**ORGANIZATION OF EASTERN CARIBBEAN STATES**

EDUCATION SECTOR STRATEGY

OECS PRIMARY GRADES'
ASSESSMENT FRAMEWORK
GRADES K – 6

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Contents

SECTION A

OECS ASSESSMENT FRAMEWORK

INTRODUCTION

Background

The Organization of Eastern Caribbean States (OECS) member countries have made significant strides in increasing access to primary education and secondary education. The Net Primary Enrollment Rate (6 -11 year age children) is close to 100%. Gross enrollment rate at the secondary level (11-16 years) are also approaching 100%. However, low-learning outcomes remain the major challenge faced by the education sector in all OECS countries.

In order to address the underlying causes of low learning outcomes, the OECS countries developed a Regional Education Strategy "Every Learner Succeeds" whose focus is ensuring that all children learn and succeed in school. The strategy was developed in a consultative manner and has been endorsed by the OECS Ministerial Forum for implementation. With the aim of enhancing the quality of education, the Education Sector Strategy sets out the education priorities for the period 2012-2021.

The "Every Learner Succeeds" regional education strategy is results based and includes the following imperatives: (i) improve the quality and accountability of education leadership; (ii) improve teacher quality, management and motivation; (iii) improve the quality of teaching and learning using learner-centered approaches; (iv) improve curriculum and *strategies for assessment to meet the needs of all learners*; (v) increase access to quality early childhood development services; (vi) provide opportunities for all learners to develop the knowledge, skills and attitudes to enable them to progress to further education and training and productive employment; and (vii) increase access to and relevance of tertiary and continuing education.

In order to implement this Regional Education Strategy, the OECS countries have received a Global Partner for Education (GPE)-funded Education Plan Development Grant to provide for technical assistance for finalizing the development of an education quality framework, and to develop an implementation framework and assessment framework for primary grades. The implementation plan encompasses all education sector activities to be implemented as part of the OECS Education Sector Strategy (OESS).

A portion of the grant funding has been used to develop an assessment framework for the OECS region. The overall focus of the assessment framework is to improve and develop a system of continuous learning assessment that tracks student attainment of key learning standards through the harmonized curriculum. The process of developing and implementing an assessment system is intended to help strengthen teachers' pedagogical abilities through the use of varied assessment techniques as well as the use of continuous assessments for planning and teaching purposes. The assessment framework will focus primarily on formative rather than summative assessments for primary grades.

CXC – An Overview

The Caribbean Examinations Council (CXC) was established in 1972 under Agreement by the Participating Governments in the area to conduct examinations and then award certificates and diplomas on the results of any conducted examinations. The Council is also empowered to regulate the conduct of any such examinations and prescribe the qualification requirements of candidates and the fees payable by them.

It comprises 16 Participating Territories: Anguilla, Antigua and Barbuda, Barbados, Belize, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago and Turks and Caicos Islands.

CXC has over 40 years of experience in developing syllabuses, formulating tests, administering examinations, issuing results and analysing statistics for large-scale examinations. CXC also engages in the provision of orientation and training of teachers to deliver our syllabuses, as well as training in item generation and fundamentals of classroom assessment.

CXC has introduced a comprehensive suite of qualifications to meet the needs of the region: Caribbean Primary Exit Assessment™ (CPEA™); Caribbean Certificate of Secondary Level Competence® (CCSLC®); Caribbean Vocational Qualification (CVQ); Caribbean Secondary Education Certificate® (CSEC®); Caribbean Advanced Proficiency Examination® (CAPE®); and the CXC Associate Degree® (CXC _AD®).

Over the years, the organization has developed and expanded its repertoire of services in several consultancy areas related to Training and Professional Development, Measurement and Evaluation Services, Examinations Development and Production, Examinations Administration and Security as well as Syllabus and Curriculum Development, to name a few.

The Assessment Framework is designed to form the foundation of an effective assessment system that caters to the acquisition of knowledge, skills and attitudes that are of critical importance in developing lifelong learners and preparing pupils for 21st century living.

The OECS Primary Grades' Assessment Framework

The OECS Assessment Framework provides an outline of the approaches to assessment to support learning in Grades K – 6. The Framework creates an effective assessment system which supports greater breadth and depth in learning and a focus on skills development and recognises 21st century competencies. It can be used to form part of a connected assessment system that facilitates smooth transitions in learning between the various education levels, from primary to tertiary. The Framework is designed to provide a better understanding of effective and consistent assessment practices.

As the education debate shifts from *access to all* to *learning for all,* assessment will be critical in instruction, ensuring support for all student learning.   Assessment is essential to instruction in that is provides students with frequent and meaningful feedback on their performance. It also can be used as a diagnostic tool for gauging students' depth of understanding as well as a means for teachers and administrators to measure student achievement and to track progress towards long-term learning goals/ benchmarks.

The aim of classroom assessment is to produce information that contributes to the teaching and learning process and assists in educational decision making, where decision makers include students, teachers, parents, and administrators.

What is assessed?
- The attainment of national/regional standards and expectations of learners' progress in developing knowledge, understanding, skills and attributes.

Why is it assessed?
- To support learning, promote learner engagement and encourage appropriate support.

When does assessment take place?
- As a part of the everyday teaching and learning transactions as well as key periods and transition points.

How is assessment conducted?
- By utilising a variety of approaches and assessment strategies that are appropriate, reliable and valid.

The Assessment Approach

The OECS Assessment Framework is designed to incorporate elements of continuous assessment and terminal (summative) assessment. The foundation of the Framework rests on continuous assessment. This method of assessment provides for extensive curriculum coverage and allows for the use of a wide range of assessment techniques. Continuous assessment is usually formative, process-oriented, learner-involved, and internal in nature. It can be used to assess a wide range of skills including non-cognitive skills. The range of assessment strategies can take the form of regular in-class work, teacher designed projects and practical work, inclusive of fieldwork, creation of artefacts, simulations and role-plays.

The formative aspect of continuous assessment makes it easier for teachers to match their assessment methods with the learning standards and the learning outcomes being assessed. In addition, effective use of this form of assessment can provide early indicators of the possible performance of pupils. This is especially helpful for teachers and pupils in recognizing weak areas and misunderstandings. This allows for the provision of appropriate remediation in a timely manner.

It can also be argued that continuous assessment enables mastery-based learning and promotes increased self-awareness among students, which when coupled with timely, specific feedback proves to be a significant factor in personal success. Additionally, using continuous assessment reduces the amount of stress placed on students and teachers that is associated with a one-shot final examination or terminal assessment.

There are several advantages associated with continuous assessment, but for the purposes of this framework the following advantages are taken into account:

- It is a sustained means of assessment which through its feedback mechanism serves to reinforce or correct learnings.
- It can assist in pacing learning so that students can improve their proficiency.
- Through the use of project and portfolio assessment strategies, continuous assessment provides measures of a pupil's ability to collect, select, and use information/data, their ability to undertake independent study and inquiry as well as their planning and time-management skills. All of which are critical to the development of life-long learners.

Attention must also be paid to the attendant disadvantages associated with continuous assessment. The most important being the possibility of pupils being over-assessed due to poor planning and coordination on the part of teachers. A recurring complaint of the methodology is that continuous assessment is labour intensive for both pupils and teachers. To avoid this, teachers, supported by school administrators, may have to decide on regular short assessments that contribute to a faster feedback loop resulting in faster learning and less misconceptions by pupils.

The reality of an uneven distribution of resources required by pupils to gain maximum benefit from continuous assessment is a major factor to be considered in implementing the methodology. However, the impact can be minimised by employing strategies that allow for equitable access to resources.

The use of continuous assessment methodology will involve increased monitoring of learners' work and improved record-keeping. This will lead to a balanced profile of pupils' development over a specific period or grade.   It will also provide detailed information on the pupils; readiness for the next grade level.

The dimensions of the Assessment Framework will be discussed in the proceeding chapters.

1. STRUCTURE OF THE ASSESSMENT FRAMEWORK

The OECS Primary Grades' Assessment Framework consists of five (5) dimensions. The organisational structure of the dimensions are summarised as follows:

Dimension 1: The Assessment System
This system provided the overarching structure for the assessment process. The system focuses on the internal and external assessments and is structured to accommodate national, regional and international assessment activities.

Dimension 2: Assessment Domains
These are organized under four literacy areas – Language literacy, Mathematical literacy, Scientific and Technological literacy and Civic literacy.

Dimension 3: Content Areas
The content areas are associated with the assessment domains and comprise descriptions of the content areas as detailed in the learning standards for the OECS sub-region. The content is further sub-divided into concepts or stands and the important topics which comprise the concepts form the sub-strands.

Dimension 4: Cognitive Processes
The Framework then details the cognitive processes that are required to understand and apply the content. These processes comprise intellectual skills such as knowing, reasoning and analysis.

Dimension 5: Affective Processes
These processes relate to the values, behaviours and attitudes students hold about their engagement and interactions with the content areas.

See diagram on the following page.
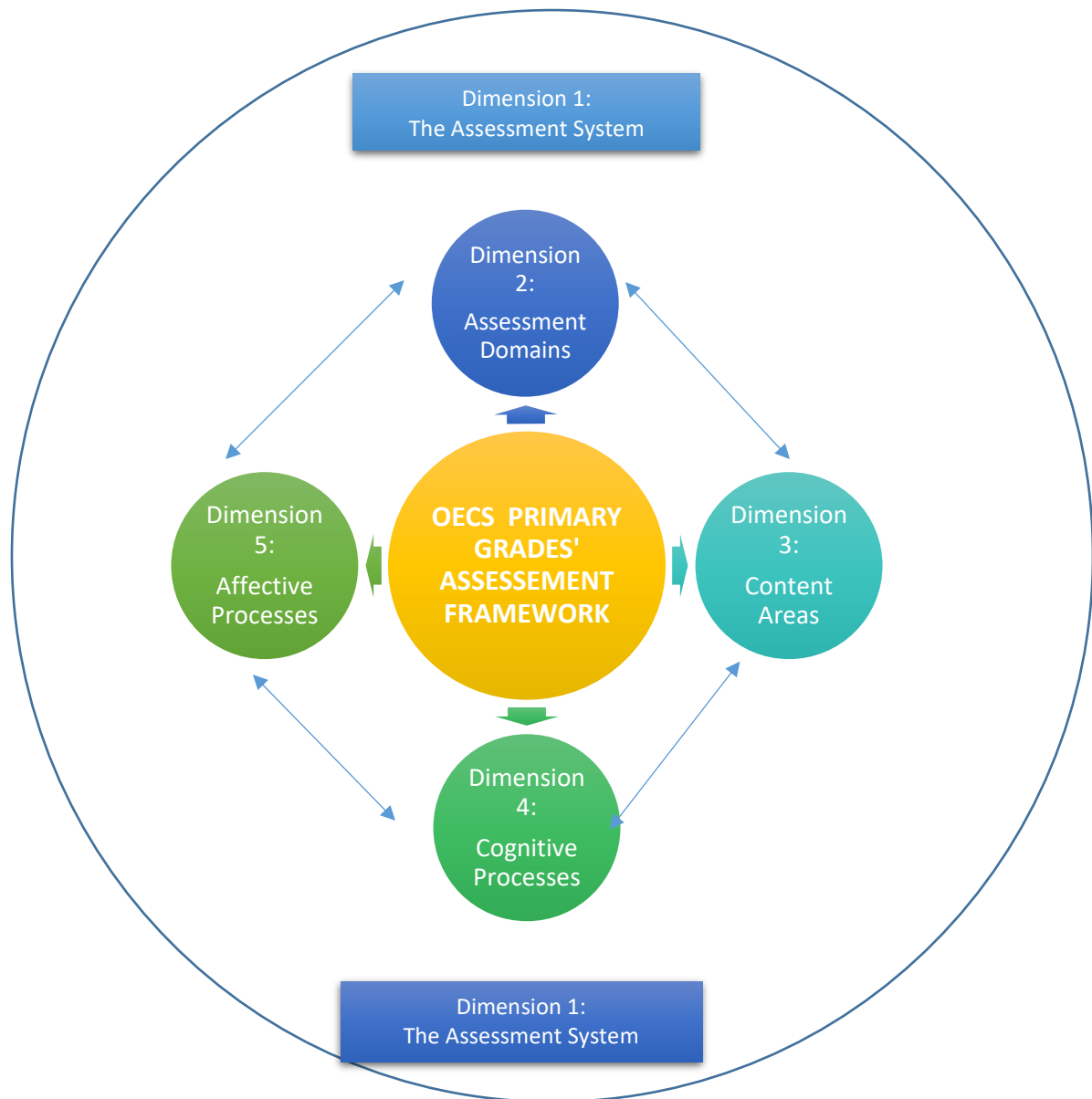
Figure 1. The Dimensions of the OECS Primary Grades' Assessment Framework

Dimension 1 dictates the type and format of assessments administered. Dimensions 2, 3 and 4 are combined to create assessments. The degree of specificity of the assessment is determined by the associated Grade level, learning standards, and nature of the content. It is recommended that the majority of assessment interactions should be formative in design.

Dimension 5 describes the attitudes, values and behaviours that are the intended outcomes of education in the OESC curricula content areas. This dimension is integrated in the other three dimensions for assessment.

The following chapters explore the five domains and their contribution to the assessment process.

2. DIMENSION 1: THE ASSESSMENT SYSTEM

The current assessment systems in place at the primary level in the OECS territories are varied. Across the majority of territories, national assessments are conducted at the end of grades 2, 4 and 6. The Grade 2 and 4 assessments are diagnostic in nature and follow a flexible format. The results of these assessments are analysed by the parent ministry and sent back to the schools for the appropriate remedial action if required. However, the Grade 6 assessments are more structured in nature and mark the end of primary level education. These assessments focus mainly on Language Arts and Mathematical abilities of the pupils, but some territories also offer a general paper that assesses pupils' knowledge in other curricular areas such as Science and Social Studies.

The overarching goal of the Assessment Framework is to form an integral part of a world-leading education system that equips OECS students with the knowledge, skills and attributes to be successful 21st century citizens. The Framework reflects the proposed Primary Grade Learning Standards and is related to the current OECS curricula. It is envisaged that the assessment system will comprise an effective blend of continuous (formative) assessment and summative assessment that will lead to the OECS' participation in several international assessment initiatives that will provide the region with a deeper understanding of its pupils' achievement levels.

The Assessment System is depicted in the diagram on the following page. The dashed arrows and boxes represent future additions to the Assessment System. As the local and regional assessment components of the system become stronger, the OECS territories may consider the standardization of the Primary Grades 2, 4 and 6 assessments at the regional level. Thereby, supporting standards-based instruction at the primary level and free movement of persons within the island grouping. In addition, as standards-based instruction becomes the accepted practice in the member states, the OECS territories can explore participating in the Progress in International Reading Literacy Study (PIRLS), the Trends in Mathematics and Science Study (TIMSS) at the fourth and sixth grade levels, and the Programme for International Student Assessment (PISA) at the Grade 8 level. See Figure 2.

TIMSS is an international assessment of mathematics and science at the fourth and eighth grades. PIRLS is an international assessment of reading literacy and the factors associated with its acquisition. It assesses the reading achievement of young students in their fourth year of schooling—an important transition point in children's development as readers. PISA assesses youth outcomes in three domains—reading literacy, mathematical literacy, and scientific literacy—through common international tests. This assessment targets individuals 15 years of age (Grade 8 students). PIRLS and TIMSS have broadened their focus in an effort to meet the needs of countries in which most children in the fourth grade are still developing fundamental

reading and mathematics skills. To this end they have developed PIRLS Literacy and TIMSS Numeracy assessments.

A well-structured assessment system is critical to the development of strong island societies, since this system will facilitate persons in leading a productive personal life, encourage high levels of citizenry and support innovative economic development.
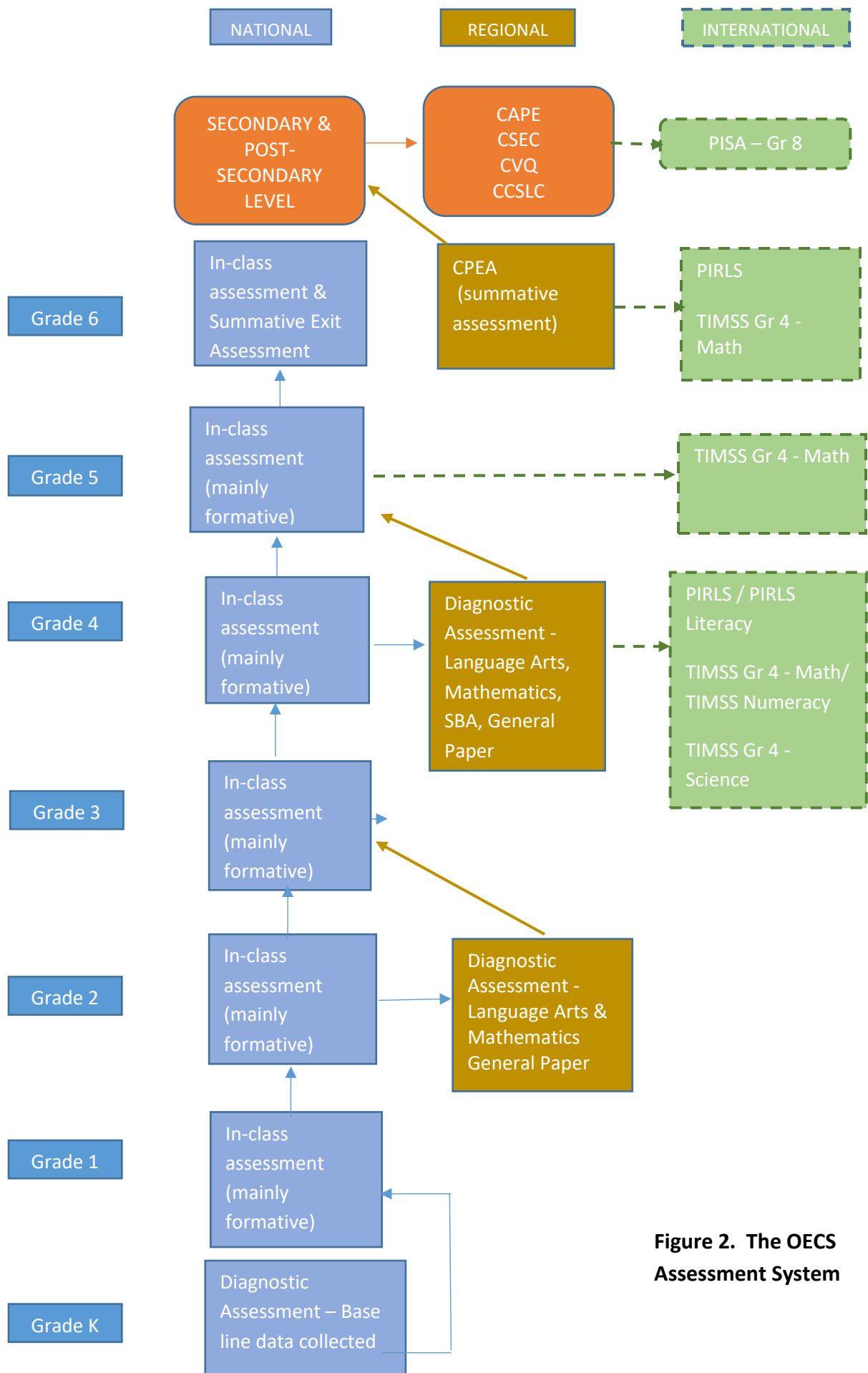
Figure 2. The OECS Assessment System

Legend boxes:
- NATIONAL
- REGIONAL
- INTERNATIONAL

Flowchart content:

Grade levels (left column): Grade K, Grade 1, Grade 2, Grade 3, Grade 4, Grade 5, Grade 6

National (blue boxes):
- Diagnostic Assessment – Base line data collected
- In-class assessment (mainly formative) [Grade 1]
- In-class assessment (mainly formative) [Grade 2]
- In-class assessment (mainly formative) [Grade 3]
- In-class assessment (mainly formative) [Grade 4]
- In-class assessment (mainly formative) [Grade 5]
- In-class assessment & Summative Exit Assessment [Grade 6]
- SECONDARY & POST-SECONDARY LEVEL

Regional (gold/brown boxes):
- Diagnostic Assessment - Language Arts & Mathematics General Paper
- Diagnostic Assessment - Language Arts, Mathematics, SBA, General Paper
- CPEA (summative assessment)
- CAPE, CSEC, CVQ, CCSLC

International (green dashed boxes):
- PIRLS / PIRLS Literacy; TIMSS Gr 4 - Math/ TIMSS Numeracy; TIMSS Gr 4 - Science
- TIMSS Gr 4 - Math
- PIRLS; TIMSS Gr 4 - Math
- PISA – Gr 8

3. DIMENSION 2: ASSESSMENT DOMAINS

The Assessment Domains dimension centres on Language, Mathematics, Science and Technology, ICT, and Civic literacies. In its broadest view, the term *literacy* is the ability to use printed and written information to function in society, achieve one's goals, and to develop one's knowledge and potential. This applies to science, civics, and language and literature contexts (Bond, 2011). Literacy is now viewed as a combination of knowledge, competence and skills (Dubin & Kuhlman, 1992); the term increasingly referring to a competence that allows more effective participation in relevant social activities. It involves the active transformation of texts in a variety of contexts.

Language Literacy

The connection between language and literacy is powerful and inextricable since speaking, listening, reading, and writing develop together. It can be argued that some language and literacy learning happens naturally, while some only develops with explicit instruction.

Literacy is regarded as the foundation of all learning, and students who read confidently, comprehend competently, and write clearly establish a foundation for building knowledge in all subject areas and become lifelong learners and productive citizens. The UNESCO Position Paper (2004) expands this view by noting that literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society.

Assessment tasks that focus on language literacy should incorporate the comprehension processes in assessing reading and writing achievement. The assessment tasks should take into account the main purposes most reading done by young children in and out of school, i.e. reading to acquire and use information and reading for pleasure.

Mullis and Martin (2015) lists four types of comprehension processes that should be addressed in classroom activities, and are currently addressed in regional and international assessments, are:

- Retrieving explicitly stated information
- Making straightforward inferences
- Interpreting and integrating ideas and information
- Evaluating and critiquing content and textual elements

Retrieving explicitly stated information

In assessing this comprehension process, the reader is required to focus on and retrieve information from several sections of the assessment text. This will require that students have experience in successful retrieval techniques. Tasks that exemplify the retrieval of stated information are shown in Table 1 below.

Table 1. Retrieving Explicitly Stated Information

Retrieving Explicitly Stated Information Assessment Tasks
Identifying information relevant to the overall goal of text
Searching for definitions of words in phrases within the text
Retrieving the explicitly stated main idea or topic sentence
Identifying the setting of a story

Making straightforward inferences

Zwaan and Singer (2003) state that at the same time readers are constructing meaning from texts, they are making inferences about ideas and information that is not explicitly stated. The drawing of inferences allows readers to fill in information gaps that often occur in texts. Tasks that may be used to assess this process are listed below.

Table 2. Making straightforward inferences

Making straightforward inferences
Determining what is the main points made by arguments in the texts
Inferring that one event was caused by the occurrence of another event
Describing the relationship between two characters

Interpreting and integrating ideas and information

When interpreting and integrating ideas as they read, they are attempting to construct a more complete understanding of the texts. This is done by integrating their personal knowledge and experience with the ideas found the text. Suggested assessment tasks that address this process are listed below.

Table 3. Interpreting and integrating ideas and information

Interpreting and integrating ideas and information
Identifying the overall message or theme of the text
Comparing and contrasting information in the text
Describing alternatives to the actions of characters in the text
Inferring a story or poem's mood or tone

Evaluating and critiquing content and textual elements

Students are challenged to critically consider the information given in the texts.   In some instances, the students may be required to evaluate and critique the texts objectively or based on their personal value systems and perspectives.   Students may also be required to justify their arguments either for or against the position represented in the texts. Tasks that may be used to assess this process are listed below.

Table 4. Evaluating and critiquing content and textual elements

Evaluating and critiquing content and textual elements
Making judgements on the completeness and clarity of information in the text
Evaluating whether the title of the text reflects the theme of the text
Determining the author's point of view
Evaluating whether the events and information in the text reflect reality

It is expected that as students progress through the primary level, they will use more complex language structures, draw on wider experiences and a variety of learning resources, to broaden their language literacy. This will assist them as they engage with a variety of subjects and challenging concepts.

Mathematic Literacy

Mathematic literacy is viewed by some as the second key literacy after language literacy for all students to achieve. Referred to as numeracy, mathematic literacy refers to the ability to solve, reason and analyse numerical information.   The OECD Programme for International Student Assessment (PISA) define mathematic literacy as an individual's capacity to identify and understand the role that mathematics plays in the world, to make well-founded judgments and to use and engage with mathematics in ways to meet the needs of that individual's life as a constructive, concerned and reflective citizen (OECD, 1999).

In designing assessment tasks in this domain, the overarching theory described by De Lange (2006) stresses that numeracy as well as quantitative and spatial literacies must be included in the discussion. He argues that each of the literacies listed earlier empowers individuals in making sense of and understanding aspects of the world they experience. In explaining this position, De Lange offers the Mathematical Literacy Tree Structure. See diagram below.
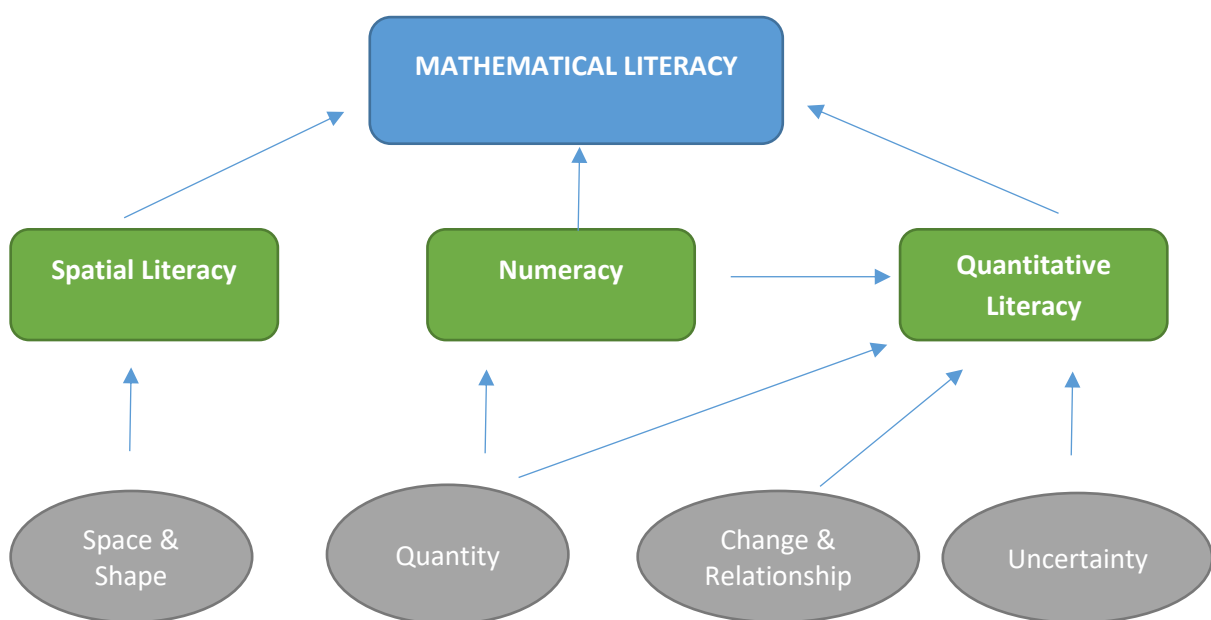
Figure 3. Tree Structure – Mathematical Literacy (De Lange, 2005)

Spatial Literacy supports the students' understanding of the three-dimensional world.   This understanding is based upon our knowledge of the properties of objects, the relative position of objects, and the effect of objects on our visual perception.

Numeracy relates to the ability to manipulate numbers and data in order to evaluate statements regarding problems and situations that need mental processing and estimation in real- world contexts.

Quantitative Literacy expands Numeracy to include the use of mathematics in dealing with understanding change, uncertainties and quantitative relations.

There are several skills that have been identified as important for mathematical thinking, which in turn help students to become more mathematically literate. These skills help students to process and solve their way through mathematics in novel, real world situations.

These skills indicate that mathematical literate students should be able to:
1. Apply mathematical skills in both familiar and unfamiliar situations.
2. Learn how to select and combine various skills for the purpose of solving problems.
3. Work in collaborative groups to solve problems and talk about mathematics.
4. Write about mathematics and the problem solving process.
5. Use mathematical ideas and ways of thinking to communicate about the world.
6. Reflect on their own learning process.
7. Use technology to support problem solving in math.
8. Utilize their skills appropriately and effectively in combination with research.

Students require fluency in the four fundamental operations – addition, subtraction, multiplication and division – in order to cope with mathematical problem solving, reasoning and analysis effectively. Thus, mastery of the basics enhances the individual's ability to decipher mathematical terminology and to solve real-world problems using mathematics.

Assessment tasks to measure mathematical achievement must address the challenges faced in developing mathematic literacy. These include, inter alia

- The problems faced by students in specialized mathematical patterns and transferring skills.
- The difficulties experienced by students in handling the required abstract thinking in mathematics.
- The challenges faced in interpreting word problems and determining the steps needed for solution.

It follows then that assessment tasks should ensure that students are provided opportunities to achieve fluency in the basic operations.   In addition, the assessments should build awareness that mathematics exists everywhere and that it is used in the real world every day. Thus, the classroom mathematics experiences must be linked to real world contexts. More importantly, the students must have positive experiences with mathematics from an early age in order to build competence and confidence. This can be achieved through frequent formative assessment.

Scientific Literacy

PISA (2015) defines scientific literacy as the ability to engage with science related issues and with the ideas of science as a reflective citizen. It is concerned with students' abilities to use scientific knowledge and processes in understanding the natural world as well as to participate in decisions that affect it. The National Academy of Sciences (1996) argues that scientific literacy is the knowledge and understanding of scientific concepts and processes that are required for personal decision making, for participation in civic and cultural affairs, and economic productivity. Further, that individuals display their scientific literacy in different ways ranging from the appropriate use of scientific terms to being able to apply scientific concepts and processes.

From the foregoing, it is apparent that understanding science is an important feature in educating persons for citizenship. Additionally, scientific literacy is central to science assessment and therefore should be assessed in relation to:

- scientific knowledge or concepts;
- scientific processes;
- understanding scientific investigation; and
- Interpreting scientific evidence and conclusions.

In order to achieve scientific literacy, there are three competencies that are required:

1. The ability to explain phenomena scientifically.
2. Evaluate and design scientific enquiry.
3. Interpret data and evidence scientifically.

To ensure that students can successfully navigate their journey into scientific literacy, there are several key science practices that should be considered when designing assessments:

- Asking questions based on observations of phenomena in the natural world that lead to the formulation of testable hypotheses.
- Generating evidence through investigations and experiments to support or refute the hypotheses.
- Working with data to summarise, describe and interpret patterns found.
- Constructing explanations and conclusions from the evidence provided through the observations, investigations and data patterns to answer the research questions.

In addition, the assessments should foster positive attitudes towards science.

Civic Literacy

The Partnership for 21st Century Learning defines civic literacy as the ability to participate effectively in civic life through knowing how to stay informed, understanding governmental processes, understanding one's responsibility in exercising the rights and responsibilities of citizenship at the community, national, regional and global levels, and understanding the implications of civic decisions at local and global levels. Stein (2012) argues that the skills required to develop a good citizen are the same skills that determine success at all levels of education and in the workplace.

Students', beginning at the primary level, need to understand how communities and government work. They also need to develop an awareness of the roles of citizens and leaders at local, regional and international levels. This knowledge must go hand in hand with an understanding of the impacts of certain policies and decisions on everyday life and the ability to critically evaluate information and make informed decisions.

Primary level students can engage in developing civic literacy through their subject interactions and hands-on learning and assessment activities which will allow them to experience citizenship and leadership in a real-world context.

ICT Literacy

 The PISA ICT Expert Panel (2003) defines ICT literacy as the interest, attitude and ability of individuals to appropriately use digital technology and communication tools to access, manage, integrate, evaluate information, construct new knowledge, and communicate with others in order to participate effectively in society.   Furthermore, one of the core beliefs of the International Society for Technology in Education (ISTE) is that all pupils must have regular opportunities to use technology to develop skills that encourage personal productivity, creativity, critical thinking, and collaboration in the classroom and in daily life.

The assessment of ICT literacy has become a critical feature of the 21st century landscape. This is reflected in the inclusion of ICT related items in international assessments namely PISA, PIRLS and TIMSS. Experts charged with developing the ICT Literacy domain argue that ICT is changing the nature and value attached to knowledge and information. Additionally, given its rapid advancement in recent years, ICT has the potential to change the way we live, learn, work, and interact with each other.

The definition cited above speaks to the integration of skills necessary for ICT literacy and pupils' proficiency in handling ICT. This conceptualization of ICT in terms of skills allows for consistent assessment measures of ICT to be applied across all domains and supports the integration of ICT literacy across all of the subject areas. In so doing, ICT joins the traditional literacy and numeracy and other non-cognitive skills as essential and fundamental elements in determining an individual's literacy level.

According to the Performance Measurement and Reporting Task Force (PMRT) (2005) and the International ICT Literacy Panel (2007), ICT literacy is organized around seven components or processes:

- **Accessing information** – identifying the information needed and knowing how to find and retrieve it
- **Managing information** – organizing and storing information for retrieval and reuse
- **Integrating information** – interpreting and representing information by summarizing, comparing and contrasting
- **Evaluating** – reflecting on the processes used to design and construct ICT solutions and about making judgments regarding the integrity, relevance, and usefulness of the information
- **Developing new understandings** – creating new information and knowledge through synthesizing, adapting, applying, designing, inventing or authoring
- **Communicating with others** – exchanging information by sharing knowledge and creating information products to suit the audience, the context, and the medium
- **Using ICT appropriately** – making critical, reflective, and strategic ICT decisions and about using ICT responsibly by considering social, legal, and ethical issues.

This organizational scheme is supported by a set of proficiencies that highlight the foundational set of skills and knowledge that underlie ICT literacy:

1. **Cognitive Proficiency** – the desired foundational skills of everyday life, at home, at school, and at work, i.e., literacy, numeracy, problem-solving, spatial/visual literacy.
2. **Technical Proficiency** – the basic components of digital literacy; includes foundational knowledge of hardware, software applications, networks, and elements of digital technology.
3. **ICT Proficiency** – the integration and application of cognitive and technical skills.

These processes and proficiencies, when introduced at the primary level, foster positive attitudes towards ICT and contribute to the development of knowledge and skills necessary for a rewarding and productive life.

In must be noted that the literacies discussed in this dimension cannot be separated from the subject matter content, since engaging in the content and related skills builds and enhances the literacies. The following chapter details the subject areas that are the focus of the assessment domain.

4. DIMENSION 3: THE CONTENT AREAS

The content areas are drawn from the four subject areas that form the foundation of the OECS Harmonised Curriculum and the Learning Standards at the primary level. Each content area is listed and the major concepts are described along with the important topics to be assessed.

4.1 Language Arts

The Language Arts learning assessment processes should support the students' capability to use language to make meaning of texts whether they are interacting with texts created by others or creating texts of their own. Assessment in Language Arts should address the receptive modes (listening, reading and viewing) and the productive modes (speaking, writing and creating).

4.1.1 Content Area – Listening and Speaking

Listening and Speaking share a reciprocal relationship and are intimately connected to the thinking process. They provide students with ideas and allow them to communicate these ideas to others. The development of speaking and listening is the foundation on which reading and writing are built.

Listening and Speaking includes the following concepts that should be considered for assessment:
- *Listening Comprehension*
- *Giving and Getting Information*
- *Social Interaction*
- *Vocabulary Building*

4.1.2 Content Area – Reading

The area of reading will help students to develop their comprehension and analytical skills. Students explore the organization, codes and conventions associated with different text forms to be effective readers. Students can select letter patterns and know how to translate them into spoken language by using phonics, syllabication and word parts.

The Reading area comprises nine (9) key concepts that should be considered for assessment:
- *Reading/Knowledge of Books*
- *Reading Decoding*
- *Vocabulary Building*
- *Reading Comprehension*
- *Reading and Writing Conventions*
- *Reading Literature*

- *Reading for Purpose*
- *Understanding Content/Context/Organisation of text*
- *Reading Attitudes and Interest*

4.1.3 Content Area – Writing

Writing activities teach critical skills and the writing process. Students' develop competence in the areas of spelling and handwriting and articulating ideas and structuring them in speech and writing. The ability to write effectively involves forming, articulating and communicating ideas and then specialize them coherently for a reader. This requires clarity, awareness of the audience, purpose and context and an increasingly wide knowledge of vocabulary and grammar.

Reading includes the following concepts that should be considered for assessment:
- *Process Strategies*
- *Writing Conventions*
- *Vocabulary Building*
- *Grammar & Mechanics*
- *Reading Attitudes and Interest*

4.2 Mathematics

The common thread that ties the Mathematics Learning Standards across Grades 1 to 6 is the development of mathematical literacy. The standards target the cultivation of a positive attitude to mathematical learning. Learning to construct mathematical knowledge, and regular focused engagement in mathematical processes at an early age, are two key pillars in developing mathematical literacy and this undergirds the OECS primary school mathematics learning standards and assessment strategies.

There is high connectivity amongst mathematical concepts, topics and processes, as well as the links between mathematics and other subject disciplines. Thus, assessment of concepts should be dealt with in ways which make it easy for learners to identify and make such connections.

The OECS Primary Mathematics Standards advances the philosophy that assessment should serve to promote the progress of the learner and to improve the delivery of the teacher. For these reasons, the standards challenge teachers to:

- integrate assessment with instructions
- encourage continuous self-assessment among students
- use a variety of assessment strategies, forms and tools (including oral and written presentations)

Additionally, assessment associated with the attainment of these standards should aim to gather relevant information about students'

- understanding of concepts and procedures
- growth and development in engaging in mathematical processes
- deposition to mathematics and learning associated with it

4.2.1   Content Area – Number Sense

The Number Sense strand focuses on guiding students to work effectively with numbers. Students read, write, compare, count, order and represent numbers and utilize a variety of tools and strategies to construct understanding of the value of numbers (whole numbers, fractions and decimals) and investigate how different numbers behave under the four basic operations of addition, subtraction, multiplication and division.

The following concepts should be considered for assessment in exploring Number Sense:
- *Understanding Numbers*
- *Operational sense*
- *Proportional Reasoning*
- *Number Patterns*

4.2.2   Content Area – Understanding Measurement

Understanding Measurement centres on the development of skills that allow students to perform tasks of estimating, comparing, measuring and recording different attributes of measurement.   Students choose appropriate instruments and units relative to the measurement of length area, mass, capacity, time and money.

Understanding Measurement includes the following concepts that should be considered for assessment:
- *Linear Measurement*
- *Understanding Area*
- *Measuring Capacity*
- *Measuring Mass*
- *Understanding Time*
- *Money Works*

4.2.3   Content Area – Geometric Thinking

Development of awareness of size, shape and position of objects is fostered in students through engagement with Geometric Thinking concepts. Students learn to recognize and draw basic plane and solid shapes, investigation, identify properties of basic plane and solid shapes, and using this knowledge, classify shapes and explain common features that

link shapes in the same group. Students also develop and use directional language by locating, translating and reflecting points and shapes in the first quadrant of the Cartesian plane.

Geometric Thinking includes the following concepts that should be considered for assessment:
- *Points and Lines*
- *Appreciating Angles*
- *Plane Shapes*
- *Solid Shapes*
- *Directional Sense*

4.2.4   Content Area – Data Handling

The ability to collect, organize, represent and interpret data is a necessary skill that is the developed through Data Handling content. Students should engage in learning and assessment experiences which guide them to ask questions that are suitable for collecting relevant data, representing data in appropriate methods including tables, picture graphs, bar graphs and line graphs, and developing the skill of reading and interpreting data presented in different forms.

The following concepts should be considered for assessment in exploring Data Handling:
- *Data Collection*
- *Data Representation*
- *Data Interpretation*

4.3 Science and Technology

It can be argued that the broad purpose of science in schools is to develop scientific literacy in all students. Laugksch (2000) asserts that scientific literacy is important as it contributes to the economic and social well-being at the national level, and improved decision-making at personal and public levels.

The assessments designed to measure the attainment of scientific literacy must focus on three main areas:

- Knowledge – developing an understanding of the basic concepts of life science, physical science, earth and space science and technology.
- Skills – developing skills that are critical to scientific and technological inquiry and communication of ideas and concepts.

- Attitudes and Values – developing appropriate attitudes towards Science and Technology that will assist in solving societal challenges and facilitate positive interactions at the community and national levels.

In addition, the following five elements of scientific literacy must also feature prominently in the assessment activities:

- Demonstrating understanding of scientific concepts
- Recognising scientifically investigable questions
- Identifying evidence needed in a scientific investigation
- Drawing or evaluating conclusions
- Communicating valid conclusions

4.3.1 Content Area – Earth and Space Science

It is critical for students to understand how Earth works as a system and how humans interact with Earth. Understanding the causes and potential consequences of natural Earth processes (e.g., earthquakes, floods, landslides, tsunamis, volcanic eruptions, weather, and global climate change) and the production, availability, and potential depletion of natural resources (e.g., water, soil, mineral, and energy) are of particular importance because they impact our economy, our security, and the safety and sustainability of our environment. Earth science is an integrated science, bringing together biology, chemistry, and physics as they apply to the workings of Earth. Earth science helps learners to see the connections and relevance of science to their lives and their communities.

The following concepts should be considered for assessment in exploring Earth Science:
- *The Earth's Weather*
- *The Earth's Resources*
- *The Solar System*

4.3.2 Content Area – Life Science

Students learn how living things interact with the world around them when they engage with the Life Science content. The core ideas of Life Science address the structure of organisms, how organisms functions to support life and growth, how organisms interact with each other and the surrounding environment, and how changes in the organism over time leads to diversity.

The following concept should be considered for assessment in exploring Life Science:
- *Ecosystems*
- *Structure and Function*

- *Classification and Diversity*

4.3.3   Content Area – Physical Science

The study of Physical Science enables students to develop an understanding of the concepts of energy, forces and the theory of matter. It introduces students to the nature of science and aspects of scientific thinking.

Physical Science includes the following concepts that should be considered for assessment:
- *Energy*
- *Forces Motion and Structure*
- *Matter and Materials*

4.3.4   Content Area – Technology
The Primary Level science programme must provide opportunities for students to develop understandings and skills necessary for functioning in a technological world. This engagement includes an understanding of what technology is, how and why technology is developed, and the social and ethical issues surrounding the use of technology.

The Technology topic includes the following concepts that should be considered for assessment:
- *Technological Methods*
- *Nature of Technology*
- *Use of Technology*

4.3.5   Science, Technology, Society and the Environment (STSE)
In interacting with STSE content, emphasis is placed on teaching scientific and technological developments in their cultural, social and economic contexts. The content introduces the intersection of science, technology, society and the environment in relation to the consequences of scientific and technological developments on the daily life of students.

Students are provided opportunities to explore issues that impact on everyday life and make decisions on how to resolve these issues.

The following concept should be considered for assessment in exploring Science, Technology, Society and the Environment:
- The interaction among science, technology and society and its impacts on the environment, economic development and national well-being.

4.4 Social Studies

The primary purpose of social studies is to help students develop the ability to make informed decisions for the public good as citizens of a culturally diverse, democratically conscious society. It is critical that students acquire the fundamental knowledge, skills and attitudes comprised in Social Studies if they are to be effectively prepared for the 21st Century.

Assessment of social studies should address the learning dimensions of civic literacy:

- Dispositions – providing students with opportunities to develop interest and curiosity about the world. These include:

  - Developing dispositions of responsible citizenship
  - Learning to value and respect cohesion and diversity among people
  - Learning to value, respect, and appreciate the variety of cultural identities at all levels
  - Learning to respect and care for the environment

- Skills – ensuring that students develop the skills necessary for good citizenship, including:
  - Problem-solving in a real-world context
  - Understanding how to apply measurement skills in everyday life
  - Learning how to locate, acquire and organize information
  - Learning how to interpret graphs and diagrams

- Knowledge – providing students with opportunities to explore the structure, interdependence and change of social units. Social units at the primary level primarily focus on self, family, community and region.

  The content areas and concepts that should be considered for assessment:

  ### 4.4.1   Content Area – Personal/ Individual Identity (PI)

  - Individual as Member of a Family
  - Benefits of Group Activities to Pre-Adolescents
  - Special Family Groups
  - Social Problems

  ### 4.4.2   Content Area – Group Identity (GI)
  - Group Formation and Membership
  - Family as a Group

4.4.3 Content Area - Community Identity (CI)
- Location
- Heritage

4.4.4 Content Area - National and Regional Identity (NRI)
- National Identity
- Regional Identity

4.4.5 Content Area - Civic Responsibility (CR)
- Human Rights
- Judicial System

4.4.6 Content Area - Morals, Ethics and Values
- Punctuality and Regularity
- Character Education
- Ethics of Caring
- Moral conflict
- Standards of Moral Behaviour
- School and Class Rules

4.4.7 Content Area - Communication and Interaction (CAI)
- Basic Processes in Communication
- Obstacles to Communication
- Communication across the Region
- Social Media
- Technology and Education
- Television and Local Culture
- Early Means vs. Modern Technology

4.4.8 Content Area - Sustainability of the Environment (SE)
- Environmental Degradation
- Improving Quality of Life
- Greening the Environment
- Global Warming and Effects
- Earthquakes and Volcanoes
- Weather and Consequences

In order for students to manipulate and apply content knowledge, there must be consideration given to the processes and skills that will enhance said application and manipulation.

The proceeding chapters deal with cognitive, affective and psychomotor processes that support this aspect of assessment.

5. DIMENSION 4 – COGNITIVE PROCESSES

The assessment items at the primary level should assess students' abilities to:

- demonstrate their knowledge
- apply what they have learned
- solve problems
- reason through analysis and logical and critical thinking

Knowing, applying and reasoning are three cognitive domains that describe a range of thinking skills that students should be performing as they engage with the subject content.

The domains are parallel across the grades, but the degree of emphasis varies depending in the particular grade level.

Knowing

This domain assesses students' knowledge of facts, relationship, processes, concepts and use of equipment.   Once the students grasp accurate factual information, they can then develop a familiarity with the concepts and gain competence in employing the various skills involved in handling the content areas. As students develop a wide knowledge base, the greater is their potential for dealing with increasingly complex problem-solving situations.

Table. 5 Examples of Cognitive Skills that link the Knowing Domain to Content Areas

Procedure	Activity
Recall / Recognise	Recall definitions, terminology, number properties etc.; identify or state facts, relationships, and concepts; identify specific the characteristics; recognise and use subject-specific vocabulary, symbols, abbreviations, units, scales and equipment.
Classify / Order	Classify numbers, quantities, shapes, groups,
Describe	Describe or identify descriptions of properties, structures, and functions of organisms or materials; describe relationships among organisms, groups, materials, processes, etc.
Provide Examples	Provide or identify examples of organisms, materials, and processes that possess certain specified characteristics;
Compute	Carry out straightforward computations
Retrieve	Retrieve information from graphs, tables, texts, or other sources
Measure	Use measuring instruments; and choose appropriate units of Measurement

Applying

This domain focuses on students' ability to problem solve by applying knowledge and conceptual understanding. The assessment items may be set in a real-world context or be of an abstract nature.

Table. 6 Examples of Cognitive Skills that link the Applying Domain to Content Areas

Procedure	*Activity*
Determine	Determine efficient/appropriate operations, strategies, and tools for solving problems
Represent / Model	Display data in tables or graphs; create equations, inequalities, geometric figures, or diagrams that model problem situations; generate equivalent representations for a given relationship
Implement	Implement strategies and operations to solve problems involving familiar concepts and procedures.

Reasoning

In the reasoning domain, students are challenged to extend their understandings to new situations. In contrast to the more direct applications of facts and concepts required by the applying domain, items in the reasoning domain involve unfamiliar or more complicated contexts. Such items may involve utilizing more than one strategy or procedure. The cognitive skills involved when thinking about solving complex or novel problems are listed in the table on the following page.

Table 7. Examples of Cognitive Skills that link The Reasoning Domain to the Content Areas

Procedure	*Activity*
Analyse	Identify the elements of a problem and use relevant information, concepts, relationships, and data patterns to answer questions and solve problems.
Integrate/Synthesize	Answer questions that require consideration of a number of different factors or related concept
Hypothesize/Predict	Formulate questions that can be answered by investigation and predict results of an investigation given information about the design
Draw Conclusions	Make valid inferences on the basis of information and evidence
Generalize	Make statements that represent relationships in more widely applicable terms.\
Justify	Provide arguments to support a strategy or solution

Examples of the taxonomies that can be used to assist in the design of assessments that touch all three domains can be found at Appendix A.

6. DIMENSION 5 – AFFECTIVE PROCESSES

Affective Processes relate to students' attitudes, emotions, values, and feelings.   These processes are described under the affective domain developed by Krathwohl, Bloom & Masia (1973). An awareness of the affective processes can enhance an individual student's approach to learning as well as have an impact on cognitive learning.   Affective processes relate to the perceptions individual students have of themselves, their value and roles in the teaching-learning transaction.

Assessing affective processes can provide invaluable data when assessing students' level of interest and this in turn can inform the design of special interventions to assist students with low motivation levels.   In addition, teachers can adjust their unit/ lesson activities based on the needs of the students.

It is highly recommended that the affective processes be assessed during instruction so as to monitor changes in attitudes and feelings in real time. The affective processes assessed should relate to the explicit and implicit values, beliefs, attitudes, and dispositions that are the intended outcomes of the OECS Harmonised Curriculum which is bolstered by the associated learning standards.

The Affective processes are an important feature in the development of 21st century skills, especially those skills dealing with communication, collaboration and creativity.

The five major categories of affective processes are listed in the table below in order of increasing complexity:

Table 8: Examples of Affective Processes

Affective process	Student Response
Receiving Phenomena	Awareness, willingness to hear, selected attention.
Responding to Phenomena	Active participation on the part of the learners. Attend and react to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation).
Valuing	The worth or value a person attaches to a particular object, phenomenon or behaviour. This ranges from simple acceptance to the more complex state of commitment.
Organization	Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating a unique value system.
Internalising Values (Characterization)	Has a value system that controls their behaviour. The behaviour is pervasive, consistent, predictable, and most important characteristic of the learner.

In addition to the Affective Processes, consideration should also be given to Psychomotor processes. The Psychomotor Domain is skill based and refers to the learning of skills. Physical skills are the ability to move, act, or manually manipulate the body to perform a physical movement. Development of these skills is critical to the students' preparation for everyday living. These skills require practice and are measured in terms of speed, precision, distance, procedures, or techniques in execution.

The development of the learner's psychomotor domain is necessary for fostering creativity. El-Sayed and El-Sayed (2012) argue that psychomotor abilities not only facilitate the learner's practices but also motivate the learner to try different alternatives. Further, they stress the development of mastery in the psychomotor domain skills can lead to a lower level of frustration, a higher level of motivation, and ultimately a higher desire and ability to innovate and create among students.

The five categories of the Psychomotor Domain model developed by Dave in 1970 are listed in the table below.

Table 9. Examples of Psychomotor categories and related activities

Category	*Activity*
Imitation	Observing and patterning behavior after someone else. Performance may be of low quality.
Manipulation	Being able to perform certain actions by memory or following instructions.
Precision	Refining, becoming more exact. Performing a skill within a high degree of precision
Articulation	Coordinating and adapting a series of actions to achieve harmony and internal consistency.
Naturalization	Mastering a high level performance until it become second-nature or natural, without needing to think much about it.

SECTION B
APPLYING THE ASSESSMENT FRAMEWORK

7. INFORMAL VS. FORMAL ASSESSMENT

Assessment is an integral part of teaching and learning. For this reason, assessment should be part of every lesson and teachers should plan assessment activities to complement learning activities.

Together the informal daily assessment and a formal Programme of Assessment should be used to monitor learner progress through the school year. Continuous assessment through informal daily assessment and the formal Programme of Assessment should be used to:

- develop learners' knowledge, skills and values;
- assess learners' strengths and weaknesses;
- provide additional support to learners;
- revisit or revise certain sections of the curriculum; and
- motivate and encourage learners.

Daily assessment

Learner progress should be monitored during learning activities. This informal daily monitoring of progress can be done through question and answer sessions; short assessment tasks completed during the lesson by individuals, pairs or groups or homework exercises.

Teachers' lesson planning should consider which assessment tasks will be used to informally assess learner progress. Individual learners, groups of learners or teachers can mark these assessment tasks. Self-assessment, peer assessment and group assessment actively involves learners in assessment. This is important as it allows learners to learn from and reflect on their own performance.

The results of the informal daily assessment tasks are not formally recorded unless the teacher wishes to do so. In such instances, a simple checklist may be used to record this assessment. However, teachers may use the learners' performance in these assessment tasks to provide verbal or written feedback to learners, the School Management Team and parents. This is particularly important if barriers to learning or poor levels of participation are encountered.

Active Learning and Assessment

Today's classrooms are changing. The effort is now focused on creating learning environments in which the student is engaged and motivated, even before actual learning begins. Students are encouraged to merge their prior knowledge with new information and get actively involved in their learning as they apply their knowledge to new situations. This approach is known as Active Learning, or AL, and is a process whereby learners engage in activities e.g. reading, writing, discussion, and problem solving that promote analysis, synthesis and evaluation of subject. This approach is pairs well with a continuous assessment system.

Active Learning strategies shown in the accompanying table can be applied at different stages of the lesson. The strategies, suggested by Jennifer Barnett (2017), can be used when planning lessons where active learning and continuous formative assessment are the dominant features.

Table 10. Active Learning Techniques for Planning Lessons

Before the Lesson (Preview Techniques)	During the Lesson	After the Lesson
Mega Listenenrs	Think Aloud	Retell
ABC Brainstorming	Talk to the Text	Discussion Web
Anticipation Guide	Coding the Text	Paired Summarizing
Table Talk	Jot Chart	Exit Cards
Pre-reading Plan	3-2-1 List 3 details, 2 questions, 1 connection	Facts in Five
Concept/Semantic maps	Read-Talk-Write	
Corners	Think-Pair-Share	
List-Group-Label	Mega Listeners	
PReP – Prompt, Reflect, Present	Jigsaw Discussion	
	Pause Procedure	

Daily assessments can be planned in advance utilising the Standard-based Assessment Form Template shown at Appendix B.

Programme of Assessment

It is strongly recommended that teachers develop a year-long formal Programme of Assessment for each subject and grade level. The marks achieved in each assessment task in the formal Programme of Assessment can be submitted as the internal continuous assessment mark. They may also be included in CPEA portfolios as well as in formal reports to parents and school administration teams. A sample Programme of Assessment Table is shown below.

Table 11. Number of assessment tasks which make up the Programme of Assessment by subject in Grade 2

SUBJECTS	TERM 1	TERM 2	TERM 3	TOTAL
Language Arts	5*	5	4*	14
Mathematics	5*	5	4*	14
Science and Technology	4*	4	3*	11
Social Studies	3*	3	3*	9

One of these assessments should be summative

Two of the assessment tasks for all subjects should be tests written under controlled conditions. Detailed mark schemes should be prepared for all formal assessments.

Formal assessment structure should reflect previous and current Grade Level standards in a ratio of **Previous Grade Standards 10%: Current Grade Standards 90%.**

Cognitive Levels of Questions / Tasks

The assessment items must require students to complete tasks that require fact and procedural knowledge, conceptual knowledge, as well as strategic reasoning. Level one questions/ tasks require recall of information, names, definitions, or the steps in a procedure.

Level two questions/ tasks require some degree of comprehension to answer correctly. Level three questions/ tasks go beyond comprehension to higher order thinking skills, such as applications and problem solving. It is recommended that all assessments provide questions/ tasks at all three levels where possible.

At the lower grades, knowledge, procedural and comprehension tasks should dominate, with lesser emphasis placed on application and problem-solving. However, this arrangement should transform in the higher grade levels so that application and analysis along with problem-solving tasks dominate in the assessments.

Table 12. Suggested Levels of Complexity

Grades 1 -3	%	Grades 4 – 6	%
Knowledge/ Procedures	30 – 40	Knowledge / Procedures	20 – 30
Comprehension	40 – 50	Comprehension	40 – 50
Application / Problem-solving	10 – 20	Application / Problem-solving	30 – 40

8. MULTIGRADE FORMATIVE ASSESSMENTS

Constructive Quizzes

Quizzes are commonly used for formative assessments, but they are much more beneficial if students do not have to wait to receive feedback on their performance. To provide immediate feedback without the worry of students grading their own papers and changing answers or having students exchange their papers, use the following process.

Have students fold their notebook paper in half vertically and number along the left margin and again in the middle. They take the multiple choice test and write their answers on the left half of the paper. They copy their answers to the right half and tear the halves apart before handing their quiz in to be graded.

Name			
1. D		1. D	
2. A		2. A	
3. C		3. C	
4. A		4. A	
5. D		5. D	
6. B		6. B	
7. B		7. B	
8. C		8. C	
9. D		9. D	
10. A		10. A	

After all papers have been collected, the teacher can go over the answers to the quiz and students can readily score their own papers. In this way, students can see what they scored on the quiz, as well as contribute to a class discussion about why answers were right or wrong.

Peer and Self-Assessment

Peer and self-assessment help to create a learning community within the classroom. When students are involved in criteria and goal setting, self-evaluation becomes a logical step in the learning process. Students become metacognitive and are more aware of their personal strengths and weaknesses.

Cause and Effect

The Cause and Effect Map can be used to show relationships between events and their outcomes. It is very useful when applied to literature activities, social studies discussions and science experiments.

CAUSE

EFFECT
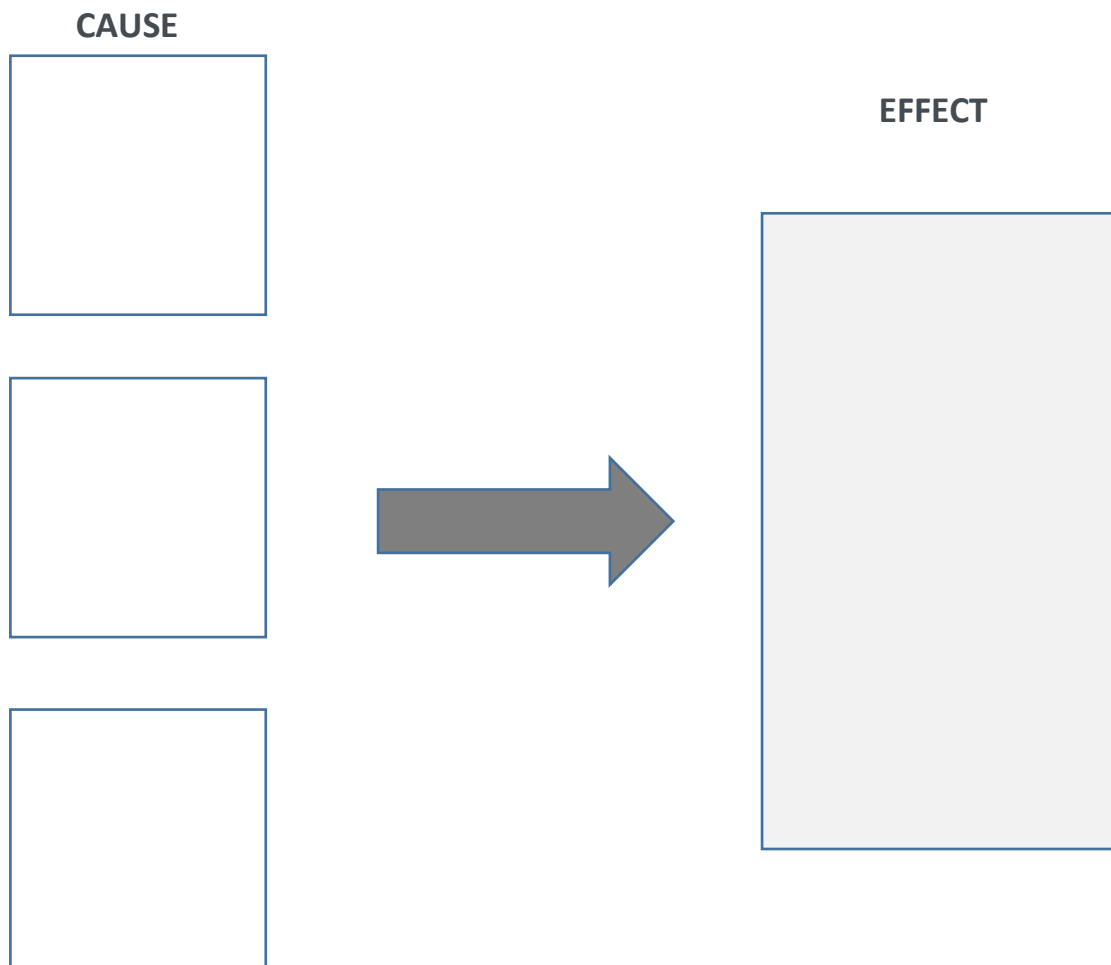
Fishbone Organiser

The strategy helps students to visually identify the main idea and supporting details. It also assists students in isolating specific information, thereby increasing their understanding of relevance in writing. Students also develop the skill of organizing material logically.

As a post-lesson activity, ask students to determine the main idea and write it on the spine of the fish. Then instruct them to write the details that support the main idea inside the divisions made by the other bones.

WHO?   WHERE?   WHEN?

(DID) WHAT?   WHY?   HOW?
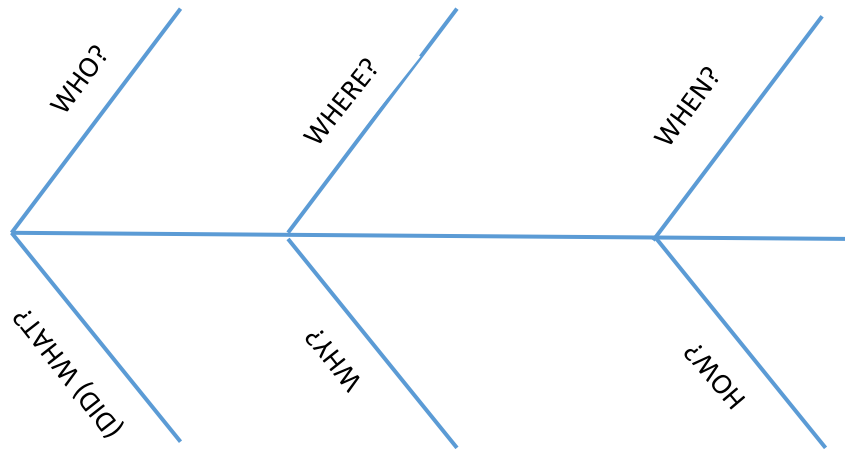
9. THE PLACE OF CPEA® IN THE ASSESSMENT FRAMEWORK

The Caribbean Primary Exit Assessment (CPEA®) is an assessment of the literacies required by all pupils exiting the primary school system.   It was developed by CXC to:

- assist with the quality measures in the primary education system
- offer a common measure across schools and territories in the region
- To meet the calls for regional assessment at the primary level
-

The CPEA® assesses multiple literacies including, inter alia, Language, Mathematical, Scientific and Civic literacies.

The assessment is comprised of an internal component worth 40 % of the aggregate assessment mark, and an external component which accounts for 60% of the aggregate examination mark.

The internal component of the Caribbean Primary Exit Assessment (CPEA) is the school-based assessment (SBA). This component gives both teachers and pupils the opportunity to use assessment as a tool of learning. It requires pupils to complete tasks such as projects, book reports, teacher-developed tests, pupil-developed tests and writing portfolios. In engaging these activities, pupils reflect on their own learning and decide what tasks they should complete next and how they should do these tasks; their teachers assess the progress which students make and offer more guidance.

The aim of the CPEA project was to assist pupils to develop practical skills in researching and analysing real life experiences and to find answers to related questions. This would be done through sharing and collaborating with other members of a team and other persons of similar interest. It was envisaged that through this exercise the pupils would have the opportunity, not only to develop the requisite research skills for the future, but also to develop those interpersonal and intrapersonal skills needed to be good citizens.

The principal aim of the CPEA Book Report and Portfolio respectively is to motivate students to read and consequently respond creatively to literature AND to introduce students to the elements of the four types of writing (Narrative, Descriptive, Expository and Persuasive) and develop their skills in process writing through teacher feedback and self-assessment.

The external component of the CPEA® is comprised of four (4) tests. These tests contain a blend of multiple-choice items and constructed-response questions. The tests measure students' progress in Language, Mathematical, Scientific, and Civic literacies.

Main Learning Outcomes (goals/objectives) of CPEA

- To analyse real world experiences and to find answers to related questions
- To work in teams and to collaborate with persons of similar interests
- To practise interpersonal and intrapersonal behaviours as observed among good citizens
- To report and present opinions, information and findings:
    - in spoken word
    - in written text
    - using diagrams, charts, pictures
- To acquire knowledge and skills as defined by the appropriate literacies

Can-do Skills

As part of the CPEA programme, students are expected participate in activities that provide evidence on the status of their Can-do Skills. These activities are normally planned, designed and constructed by classroom teachers. It follows then that these tests (tasks)
- are designed under a formative assessment framework
- are used to collect evidence of skills pupils have mastered
- are planned, designed and constructed by classroom teachers
- enable pupils to use the vocabulary of the specific subject literacies
- provide regular practise of key skills
- identify aspects of a topic that pupils find difficult
- assess varying levels of skills
- identify what the teacher should do next to enhance the progress of the pupil
- identify what the pupil should do next to enhance his or her progress, competence and confidence

CPEA Standards for Can-do Skills

LANGUAGE
- Read for different purposes such as getting information, for learning and for enjoyment
- Interpret the use of figurative language in poetry and other literary selections

MATHEMATICS
- Solve problems involving the four basic operations of addition, subtraction, multiplication and division
- Read and interpret data presented in tables, charts and graphs

CIVICS
- Identify the major resources of the Caribbean region
- Name and locate the major towns in the Caribbean
- Identify the early groups of people who came to the Caribbean

SCIENCE
- Classify flowering plants according to the type of pollination they undergo
- Identify forces at work in common situations
- Classify resources as renewable and non-renewable

Objectives for Book Report and Writing Portfolio

- Book Report
    - To motivate students to read and respond creatively to literature

- Writing Portfolio
    - To introduce students to the elements of the four types of writing
        - Narrative
        - Descriptive
        - Expository
        - Persuasive

CPEA Standards as They Relate to Literacies

LANGUAGE
- The candidate has the ability to read for knowledge, information and pleasure, (listen attentively and speak clearly and appropriately, and write coherently for everyday purposes).
- The candidate understands, uses and appreciates all forms of communication — inclusive of body language, pictures, diagrams, maps, models, objects, texts.
- The candidate thinks critically about the written and spoken words.

MATHEMATICS
- The candidate can perform basic calculations taken from a range of competencies.
- The candidate understands the role and function of mathematics in everyday life and can use mathematics to solve authentic problems.
- The candidate can apply and adapt mathematical knowledge and can use a variety of problem solving strategies.

SCIENCE
- The candidate understands basic scientific concepts and processes.
- The candidate has the ability to describe, explain and predict certain natural phenomena commonly encountered in the home, the classroom and the community.
- The candidate is able to ask questions and determine answers which may be obtained by analysing and reflecting on everyday experiences or by conducting simple experiments.

CIVICS
- The candidate appreciates the role of the family in the development of self. Community, and country.
- The candidate appreciates diversity as the basis of human existence.
- The candidate understands Government and Governance structures and the responsibility of citizens.
- The candidate understands the major economic activities of the region and their impact on the environment.

The foregoing standards align with the OECS Learning Standards at several levels. The content supporting the standards is introduced at Grade 1 in the Language Arts curriculum and then is spiraled up to Grade 6. For Mathematics and Science and Technology, students gain familiarity with the content supporting the standards from Grades 2 and 3. The following matrix indicates the introduction and reinforcement points for the alignment of the CPEA standards with a sample of respective subject curricula content.

Table 12. OECS Curricula and CPEA Standards Matrix

LITERACY	CPEA STANDARDS	OECS CURRICULA CONTENT	GRADE LEVELS					
			1	2	3	4	5	6
LANGUAGE	The candidate has the ability to read for knowledge, information and pleasure, (listen attentively and speak clearly and appropriately, and write coherently for everyday purposes).	- *Listening and speaking to interact socially*	◆	✓	✓	✓	✓	✓
		- *Listening for enjoyment and speaking to express personal response*	◆	✓	✓	✓	✓	✓
		- *Listening and speaking to develop abilities for oral, interpersonal communication and for school / academic purposes*	◆	✓	✓	✓	✓	✓
		- *Listen to get and speak to give information*	◆	✓	✓	✓	✓	✓
		- *Word recognition and decoding strategies*	◆	✓	✓	✓	✓	✓
		- *Understanding and responding to texts and developing critical thinking*	◆	✓	✓	✓	✓	✓
		- *Attitudes for effective communication*	◆	✓	✓	✓	✓	✓
		- *Writing for different purposes*	◆	✓	✓	✓	✓	✓
	The candidate understands, uses and appreciates all forms of communication - inclusive of body language, pictures, diagrams, maps, models, objects, texts.	- *Understanding about texts – Organisation and Context*			◆	✓	✓	✓
		- *Constructing meaning critical reading and thinking; personal response to texts*			◆	✓	✓	✓
		- *Reading and Writing connections*		◆	✓	✓		
	The candidate thinks critically about the written and spoken words.	- *Listening and speaking to evaluate concepts*		◆	✓	✓	✓	✓
		- *Constructing meaning: critical reading and thinking*		◆	✓	✓	✓	✓

Key: ◆ - Concept introduced

✓ - Concept reinforced and expanded

LITERACY	CPEA STANDARDS	OECS CURRICULA CONTENT	GRADE LEVELS					
			1	2	3	4	5	6
MATHEMATICS	The candidate can perform basic calculations taken from a range of competencies.	- *Create and solve real life problems involving addition and subtraction with numbers and involving multiplication and division*			◆	✓	✓	✓
		- *Discuss and use a variety of strategies to solve simple problems involving multiplication and division of numbers in real life settings*		◆	✓	✓	✓	✓
	The candidate understands the role and function of mathematics in everyday life and can use mathematics to solve authentic problems.	- *Create and solve real life problems involving basic standard units of capacity*			◆	✓	✓	✓
		- *Estimate and accurately measure mass using standard units*		◆	✓	✓	✓	✓
		- *Use and write fractions in a variety of ways in real life situations*		◆	✓	✓	✓	✓
	The candidate can apply and adapt mathematical knowledge and can use a variety of problem solving strategies.	- *Tell time in different ways appropriate to age; create and solve time-related problems*		◆	✓	✓	✓	✓
		- *Create and solve problems involving money with various amounts*		◆	✓	✓	✓	✓
		- *Use, construct and interpret simple pictographs, charts and tables*		◆	✓	✓	✓	✓

Key: ◆ - Concept introduced

✓ - Concept reinforced and expanded

LITERACY	CPEA STANDARDS	OECS CURRICULA CONTENT	GRADE LEVELS					
			1	2	3	4	5	6
SCIENCE	The candidate understands basic scientific concepts and processes.	- Note the weather changes and it affects people's activities		◆	✓	✓	✓	✓
		- Understand the concept of resources, using soils, air and water as examples		◆				
		- Discuss the role of humans in causing pollution of the environment			◆	✓	✓	✓
		- Realize the conditions needed to support life		◆	✓	✓	✓	✓
		- Recognize that animals (including human beings) and plants are living things		◆	✓	✓	✓	✓
		- Recognize that plants and animals depend on each other for their survival and become aware of feeding relationships among animals			◆	✓	✓	✓
		- Identify the structure and function of the major systems of plants and animals			◆	✓	✓	✓
		- Develop an awareness of heat, light, sound, electricity in the context of changes taking place				◆	✓	✓
		- Develop awareness of forces exerted by their own bodies and other objects				◆	✓	✓
	The candidate has the ability to describe, explain and predict certain natural phenomena commonly encountered in the home, the classroom and the community.	- Explain the differences between climate and weather			◆	✓	✓	✓
		- Investigate and describe the ecosystem of the local and regional environment				◆	✓	✓
		- Understand the impact of natural disasters and human activities on the balance of the environment/ecosystem				◆	✓	✓
		- Explain that living things compete for food and space in the environment			◆	✓	✓	✓
		- Appreciate that plants and animals undergo changes from earliest stages to maturity				◆	✓	✓
		- Describe the function of the major systems of plants and animals			◆	✓	✓	✓
		- Investigate the ways in which different forces e.g. magnetism, static electricity, muscular force, gravitational force, can change the speed and direction of a moving object					◆	✓
		- Investigate factors that affect the stability of structures					◆	✓
		- Investigate changes in materials and matter					◆	✓

LITERACY	CPEA STANDARDS	OECS CURRICULA CONTENT	GRADE LEVELS					
			1	2	3	4	5	6
SCIENCE	The candidate is able to ask questions and determine answers which may be obtained by analysing and reflecting on everyday experiences or by conducting simple experiments.	- *Appreciate that technology can be utilized in growth and propagation of plants (grafting, fertilizers, pruning)*					◆	✓
		- *Appreciate the importance of technology in the functioning of the major systems in human beings*			◆	✓	◆	✓
		- *Describe the visible effects of forces acting on a variety of everyday objects*				◆	✓	✓
		- *Research the use of wheels in a variety of situations and discuss their impact*					✓	✓
		- *Develop the capability to alter the shape and strength of structures to minimize the effect of forces*					◆	✓
		- *Appreciate the changes taking place in at least one production process used in the home and one in industry*					◆	✓

Key: ◆ - Concept introduced

✓ - Concept reinforced and expanded

LITERACY	CPEA STANDARDS	OECS CURRICULA CONTENT	GRADE LEVELS					
			1	2	3	4	5	6
CIVICS	The candidate appreciates the role of the family in the development of self, Community, and country.	- *Understand self, community and various types of family*	◆	✓	✓	✓	✓	✓
		- *Understand the roles and functions of the family and other community groups*		◆	✓	✓	✓	✓
	The candidate appreciates diversity as the basis of human existence.	- *Encourage respect for differences of opinion, lifestyle, and cultural practices*	◆	✓	✓	✓	✓	✓
		- *Develop an appreciation for one's own cultural heritage and cultivate tolerance for the cultural heritage of others*			◆	✓	✓	✓
		- *Accept responsibility and be accountable for the effects of personal decisions and actions on self, others, and the environment*			◆	✓	✓	✓
	The candidate understands Government and Governance structures and the responsibility of citizens.	- *Comprehend the system of governance in the territory/region*				◆	✓	✓
		- *Understand the source of power and authority within a state*					◆	✓
		- *Understand how government can be kept responsive to citizens*					◆	✓
		- *Understand the creation, maintenance and change of government*				◆	✓	✓
		- *Demonstrate a sense of commitment to the development of the community*					◆	✓
		- *Exhibit good citizenship practices in local and regional contexts*				◆	✓	✓
		- *Develop a sense of national identity and pride*	◆	✓	✓	✓	✓	✓
		- *Develop the skills necessary to be productive and reflective members of society*					◆	✓
	The candidate understands the major economic activities of the region and their impact on the environment.	- *Develop an awareness of the major economic activities within the region*			◆	✓	✓	✓
		- *Understand the impact of the major activities on the environment*				◆	✓	✓
		- *Appreciate the need to engage in activities to promote sustainable development*				◆	✓	✓

Key: ◆ - Concept introduced

✓ - Concept reinforced and expanded

Design of CPEA External Tests

The Multiple-Choice section of the external component is weighted for the respective literacies as follows:

Table 13. CPEA Literacies Weighting

Literacy	Profile	Weighting (%)
Language	Reading	20
	Understanding	60
	Thinking Critically	20
Mathematical	Knowledge & Comprehension	40
	Application	32
	Analysis & Synthesis	28
Scientific	Understanding	40
	Application	36
	Research Skills	24

Concepts Assessed

The following concepts are assessed in the external component of the CPEA:

Table 14. Concepts Assessed by CPEA

Literacy	Content Area	Concept
Language	Language Arts	- Listening and Speaking - Reading and Viewing - Writing
Mathematical	Mathematics	- Number Sense - Fractions - Decimals - Percentages - Ratio/Proportion - Measurement - Geometry - Data Handling
Scientific	Science and Technology	- Earth Science - Life Science - Physical Science
Civic	Social Studies	- Self, Family, Community - Diversity of Human Existence - Government and Governance - Life Skills - Economy and Sustainability

Samples of unit assessments that can be utilized to reinforce related learning standards and provide students with opportunities to develop artefacts for their Student Portfolio for the CPEA can be found at Appendix C. The unit assessments can be formulated using the Unit Assessment Template shown at Appendix B.

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APPENDIX A –
THE TAXONOMIES

BLOOM'S TAXONOMY

Bloom's taxonomy (created in 1956) is easy to understand and is widely used today. Three domains of educational activities or learning were identified in 1956 by a committee led by Dr. Benjamin Bloom –

- The Cognitive Domain – mental skills (*Knowledge*)
- The Affective Domain – growth in feelings and emotional areas (*Attitude*)
- The Psychomotor Domain – manual or physical skills (*Skills*)

The Cognitive domain deals with how students acquire, process and use knowledge. The original categories were revised in the mid-nineties and the category names changed from nouns to verb forms. Table 14 below lists the categories of the revised taxonomy and verbs that can be used in designing learning objectives. The original categories are shown in brackets.

The Affective domain deals with students' attitudes, values, and emotions. It is the "valuing" domain. Table 15 below outlines the five levels in this domain and verbs that can be used to write learning objectives.

Skills in the Psychomotor domain range from manual tasks, such as tracing a diagram or washing a car, to more complex tasks, like dancing or operating specialised machinery. The categories of the taxonomy created by Dave (1970) as well as the verbs that can be used to design learning objectives are shown in Table 16 below.

Table 15. Revised Cognitive Domain

Cognitive Domain Levels					
--------------------Increasing Complexity-----------------→					
Remember (Knowledge)	**Understand (Comprehension)**	**Apply (Application)**	**Analyze (Analysis)**	**Evaluate (Synthesis)**	**Create (Evaluation)**
Retrieve relevant knowledge from long-term memory	Construct meaning from instructional messages, including oral, written, and graphic communication	Carry out or use a procedure in a given situation	Break material into its constituent parts and determine how the parts relate to one another and to an overall structure or purpose	Make judgments based on criteria and standards	Put elements together to form a coherent or functional whole; reorganize elements into a new pattern or structure
Arrange Cite Choose Count Define Describe Duplicate Identify Label List Locate Match Name Outline Recall Recite Recognize Record Repeat Restate Review Select State	Abstract Associate Categorize Clarify Classify Compare Conclude Contrast Exemplify Explain Extrapolate Generalize Illustrate Infer Interpret Map Match Paraphrase Predict Represent Summarize Translate	Apply Carry out Demonstrate Determine Develop Employ Execute Implement Operate Show Sketch Solve Use	Analyze Attribute Deconstruct Differentiate Discriminate Distinguish Focus Organize Outline Parse Select Structure	Argue Assess Check Conclude Coordinate Criticize Critique Detect Evaluate Judge Justify Monitor Prioritize Rank Rate Recommend Test	Assemble Build Combine Compose Construct Create Design Draft Formulate Generate Hypothesize Integrate Plan

Retrieved from: https:www.emporia.edu/studentfile/learning-and- assessment/guide/domains.html

Table 16. Affective Domain

Affective Domain Levels				
-------------------Increasing Complexity----------------→				
Receiving	**Responding**	**Valuing**	**Organization**	**Characterization**
Openness to new information or experiences	Active participation in, interaction with, or response to new information or experiences	Attaching value or worth to new information or experiences	Incorporating new information or experiences into existing value system	Full integration/ internalization resulting in new and consistent attitudes, beliefs, and/or behaviors
Ask Choose Describe Follow Give Hold Identify Locate Name Select Reply Use	Answer Assist Aid Compile Conform Discuss Greet Help Label Perform Practice Present Read Recite Report Select Tell Write	Complete Demonstrate Differentiate Explain Follow Form Initiate Join Justify Propose Read Share Study Work	Adhere Alter Arrange Combine Compare Complete Defend Formulate Generalize Identify Integrate Modify Order Organize Prepare Relate Synthesize	Act Discriminate Display Influence Listen Modify Perform Practice Propose Qualify Question Revise Serve Solve Verify Use

Retrieved from: https:www.emporia.edu/studentfile/learning-and- assessment/guide/domains.html

Table 17. Psychomotor Domain

Psychomotor Domain Levels				
-------------------Increasing Complexity----------------→				
Imitation	**Manipulation**	**Precision**	**Articulation**	**Naturalization**
Observing and copying another's action/skill	Reproducing action/skill through instruction	Accurately executing action/skill on own	Integrating multiple actions/skills and performing consistently	Naturally and automatically performing actions/skills at high level
Adhere Copy Follow Repeat Replicate	Build Execute Implement Perform Recreate	Calibrate Complete Control Demonstrate Perfect Show	Adapt Combine Construct Coordinate Develop Formulate Integrate Master Modify	Design Invent Manage Project Specify

Retrieved from: https:www.emporia.edu/studentfile/learning-and- assessment/guide/domains.html

APPENDIX B –
UNIT AND LESSON ASSESSMENT TEMPLATES

STANDARDS-BASED ASSESSMENT FORM TEMPLATE

<table>
<tr><td colspan="4">Standards-based Assessment Form</td></tr>
<tr><td colspan="2">SCHOOL:</td><td colspan="2">DISTRICT:</td></tr>
<tr><td>SUBJECT:</td><td>GRADE LEVEL:</td><td colspan="2">CLASS NAME:</td></tr>
<tr><td colspan="2">UNIT TITLE:</td><td colspan="2">TOPIC:</td></tr>
<tr><td colspan="4">ASSESSMENT DOMAIN (Literacy Addressed):</td></tr>
<tr><td colspan="4">Focus Areas:</td></tr>
<tr><td colspan="4">CONTENT AREA(S):</td></tr>
<tr><td colspan="4">ASSOCIATED STANDARDS:</td></tr>
<tr><td colspan="2">CONTENT STANDARDS</td><td colspan="2">PERFORMANCE STANDARDS (EVIDENCE)</td></tr>
<tr><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td colspan="4">COGNITIVE PROCESS(ES) TO BE ADDRESSED:</td></tr>
<tr><td colspan="4">AFFECTIVE AND PSYCHOMOTOR PROCESS(ES) TO BE ADDRESSED:</td></tr>
<tr><td colspan="2">TYPE OF ASSESSMENT:</td><td colspan="2">DURATION:</td></tr>
<tr><td colspan="4">RESOURCES REQUIRED (Select all that apply):

☐ General Rubric (GR)   ☐ Observation Chart(OBS)   ☐Checklist (CK)   ☐Worksheet (WKS)

☐Question Paper (QP)   ☐Scale Model(s)(SM)   ☐Answer Booklet (AB)   ☐Task-Specific Rubric(TSR)</td></tr>
</table>

UNIT ASSESSMENT PLAN TEMPLATE

<table>
<tr><th colspan="12">UNIT ASSESSMENT PLAN</th></tr>
<tr><td colspan="5">Unit Title:</td><td colspan="7">Estimated Duration:</td></tr>
<tr>
<td rowspan="3">Content Standards/Performance Standards - Evidence</td>
<td rowspan="3">Instructional Activity</td>
<td colspan="4">Assessment Activity - Student Evidence</td>
<td colspan="6">Scoring Tools Used</td>
</tr>
<tr>
<td rowspan="2">Selected Responses</td>
<td colspan="3">Constructed Responses</td>
<td>OBS</td><td>CK</td><td>QP</td><td>GR</td><td>WS</td><td>TSR</td>
</tr>
<tr>
<td>Product</td><td>Performance</td><td>Process-focused</td>
<td>AB</td><td>Oth.</td><td></td><td></td><td></td><td></td>
</tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
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</table>

APPENDIX C –
UNIT ASSESSMENT EXAMPLES

Subject: Language Arts

Unit Assessment: Persuasive Writing

Cross- Curriculum: Science, Social Studies

Grade: 5

Standards Addressed: **LA.5.WR.PA.2   LA.5.WR.PA.3   LA.5.WR.PS**
                            LA.5.WR.PS.2   LA.5.WR.PS.3   LA.5.WR.GM.2
                            LA.5.R.RP.8   ST.5.LS.FS.1   SS.3.CAI.1

Activity: The Importance of Physical Activity

Purpose: This activity is a post-unit strategy which stresses the writing process and the concept of persuasive writing. Students are required to develop a plan for a persuasive piece utilising a specific template. The teacher then gives descriptive feedback during the process to assist students in editing and refining their work.

This assessment forms part of the requirements of the writing portfolio for the CPEA.

Design: Students are given a topic to research in order to gain facts and evidence from multiple sources. The students are then given an issue and instructed to commence the writing process for a persuasive essay. A template to assist in developing the plan of the essay.

Suggested Issue: *Your best friend does nothing but sits at home and plays video games every day after school and all day during the weekend. Write an essay in which you try to persuade your friend to exercise or participate in some form of physical activity. Use the template to assist you in your planning.*

Title	

<table>
<tr><td rowspan="5">INTRODUCTION</td><td>Attention grabbing sentence (hook)</td></tr>
<tr><td>Background Information
1.</td></tr>
<tr><td>2.</td></tr>
<tr><td>3.</td></tr>
</table>

<table>
<tr><td rowspan="6">SUPPORTING PARAGRAPH 1</td><td>Topic Sentence (REASON 1)</td></tr>
<tr><td>Supporting Sentences</td></tr>
<tr><td>1.</td></tr>
<tr><td>2.</td></tr>
<tr><td>3</td></tr>
<tr><td>Concluding Sentence</td></tr>
</table>

<table>
<tr><td rowspan="6">SUPPORTING PARAGRAPH 2</td><td>Topic Sentence (REASON 2)</td></tr>
<tr><td>Supporting Sentences</td></tr>
<tr><td>1.</td></tr>
<tr><td>2.</td></tr>
<tr><td>3</td></tr>
<tr><td>Concluding Sentence</td></tr>
</table>

<table>
<tr><td rowspan="6">SUPPORTING PARAGRAPH 3</td><td>Topic Sentence (REASON 3)</td></tr>
<tr><td>Supporting Sentences</td></tr>
<tr><td>1.</td></tr>
<tr><td>2.</td></tr>
<tr><td>3</td></tr>
<tr><td>Concluding Sentence</td></tr>
</table>

<table>
<tr><td rowspan="2">CONCLUSION</td><td></td></tr>
<tr><td></td></tr>
</table>

Subject: Mathematics

Unit Assessment: Perimeter and Area

Cross- Curriculum: Language Arts, Social Studies

Grade: 5 or 6

Standards Addressed: MT.5.NS.OS.2   MT.5.NS.OS.8   MT.5.UA.4   MT.5.GT.PS.7
                                    LA.5.R.RC.10   LA.5.R.RC.2   LA.5.WR.PS.1
                                    SS.3.PI.1

Activity: My Dream House

Purpose: This activity reinforces the concepts of area, perimeter and social interaction in Mathematics. Students draw upon their knowledge of measurement as well as their affective and psychomotor skills to complete the project. It allows for the integration of other subjects across the curriculum and places mathematics in a real-world context.

Design: You have decided to redecorate a room in your house.

a) Choose a room to redecorate. Give reasons for your choice.
b) Based on the floor space in the room, determine whether it is cheaper to tile or carpet the floor.
c) Based on the height of the walls, determine whether you should paint the walls or use wallpaper.
d) Submit appropriate drawings and a detailed model of the redecorated room.
e) Present a report explaining why the new design is preferred over the current design of the room. Include all necessary calculations, examples and cost of materials and labour, and any other important factors which affect your decisions.

Subject: Mathematics

Unit Assessment: Fractions

Cross-Curriculum: Language Arts, Social Studies

Grade: 5 or 6

Standards Addressed:	MT.5.NS.UN.1	MT.5.NS.OS.5	MT.3.NS.PR.3
	MT.6.NS.OS.4	MT.6.NS.NP.3	LA.6.WR.PS.1
	LA.6.WR.PS.2	LA.6.WR.GM.1	SS.3.CAI.2

Activity: Create the Problem

Purpose: This formative assessment strategy helps students think about the purpose of performing certain computations and order of operations to solve problems. This activity helps students see ways mathematics can be used in a variety of contexts. It is also very useful in preparing students for writing student-made tests which is a requirement of the CPEA.

Design and Administration: Write a series of equations relating to the unit on index cards. Divide the class into small groups and give each group an equation card with one (1) equation. Students then work in their groups to create stories that match the equation given. The stories (problems) are then peer reviewed by the other class members to determine whether the stories match the equations. Peers can also give direction on how the stories can be changed if they do not match the equations. Teacher then provides descriptive feedback to support the students' efforts.

Possible Equations:	2/3 of 15 = 10	4/5 of 30 = 24
	20% of 40 = 8	30% of 50 = 15

Adapted from: Mathematics Formative Assessment: 75 Practical strategies for linking assessment, instruction, and learning by Page Keeley and Cheryl Rose Tobey © 2011

Subject: Science and Technology

Unit Assessment: Preserving Our Environment

Cross-Curricula: Mathematics, Social Studies, Language Arts

Grade: 2

Standards Addressed: ST.2.LS.ECS.23   ST.2.PS.MM.1   ST.2.STSE.1
                                MT.2.DH.DC.2   MT.2.DH.DR.1   MT.2.NS.OS.1
                                MT.2.NS.OS.6   SS.2.SE.6   SS.2.CR.10

Activity: Do Grade 2 students throw away more recyclable than non-recyclable objects/items?

Task: (i)   Make predictions to answer the question
            (ii)   Use the bins to sort out the garbage for one day. (Note provide gloves)
            (iii) Make a pictograph to display the results
            (iv)   Repeat the activity for a week (Five days)
            (v)   Answer the question and make appropriate recommendations

Note: Students are to create their own bins or containers
        Students must wear gloves during the activity

Contributed by Teachers; Cobham, Herbert, Riley at a Workshop (at West Terrace Primary, Barbados)
Conducted by Dr J. A. Halliday, May 24, 2016

Subject: Social Studies

Unit Assessment: Groups as a Social Unit

Cross-Curricula: Language Arts

Grade: 4

Standards Addressed: **SS.4.PI.1   SS.4.GI.GFM.1   SS.4.GI.GFM.5**
                                  LA.4.WR.PA.13   LA.4.LS.SI.3

Activity: Four Corners

Purpose: This assessment provides an opportunity for students to discuss their ideas with students who have similar ideas. This helps them to clarify their own thinking with others before engaging with other students who have different ideas.

Design and Administration: Four corners Variation 1: To prepare, write statements in a definitive manner. For example, *the wearing of uniforms to school impacts negatively on students*. Before class, record the statements on an interactive white board or project them overhead so students will be able to view the statements. Clear the four corners of the room of tripping hazards. Label each corner of the room with a sign stating strongly agree, agree, disagree and strongly disagree.

Engage the students in the strategy by sharing the first controversial statement. Students may first be required to write a short passage explaining their position on the topic. Then students physically move to the corner of the room that best matches their personal viewpoint.

Four Corners Variation 2: can be adapted into a simple game format that allows all students the opportunity to move around the classroom. For this modification, label the four corners of the room one, two, three and four. Make four slips of paper that are labeled with the corresponding numbers. Have all students go to a corner of the classroom. Draw a numbered slip of paper and ask a question to the given corner. If the students in the corner are able to answer the question correctly, students move around the room to another corner. If the students answered incorrectly, all students in that corner must return to their seats. Play continues until one student wins the game.

Another option is to use the four corners strategy for multiple choice questions. With this option, label each corner A, B, C or D. Ask a question and give four options. Students report to the option they believe is correct. All students who chose the right answer continue to play while others take their seats.