mathematical knowledge, concepts and skills.

- Problem Solving
- Reasoning and Proving
- Reflecting
- Connecting
- Communicating
- Representing
- Selecting Tools and Strategies

Mathematics Component (continued)			
Number and Financial Literacy	Grade 3 Mathematics Expectation	Number of Questions	Percentage of Total Questions on the Assessment
<b>B. Number</b>		14	$\frac{14}{40} = 35\%$ of the questions on the assessment
<b>B1</b>	<b>Number Sense</b>		
	demonstrate an understanding of numbers and make connections to the way numbers are used in everyday life		
	<b>Specific Expectations for Overall B1</b>		
	<b>Whole Numbers</b>		
<b>B1.1</b>	read, represent, compose, and decompose whole numbers up to and including 1000, using a variety of tools and strategies, and describe various ways they are used in everyday life		
<b>B1.2</b>	compare and order whole numbers up to and including 1000, in various contexts		
<b>B1.3</b>	round whole numbers to the nearest ten or hundred, in various contexts		
<b>B1.4</b>	count to 1000, including by 50s, 100s, and 200s, using a variety of tools and strategies		
<b>B1.5</b>	use place value when describing and representing multi-digit numbers in a variety of ways, including with base ten materials		
	<b>Fractions</b>		
<b>B1.6</b>	use drawings to represent, solve, and compare the results of fair-share problems that involve sharing up to 20 items among 2, 3, 4, 5, 6, 8, and 10 sharers, including problems that result in whole numbers, mixed numbers, and fractional amounts		
<b>B1.7</b>	represent and solve fair-share problems that focus on determining and using equivalent fractions, including problems that involve halves, fourths, and eighths; thirds and sixths; and fifths and tenths		
<b>B2</b>	<b>Operations</b>		
	use knowledge of numbers and operations to solve mathematical problems encountered in everyday life		
	<b>Specific Expectations for Overall B2</b>		
	<b>Properties and Relationships</b>		
<b>B2.1</b>	use the properties of operations, and the relationships between multiplication and division, to solve problems and check calculations		
	<b>Math Facts</b>		
<b>B2.2</b>	recall and demonstrate multiplication facts of 2, 5, and 10, and related division facts		
	<b>Mental Math</b>		
<b>B2.3</b>	use mental math strategies, including estimation, to add and subtract whole numbers that add up to no more than 1000, and explain strategies used		
	<b>Addition and Subtraction</b>		

<b>B2.4</b>	demonstrate an understanding of algorithms for adding and subtracting whole numbers by making connections to and describing the way other tools and strategies are used to add and subtract		
<b>B2.5</b>	represent and solve problems involving the addition and subtraction of whole numbers that add up to no more than 1000, using various tools and algorithms		
	<b>Multiplication and Division</b>		
<b>B2.6</b>	represent multiplication of numbers up to $10 \times 10$ and division up to $100 \div 10$ , using a variety of tools and drawings, including arrays		
<b>B2.7</b>	represent and solve problems involving multiplication and division, including problems that involve groups of one half, one fourth, and one third, using tools and drawings		
<b>B2.8</b>	represent the connection between the numerator of a fraction and the repeated addition of the unit fraction with the same denominator using various tools and drawings, and standard fractional notation		
<b>B2.9</b>	use the ratios of 1 to 2, 1 to 5, and 1 to 10 to scale up numbers and solve problems		
<b>F. Financial Literacy</b>			
<b>F1</b>	<b>Money and Finances</b>		
	demonstrate an understanding of the value and use of Canadian currency		
	<b>Specific Expectations for Overall F1</b>		
<b>F1.1</b>	estimate and calculate the change required for various simple cash transactions involving whole-dollar amounts and amounts of less than one dollar		

Algebra	Grade 3 Mathematics Expectations	Number of Questions	Percentage of Total Questions on the Assessment
<b>C. Algebra</b>			
<b>C1</b>	<b>Patterns and Relationships</b>		
	identify, describe, extend, create, and make predictions about a variety of patterns, including those found in real-life contexts		
	<b>Specific Expectations for Overall C1</b>		
	<b>Patterns</b>		
<b>C1.1</b>	identify and describe repeating elements and operations in a variety of patterns, including patterns found in real life contexts		
<b>C1.2</b>	create and translate patterns that have repeating elements, movements, or operations using various representations, including shapes, numbers and tables of values		
<b>C1.3</b>	determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in patterns that have repeating elements, movements, or operations		
<b>C1.4</b>	create and describe patterns to illustrate relationships among whole numbers up to 1000		
<b>C2</b>	<b>Equations and Inequalities</b>		
	demonstrate an understanding of variables, expressions, equalities, and inequalities, and apply this understanding in various contexts.		
	<b>Specific Expectations for Overall C2</b>		
	<b>Variables</b>		
<b>C2.1</b>	describe how variables are used, and use them in various contexts as appropriate		
	<b>Equalities and Inequalities</b>		
<b>C2.2</b>	determine whether given sets of addition, subtraction, multiplication, and division expressions are equivalent or not		
<b>C2.3</b>	identify and use equivalent relationships for whole numbers up to 1000, in various contexts		
<b>C3</b>	<b>Coding</b>		
	solve problems and create computational representations of mathematical situations using coding concepts and skills		
	<b>Specific Expectations for Overall C3</b>		
	<b>Coding Skills</b>		
<b>C3.1</b>	solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential, concurrent, and repeating events		
<b>C3.2</b>	read and alter existing code, including code that involves sequential, concurrent, and repeating events, and describe how changes to the code affect the outcomes		
<b>C4</b>	<b>Mathematical modelling</b>		
	apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations		
	<i>There are no specific expectations for Overall C4</i>		
		8	$\frac{8}{40} = 20\%$ of the questions on the assessment



Data	Grade 3 Mathematics Expectation	Number of Questions	Percentage of Total Questions on the Assessment
<b>D. Data</b>		8	$\frac{8}{40} = 20\%$ of the questions on the assessment
<b>D1</b>	<b>Data Literacy</b>		
	manage, analyse, and use data to make convincing arguments and informed decisions, in various contexts drawn from real life		
<b>Specific Expectations for Overall D1</b>			
<b>Data Collection and Organization</b>			
<b>D1.1</b>	sort sets of data about people or things according to two and three attributes, using tables and logic diagrams, including Venn, Carroll, and tree diagrams, as appropriate		
<b>D1.2</b>	collect data through observations, experiments, and interviews to answer questions of interest that focus on qualitative and quantitative data, and organize the data using frequency tables		
<b>Data Visualization</b>			
<b>D1.3</b>	display sets of data, using many-to-one correspondence, in pictographs and bar graphs with proper sources, titles, and labels, and appropriate scales		
<b>Data Analysis</b>			
<b>D1.4</b>	determine the mean and identify the mode(s), if any, for various data sets involving whole numbers, and explain what each of these measures indicates about the data		
<b>D1.5</b>	analyse different sets of data presented in various ways, including in frequency tables and in graphs with different scales, by asking and answering questions about the data and drawing conclusions, then make convincing arguments and informed decisions		
<b>D2</b>	<b>Probability</b>		
	describe the likelihood that events will happen, and use that information to make predictions		
<b>Specific Expectations for Overall D2</b>			
<b>Probability</b>			
<b>D2.1</b>	use mathematical language, including the terms “impossible,” “unlikely,” “equally likely,” “likely,” and “certain,” to describe the likelihood of events happening, and use that likelihood to make predictions and informed decisions		
<b>D2.2</b>	make and test predictions about the likelihood that the mean and the mode(s) of a data set will be the same for data collected from different populations		

Spatial Sense	Grade 3 Mathematics Expectations	Number of Questions	Percentage of Total Questions on the Assessment
<b>E. Spatial Sense</b>			
<b>E1</b>	<b>Geometry and Spatial Reasoning</b>		
	describe and represent shape, location, and movement by applying geometric properties and spatial relationships in order to navigate the world around them		
	<b>Specific Expectations for Overall E1</b>		
	<b>Geometric Reasoning</b>		
<b>E1.1</b>	sort, construct, and identify cubes, prisms, pyramids, cylinders, and cones by comparing their faces, edges, vertices, and angles		
<b>E1.2</b>	compose and decompose various structures, and identify the two-dimensional shapes and three-dimensional objects that these structures contain		
<b>E1.3</b>	identify congruent lengths, angles, and faces of three-dimensional objects by mentally and physically matching them, and determine if the objects are congruent		
	<b>Locomotion and Movement</b>		
<b>E1.4</b>	give and follow multistep instructions involving movement from one location to another, including distances and half- and quarter-turns		
<b>E2</b>	<b>Measurement</b>		
	compare, estimate, and determine measurements in various contexts		
	<b>Specific Expectations for Overall E2</b>		
	<b>Length, Mass, and Capacity</b>		
<b>E2.1</b>	use appropriate units of length to estimate, measure, and compare the perimeters of polygons and curved shapes, and construct polygons with a given perimeter		
<b>E2.2</b>	explain the relationships between millimetres, centimetres, metres, and kilometres as metric units of length, and use benchmarks for these units to estimate lengths		
<b>E2.3</b>	use non-standard units appropriately to estimate, measure, and compare capacity, and explain the effect that overfilling or underfilling, and gaps between units, have on accuracy		
<b>E2.4</b>	compare, estimate, and measure the mass of various objects, using a pan balance and non-standard units		
<b>E2.5</b>	use various units of different sizes to measure the same attribute of a given item, and demonstrate that even though using different-sized units produces a different count, the size of the attribute remains the same		
	<b>Time</b>		
<b>E2.6</b>	use analog and digital clocks and timers to tell time in hours, minutes, and seconds		
	<b>Area</b>		
<b>E2.7</b>	compare the areas of two-dimensional shapes by matching, covering, or decomposing and recomposing the shapes, and demonstrate that different shapes can have the same area		
		10	$\frac{10}{40} = 25\%$ of the questions on the assessment

<b>E2.8</b>	use appropriate non-standard units to measure area, and explain the effect that gaps, and overlaps have on accuracy		
<b>E2.9</b>	use square centimetres (cm <sup>2</sup> ) and square metres (m <sup>2</sup> ) to estimate, measure, and compare the areas of various two-dimensional shapes, including those with curved sides		

## HOW THE ASSESSMENT IS SCORED

### How Are the Questions in the Mathematics Component of the Primary-Division Assessment Scored?

All the questions in the mathematics component are scored automatically (computer-scored).

### How Is a Student’s Overall Level of Achievement Determined?

The Individual Student Report provides a level for each student. This information enables students, parents/guardians and teachers to plan for improvement. A student’s outcome is assigned using a statistical procedure that takes into account the student’s responses to the questions on the assessment *and* the difficulty of each question. This procedure, known as Item Response Theory, assumes a continuum of ability in mathematics knowledge and skills (as reflected by the achievement levels 1 to 4), and locates the student’s outcome along that continuum.

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