Grade 12 Literacy Assessment: Specifications

English Language Version

BRITISH COLUMBIA | Ministry of Education
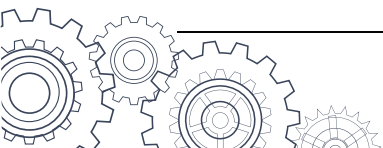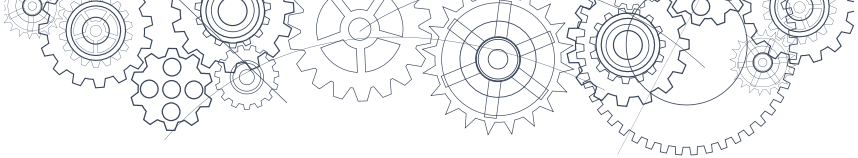
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1 Provincial graduation assessments

Overview

The Grade 10 and 12 provincial graduation assessments require students to apply their numeracy and literacy skills in realistic contexts. Standards and expectations are set with the educated citizen in mind – that is, we ask what we should expect a student in the graduation program to know, do, and understand in a variety of contexts that require the application of literacy and numeracy skills.

Rather than assess specific course curricula, the graduation assessments – like the Programme for International Student Assessment (PISA) – measure the application of numeracy and literacy skills to realistic situations, requiring students to employ the competencies, such as critical thinking, considered to be essential for future success. The graduation assessments look at students' ability to apply their knowledge and skills and to analyze, reason, and communicate effectively as they examine, interpret, and solve problems. Like PISA, these assessments also emphasize the importance of the context in which students should be able to use their skills (e.g., home, employment, society).

The provincial assessments of literacy and numeracy provide part of the information that supports the certification of graduation:

- along with acquiring 80 course credits for graduation, students are required to complete provincial assessments in numeracy at Grade 10 and in literacy at Grades 10 and 12

- students have opportunities to rewrite the graduation assessments to set goals for improving their proficiency levels

Purpose of the graduation assessments

The purpose of the assessments is to measure the extent to which students are literate and numerate and to provide students with information about their proficiency.
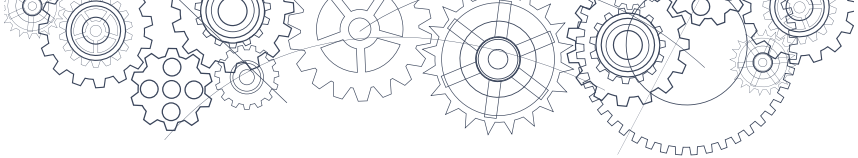
Use of information from the graduation assessments

The assessment instruments are not defined as formative or summative in nature; rather, information from the new graduation assessments can be used both summatively and formatively. Formative assessment (assessment *for* learning) and summative assessment (assessment *of* learning) can work together to improve student learning. For example, making formative use of summative assessment results involves using information drawn from a summative assessment to improve future student performance.

> The terms 'formative,' 'diagnostic,' 'summative' and 'evaluative' are generally used as if they describe kinds of assessments, but of course the outcomes of the same assessment might be used to serve more than one function. These terms are therefore not descriptions of kinds of assessment but rather of *the use to which information arising from the assessments is put*.
>
> (Wiliam, 2000, 2, citing Wiliam and Black, 1996)

The graduation assessment results:

can be used formatively or summatively to:

- support individual students by providing descriptive information for goal setting (i.e., using the information in the proficiency scale and the detailed student report to set new learning goals)

- provide additional information for educators, allowing them to identify areas of strength and weakness

- provide schools, districts, and the Ministry of Education with system-level information regarding the extent to which students are proficient in literacy and numeracy

- provide students with evidence of their literacy and numeracy skills for use after graduation

- describe the proficiency levels of subgroups of a population (e.g., Aboriginal students) for use by schools, districts, Ministry of Education, and key stakeholder groups

- help inform decision making at all levels of the educational system regarding performance in literacy and numeracy

- provide information for schools, districts, and the Ministry of Education regarding trends in performance over time

2 The Grade 12 Literacy Assessment

The design and development of the Grade 12 Literacy Assessment have been guided by advice received from the Advisory Group on Provincial Assessment (AGPA); recommendations from the Literacy 12 Assessment Working Group; consultation with educators from across British Columbia, post-secondary colleagues, and First Nations educators; and research on best practices in teaching and learning and large-scale assessment. The development teams of educators designing and reviewing the assessment come from a range of disciplines and perspectives, thereby representing the various contexts in which literacy is developed.

The Grade 12 Literacy Assessment represents a fundamental shift in large-scale assessment, as it aligns with key changes taking place in the provincial education system, as shown in Table 1. This shift includes becoming more technology-based, measuring new constructs, looking at deeper thinking, focusing on critical thinking, using provincial assessment information in both formative and summative ways to inform student learning, and attempting to improve learning by providing more effective reporting (Bennett, 2018).
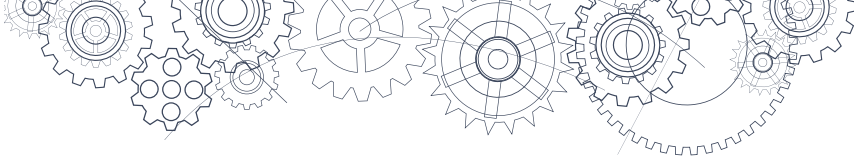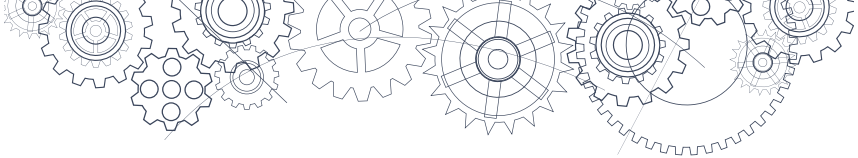
Table 1: Education directions

Education Direction	Implications for the Grade 12 Literacy Assessment
Core Competencies	The Core Competencies shape the design of and questions in the assessment, with particular emphasis on Communication, Creative Thinking, and Critical and Reflective Thinking. The Personal and Social competencies are exemplified in questions requiring a written response and student self-reflection component of the assessment.
Personalization	The assessment offers students a choice of options for demonstrating their skills and abilities, thereby allowing them to better show what they know, understand, and are able to do, while maintaining rigorous provincial standards.
Deeper thinking	The assessment involves complex thinking and analysis skills. Short Contexts for Critical Thinking and Essential Questions provide entry points for students to comprehend and critically analyze a variety of reading materials, communicate their understanding, and make personal connections to these materials.
Student engagement	Assessment tasks, prompts, and stimuli are developed to be engaging and interactive in nature.
Cross-curricular skills	The assessment reflects the critical literacy skills acquired and applied across all areas of learning.
First Peoples	First Peoples content is contained in every assessment. The First Peoples Principles of Learning have helped shape the development of the assessment, and First Peoples texts are part of the assessment.
Collaboration	The assessment offers students an opportunity to interact with pre-assessment preparation materials and to collaborate with others.
Self-reflection	The assessment asks students to reflect on their performance on the assessment and to note particular aspects of their work.

The Grade 12 Literacy Assessment reflects these changes in the education system. It provides a technically sound and rigorous measure of foundational aspects of learning, in a manner that is inclusive and personalized, while providing detailed and relevant information for students, parents, and educators. Shaped by the Core Competencies and the First Peoples Principles of Learning, the Grade 12 Literacy Assessment measures the essential cross-curricular aspects of literacy – critically analyzing diverse texts and communicating with purpose and awareness – in an online interactive assessment.
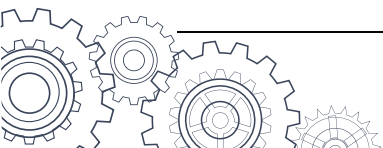
There are three Grade 12 Provincial Graduation Literacy Assessments (Grade 12 Literacy Assessment, Évaluation de littératie – Français langue première 12 and Évaluation de littératie – Français langue seconde - immersion 12); this document presents the Grade 12 Literacy Assessment for the English program.

Defining literacy and critical thinking

In B.C., literacy is considered cross-curricular in nature, and it is applied in various contexts and situations. The curricular competencies from areas of learning have informed the definition of literacy and shaped the structure and contents of the assessment. Educators with a broad range of teaching experience across areas of learning designed and developed the Grade 12 Literacy Assessment to reflect its cross-curricular nature.

The following definitions of literacy and critical thinking are used to focus the Grade 12 Literacy Assessment:

Literacy is the ability to critically analyze and make meaning from diverse texts and to communicate and express oneself in a variety of modes and for a variety of purposes in relevant contexts.

Critical and reflective thinking involves examining relevant information; identifying and challenging biases and assumptions; analyzing purpose and perspective; and considering one's own thinking and that of others in order to make reasoned judgements and develop ideas and insights.

Design

The Grade 12 Literacy Assessment uses an evidence-centred design (ECD). As shown in Figure 1, ECD focuses on:

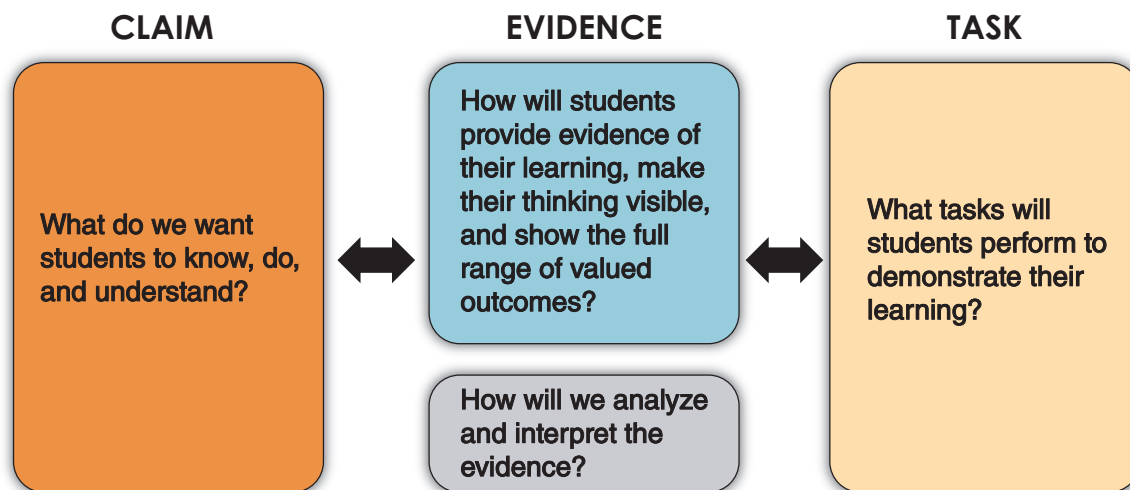- **making claims** about student learning (what we want students to know, do, and understand) based on the purpose of the assessment

- **determining the evidence** that needs to be demonstrated to provide support for the claims, and how this evidence will be analyzed and interpreted

- **writing task specifications** to create tasks that will allow students to demonstrate the depth of their learning

Figure 1: Evidence-centred design

CLAIM		**EVIDENCE**		**TASK**

What do we want students to know, do, and understand?

How will students provide evidence of their learning, make their thinking visible, and show the full range of valued outcomes?

How will we analyze and interpret the evidence?

What tasks will students perform to demonstrate their learning?

(Adapted from Pellegrino, DiBello, & Brophy, 2014)

Evidence-centred design (ECD) strengthens the validity of assessments by:

- supporting the inclusion of tasks that elicit higher levels of cognitive processing
- enhancing score interpretation through the increasing comparability of assessment scores across multiple assessment forms (Lane & Iwatani, 2016; Riconscente, Mislevy & Corrigan, 2016)

Key features

Respecting the cross-curricular nature of literacy

All curriculum is designed to support the development of educated citizens, which includes developing literacy skills. These skills may include such diverse tasks as analyzing graphs or data typically found in Social Studies or Science contexts, interpreting statistics presented in an infographic, or responding critically to texts**.** Texts for the Grade 12 Literacy Assessment are selected from a broad range of curricular areas and students will incorporate various areas of learning in their responses.

Types of texts

By the time students are in Grade 12, they should be prepared to read and analyze many types of written, visual, and digital texts. To that end, the texts selected for use in the Grade 12 Literacy Assessment will range in complexity, as they do in school and in life. Texts selected for assessments include newspaper and magazine articles, online opinion blogs, social media feeds, anecdotal testimonials, instructions, websites, brochures, maps, charts, graphs, tables, and infographics. Texts are both continuous and non-continuous in nature and include literary and informational texts.

As noted below, the Context for Critical Thinking and the Essential Question also influence the selection of texts. To respect the cross-curricular nature of literacy, the texts reflect broad areas of learning, such as Language Arts, Science, Social Studies, and Mathematics. Teachers from across the province representing different subject areas select diverse texts from a variety of sources. Assessments include authentic texts written by and about First Peoples. Texts are screened by experts who analyze them for bias and other social considerations.

Context for Critical Thinking

In Part A of the Grade 12 Literacy Assessment, a scenario or thematic overview requires students to apply their critical thinking skills in a specific context.

This Context for Critical Thinking provides students a lens through which to view the key issue, which is a broad topic with real-world implications. Furthermore, the Context for Critical Thinking frames the texts and informs each student's approach to the multi-paragraph constructed response.

Essential Question

In Part B of the Grade 12 Literacy Assessment, an Essential Question provides a framework within which students apply their literacy skills. This Essential Question leads to the Writing Pathway at the end of Part B, where students choose one of two writing prompts that stem from this Essential Question. Examples of essential questions are:

- To what extent can art bring about change?
- Does where people live define who they are?

The Essential Question activates student thinking and links to the passages while mirroring good classroom practice.

Like the Context for Critical Thinking, the Essential Question will focus on a key issue. This key issue, which is different from the key issue in Part A, guides the selection of texts included in the assessment.

Assessment tasks

Students demonstrate their learning in four different ways on the Grade 12 Literacy Assessment. They will:

1. show their comprehension of texts by responding to 25 points of selected-response questions throughout both parts of the assessment
2. identify aspects of critical thinking in relation to the texts, and engage in reflective thinking, in a graphic organizer (in Part A)
3. write a multi-paragraph constructed response to demonstrate their ability to think critically about the texts (in Part A)
4. write an extended constructed response in any format. This response may include reference to the texts in the section, but must go beyond the texts to provide a personal interpretation of the selected Writing Pathway prompt (in Part B)

Selected-response questions provide answer choices and are machine scored. Constructed-response questions require written communication and are marked by teachers using holistic scoring rubrics.
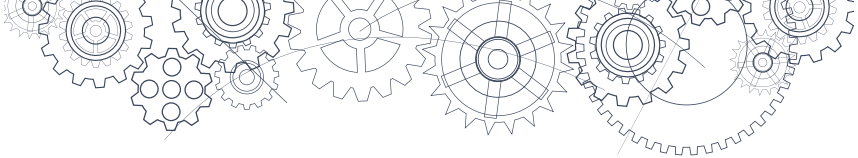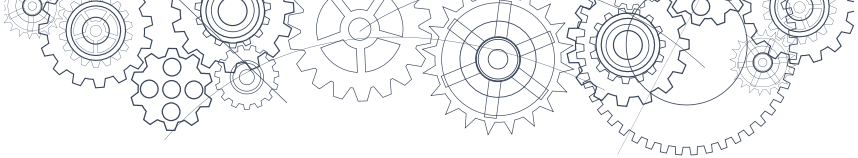
Table 2: Types of questions

Types of Questions	Description
Selected-response*	**... in which students:**
Hot spot	select the desired spot on the screen
Labelling	drag and drop the correct labels to graphs, maps, or graphics
Sequencing	arrange ideas in logical sequence by dragging them into place
Multiple-choice	select radio buttons, from several choices, for either single or multiple correct responses
Images	select the appropriate picture or illustration
Matching	drag and drop elements into a desired position, such as into a table
Drop-down menu	select responses from drop-down menus
Constructed-response	**... in which students:**
Graphic organizer	communicate their understanding of aspects of critical and reflective thinking which extends across the texts and requires that they critically analyze and synthesize the presented materials
Extended writing about texts *"Thinking critically about the texts"*	communicate in a multi-paragraph response their critical reading and understanding of the texts as they relate to the Context for Critical Thinking, with defined purpose and in a relevant context
Extended writing to make personal connections *"Going beyond the texts"*	incorporate a personal connection, bringing their own knowledge, experiences, and creative notions to a piece of written communication that addresses their chosen Writing Pathway; students will have further choice in their approach to writing

*The selected-response question types are examples only; additional question types may be included in the Grade 12 Literacy Assessment.
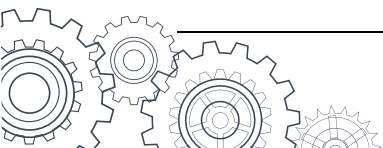
Depth of Knowledge

The cognitive rigour of each of the questions on the Grade 12 Literacy Assessment is described using Webb's Depth of Knowledge (DOK). Webb's DOK categorizes tasks into four levels, based on the complexity of thinking required. The assessment includes questions written to and classified across the first three DOK levels. (Level 4 is not used in the assessment, as it cannot be measured in the assessment's limited time frame.)

Selected-response questions range from DOK levels 1 to 3; constructed-response questions are at DOK level 3. Table 3 illustrates the types of questions found on the assessment across the three DOK levels.

Table 3: Types of questions across three DOK levels

Level 1	Level 2	Level 3
The student is able to locate or retrieve information from the texts and record facts and ideas. (Student responses require literal understanding of text.)	The student shows initial comprehension, understands important concepts, begins to connect ideas using an organizational structure, and has some sense of purpose and context.	The student applies knowledge to go beyond the text to explain, generalize, and connect ideas to support thinking and make interpretations. Ideas are complex and demonstrate synthesis and analysis.
• recall, recognize, or locate basic facts that are explicit in the texts • define terms • describe/explain who, what, when, where, how • locate information in a graph • identify specific information contained in graphic representation or text features • order a sequence of events • match instructional steps to a given diagram • brainstorm ideas, concepts, problems, or perspectives related to a topic • select appropriate words when intended meaning is evident	• make basic inferences and predictions • summarize results, concepts, ideas • specify, explain, show relationships (e.g., why, cause-effect) • identify main ideas • make accurate generalizations of texts • interpret information from text features • distinguish relevant/irrelevant information, fact/opinion • apply organizational structures • categorize elements of a plan • make a recommendation based on the texts • predict an outcome based on the texts • organize, order, or interpret information from a simple graph	• explain, generalize, connect ideas using supporting evidence • make inferences about explicit or implicit themes • apply a concept in a new context • justify or critique conclusions • analyze interrelationships among concepts, issues, problems • use reason, planning, evidence to support inferences • cite evidence; develop logical argument for conjectures • integrate ideas and information to show understanding • describe, compare, contrast solution • synthesize information • verify reasonableness of results; develop an alternative solution • analyze or interpret author's craft (literary devices, viewpoint, or potential bias) to critique a text • determine the author's purpose and describe how it affects the interpretation of a reading selection

(Adapted from Hess, 2009, and Webb, 2002)
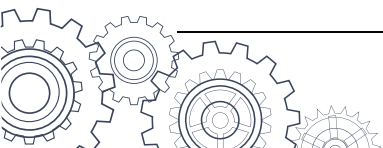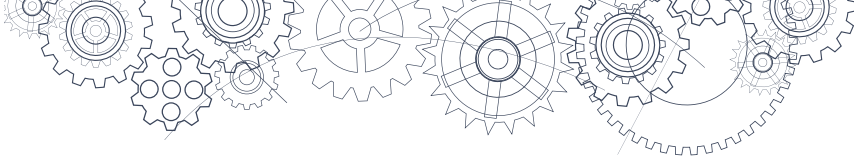
Specifications

The Grade 12 Literacy Assessment requires students to demonstrate their abilities through two key interconnected aspects of literacy: critically thinking, analyzing, and making meaning from texts (comprehension), and communicating an understanding of texts and making personal connections (communication).

Table 4 provides more detail on how the key aspects of literacy are reflected across the parts of the assessment and in relation to question types and DOK levels. It shows the two different parts of the assessment on which student performance is scored. All students are required to complete both parts of the assessment. In Part A, they analyze various texts and respond to two constructed-response questions, communicating their understanding of – and critical thinking about – the texts. In Part B, students will choose a Writing Pathway that stems from the Essential Question. Furthermore, students will choose their own approach to writing (narration, description, persuasion, exposition, or any combination) in response to the selected Writing Pathway. Students are asked to communicate their own ideas and make personal connections in the Part B constructed response.

The specifications identify the number of points and percentages for each part of the assessment. Selected-response questions (which include a large variety of online machine-scored questions designed to be engaging) are used to assess the literacy skills of critically reading, analyzing, and making meaning from the texts. Constructed-response questions (online, teacher-marked, written-response questions) measure communication, critical thinking, analyzing, and making meaning. The number of points in each section is shown across three Depth of Knowledge (DOK) levels, with the constructed-response questions at DOK 3.

The structure of the Grade 12 Literacy Assessment, described in the next section, provides additional detail on aspects of the assessment, the recommended time allocated for each part, and how the parts fit together.
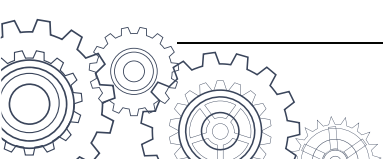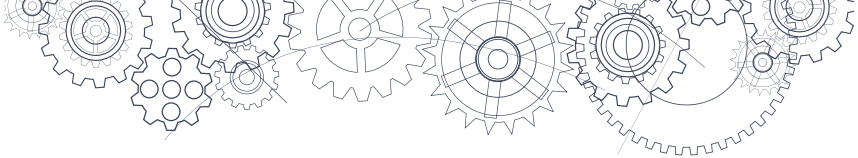
Table 4: Grade 12 Literacy Assessment Table of Specifications

		Depth of Knowledge 1	**Depth of Knowledge 2**	**Depth of Knowledge 3**	**Value**
PART A "Thinking critically about the texts"	*Analyzing and making meaning*	Selected response 0 points	Selected response 5 points	Selected response 5 points	**18%**
	Critical thinking and communicating about texts			Constructed response (graphic organizer) 6 points	**11%**
				Constructed response (multi-paragraph) 12 points	**22%**
PART B "Going beyond the texts"	*Analyzing and making meaning*	Selected response 5 points	Selected response 5 points	Selected response 5 points	**27%**
	Communicating personal connections			Constructed response (extended writing) ***Student choice of Writing Pathway*** ***Student choice of format*** 12 points	**22%**

Structure

The structure of the Grade 12 Literacy Assessment includes preparation activities, a Context for Critical Thinking, an Essential Question, two common components (Parts A and B) and a student self-reflection section. Student choice is built into the constructed response task in Part B of the assessment. The structure is designed to mirror effective practices in learning, whereby students may prepare collaboratively (using videos, online sample assessment, student exemplars, and rubrics), activate their thinking, exercise choice, and reflect on their learning.

As noted in Figure 2, the Grade 12 Literacy Assessment is designed to be completed in approximately two hours, although some students may require additional time. Descriptions of each assessment component are provided after the figure.
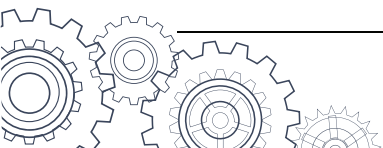
Figure 2: Grade 12 Literacy Assessment structure

Pre-assessment Activities/Collaboration
(not scored)

PART A

Critical Thinking, Comprehension, and Communication:
"Thinking critically about the texts"

Activating thinking: C T PS
Introduction of the Context for Critical Thinking

Assessment tasks:
- 10 points of selected-response questions
- 1 critical thinking graphic organizer
- 1 multi-paragraph response

Suggested time: 65 minutes

PART B

Comprehension and Communication:
"Going beyond the texts"

Activating thinking: C T PS
Introduction of the Essential Question

Assessment tasks:
- 15 points of selected-response questions
- 1 extended written response
  - ➥ student choice of Writing Pathway
  - ➥ student choice in approach to writing style and format

Suggested time: 55 minutes

Self-reflection **(not scored)**

Components

→ *Pre-assessment activities*

Purpose: The pre-assessment activities provide opportunities for students to collaborate or to work individually in preparing for the Grade 12 Literacy Assessment.

Description: Activities include sample assessments, student exemplars, and instructional videos, designed to provide clarity of purpose and understanding of expectations.

Benefit: Familiarizes students with the structure of the assessment and the types of responses required.

→ *Part A*

Context for Critical Thinking – Activating thinking

Purpose: The Context for Critical Thinking provides the framework for Part A of the assessment and engages students' thinking as they proceed through this part.

Description: Students activate their thinking, guided by prompts and opportunities to consider the Context for Critical Thinking, ideas related to it, and what it means to them.

Thinking critically about the texts

Purpose: Part A assesses students' ability to analyze and demonstrate their critical thinking and reflective thinking skills in relation to the texts.

Description: Students answer a series of selected-response questions related to the texts, respond to a graphic organizer question, and write a multi-paragraph response to the texts.

The texts and questions in Part A relate to the Context for Critical Thinking.

Benefit: Engages students in critically analyzing and communicating their understanding of texts.

→ *Part B*

Essential Question – Activating thinking

Purpose: The Essential Question provides the context for Part B of the assessment and engages students' thinking as they proceed through this part.

Description: Students activate their thinking, guided by prompts and opportunities to consider the Essential Question, ideas related to it, and what it means to them.

Going beyond the texts

Purpose: Part B assesses students' ability to analyze and respond personally to the Essential Question.
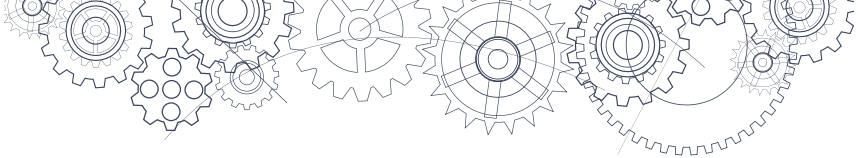
Description: Students answer a series of selected-response questions to the texts before producing a piece of writing in which they make personal connections to aspects of the Essential Question. This personal connection invites students to express their own knowledge, experiences, and creative notions in their constructed written response. Students have a choice from two Writing Pathways for the extended written response; both are equal in expectations and levels of difficulty and are scored with the same scoring rubric. Students will also have choice in their approach to writing: narration, description, persuasion, exposition, or any combination of these.

Benefit: Engages students in critically and creatively communicating their personal understanding of specific aspects of the Essential Question.

➔ Self-reflection

Purpose: Self-reflection encourages students to think about their work within the assessment.

Description: Questions guide students to reflect on:

- their strengths
- the processes they used to prepare for and complete the assessment
- the accuracy and comprehensiveness of their responses

Benefit: Students reflect on their work on the assessment, how their learning is applied to this measure, how they might improve their performance, as well as to provide feedback to the assessment developers for consideration in development of future assessments.

3 Reporting results

Provincial graduation assessments use a four-level proficiency scale for reporting student achievement results. Students receive an overall score based on all of their responses with these results placed in one of four levels of the Proficiency Scale (Figure 3). Detailed descriptors for each of the proficiency levels are provided in Figure 4.

The Grade 12 Literacy Assessment results will be reported on students' transcripts with "emerging", "developing", "proficient", and "extending". A student's proficiency level and detailed information will be available through the StudentTranscripts Service (STS). District and school-based administrators will access results through the School Secure Web (SSW). Individual student results accessed through the StudentTranscripts Service (STS) and the Secure School Web (SSW) will provide more detailed feedback about student achievement on the Grade 12 Literacy Assessment.

Figure 3: Proficiency Scale

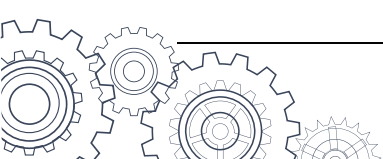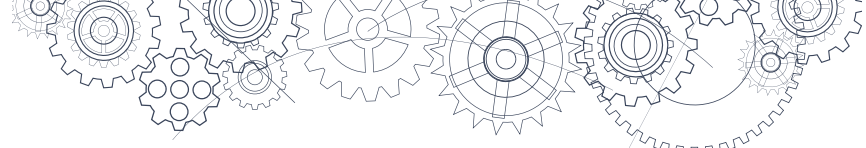| Proficiency Scale	Emerging	Developing	Proficient	Extending
	The student demonstrates an initial understanding of the concepts and competencies relevant to the expected learning.	The student demonstrates a partial understanding of the concepts and competencies relevant to the expected learning.	The student demonstrates a complete understanding of the concepts and competencies relevant to the expected learning.	The student demonstrates a sophisticated understanding of the concepts and competencies relevant to the expected learning.

Figure 4: Detailed Descriptors for Proficiency Scale

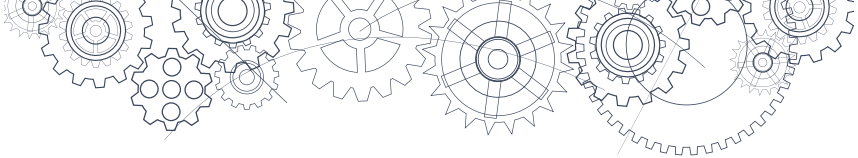| Proficiency Scale	1 – Emerging	2 – Developing	3 – Proficient	4 – Extending
	Students demonstrate an initial understanding of the concepts and competencies relevant to the expected learning, specifically, they can: • retrieve and attempt to apply information from texts. • attempt to comprehend and respond to texts in an effort to draw conclusions. • attempt to communicate critical thinking in a simplistic response with minimal textual evidence. • attempt to communicate critical, reflective and/or creative thinking in a minimally developed response with a limited personal perspective(s). • demonstrate limited use of language; errors may hinder meaning.	Students demonstrate a partial understanding of the concepts and competencies relevant to the expected learning, specifically, they can: • comprehend and apply information from texts. • comprehend and respond to texts to draw basic conclusions. • communicate critical thinking in a partially developed response with basic textual evidence. • communicate critical, reflective and/or creative thinking in a partially developed response with a superficial personal perspective(s). • demonstrate basic use of language; errors may distract from meaning.	Students demonstrate a complete understanding of the concepts and competencies relevant to the expected learning, specifically, they can: • critically analyze and synthesize information from texts. • comprehend and respond to texts to develop reasoned judgements. • communicate critical thinking in a well-developed response with purposeful textual evidence. • communicate critical, reflective and/or creative thinking in a well-developed response with thoughtful personal insights. • demonstrate effective use of language to convey meaning, errors may be present.	Students demonstrate a sophisticated understanding of the concepts and competencies relevant to the expected learning, specifically, they can: • critically evaluate and synthesize information from texts. • comprehend and respond to texts to develop insightful judgements. • communicate critical thinking in a comprehensive response with convincing textual evidence. • communicate critical, reflective and/or creative thinking in a sophisticated response with profound personal insights. • demonstrate a skillful command of language to convey meaning, need not be error-free.

References

Bennett, R. (April 2018). *Educational assessment: What to watch in a rapidly changing world*. Session presented at the annual meeting of the National Council on Measurement in Education, New York.

Case, R. & Gini-Newman, G. (2015). *Creating Thinking Classrooms: Leading Education Change for a 21st Century World*. Vancouver: The Critical Thinking Consortium.?

Darling-Hammond, L., Herman, J., Pellegrino, J., Abedi, J., Aber, L., Baker, E., … Steele, C. M. (2013). *Criteria for higher-quality assessment*. Stanford Center for Opportunity Policy in Education, Stanford University; Center for Research on Student Standards and Testing, University of California at Los Angeles; and Learning Sciences Research Institute, University of Illinois at Chicago. Retrieved from https://www.hewlett.org/wp-content/uploads/2016/08/Criteria_for_High_Quality_Assessment_June_2013.pdf

Duncan, J., & O'Connor, M. (n.d.). *Reading critically*. Scarborough, ON: Writing Centre, University of Toronto Scarborough. Retrieved from https://www.utsc.utoronto.ca/twc/sites/utsc.utoronto.ca.twc/files/resource-files/CriticalReading.pdf

Hess, K. K. (2009). Hess' Cognitive rigor matrix and curricular examples: Applying Webb's depth-of-knowledge levels to Bloom's cognitive process dimensions. Retrieved from http://static.pdesas.org/content/documents/M1-Slide_22_DOK_Hess_Cognitive_Rigor.pdf

Lane, S., & Iwatani, E. (2016). Design of performance assessments in education. In S. Lane, M. R. Raymond, & T. M. Haladyna (Eds.), *Handbook of test development* (2nd ed.) (pp. 274–293). New York, NY: Routledge.

Lee, C. D., & Spratley, A. (2010). *Reading in the disciplines: The challenges of adolescent literacy*. New York, NY: Carnegie Corporation of New York. Retrieved from https://www.carnegie.org/media/filer_public/88/05/880559fd-afb1-49ad-af0e-e10c8a94d366/ccny_report_2010_tta_lee.pdf

MacDonald, C. & Vaughn, L. (2016). *The Power of Critical Thinking, Fourth Edition*. Don Mills, ON: Oxford University Press.
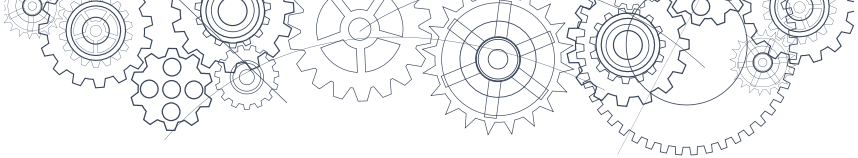
MacKenzie, T. (2016). *Dive into Inquiry: Amplify Learning and Empower Student Voice*. Irvine, CA: EdTechTeamPress.

Magnusson, K., & Frank, B. (2015). *The Advisory Group on Provincial Assessment: The graduation learning years – Final report*. Retrieved from https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/pdf/agpa-final-report.pdf

Paul, R. & Elder, L. (1997). The Elements of Reasoning and the Intellectual Standards. Tomales, CA: Foundation for Critical Thinking. Retrieved from: http://www.criticalthinking.org/pages/the-elements-of-reasoning-and-the-intellectual-standards/480

Pellegrino, J. W., DiBello, L. V., & Brophy, S. P. (2014). The science and design of assessment in engineering education. In A. Johri and B. M. Olds (Eds.), *Cambridge handbook of engineering education research* (ch. 29). Cambridge, UK: Cambridge University Press.
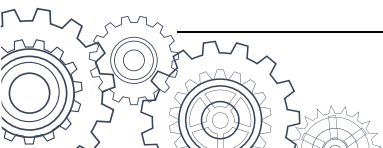
PIAAC Literacy Expert Group. (2009) PIAAC literacy: A conceptual framework (OECD Education Working Papers, No. 34). Paris: OECD Publishing. http://dx.doi.org/10.1787/220348414075

Piergiovanni, P. (2014). Creating a Critical Thinker. *College Teaching*, 62, 86-93.

Programme for International Student Assessment. (2016). PISA 2018 – Draft Reading Literacy Framework. In *PISA 2018 – Draft analytical frameworks*. Paris: OECD Publishing. Retrieved from https://www.oecd.org/pisa/data/PISA-2018-draft-frameworks.pdf

Riconscente, M. M., Mislevy, R. J., & Corrigan, S. (2016). Evidence-centered design. In S. Lane, M. R. Raymond, & T. M. Haladyna (Eds.), *Handbook of test development* (2nd ed.) (pp. 40–63). New York, NY: Routledge.

Snow, C. (2002). *Reading for understanding: Toward an R & D program in reading comprehension*. Santa Monica, CA: RAND. Retrieved from https://www.rand.org/content/dam/rand/pubs/monograph_reports/2005/MR1465.pdf

Vincent-Lancrin, S. (2017). *Future Learning Skills in a Global Context: from Discourse to Practice*. Helsinki: OECD Centre for Education Research and Innovation.

Webb, N. (2002). *Depth-of-Knowledge Levels for Four Content Areas*. Madison, WI: Wisconsin Center for Educational Research.

Wiliam, D. (2000). *Integrating formative and summative functions of assessment*. Paper presented to Working Group 10 of the International Congress on Mathematics Education, Tokyo, August 2000.

Wiliam, D., & Black, P. (1996). Meanings and consequences: A basis for distinguishing formative and summative functions of assessment? *British Educational Research Journal*, 22, 537–548.

— (2009). *Webb's Depth of Knowledge Guide: Career and Technical Education Definitions*. Albuquerque, NM: Albuquerque Public Schools. Retrieved from https://www.aps.edu/sapr/documents/resources/ Webbs_DOK_Guide.pdf

— (n.d.). *Creating effective inquiry questions*. Vancouver, BC: The Critical Thinking Consortium. Retrieved from https://tc2.ca/uploads/PDFs/CHF/creatingeffectiveinquiryquestions.pdf.

— (n.d.). *Promoting and Assessing Critical Thinking*. Waterloo, ON: University of Waterloo Centre for Teaching Excellence. Retrieved from https://uwaterloo.ca/centre-for-teaching-excellence/ teaching-resources/teaching-tips/developing-assignments/cross-discipline-skills/promoting-assessing-critical-thinking