REPUBLIC OF TRINIDAD AND TOBAGO

MINISTRY OF EDUCATION

Primary School Curriculum

Teacher's Guide

CURRICULUM PLANNING AND DEVELOPMENT UNIT

2013

Contents

Introduction

This Teachers' Guide has been created in conjunction with the *Curriculum Guide* and *Teachers' Toolkit* to provide support material for teachers who are implementing the new thematic integrated curriculum.

Section 1: **Teaching and Learning in an Integrated Curriculum**, provides an introduction of the core subjects, as well as a presentation of all of the themes that help to organize the acquisition of content, skills and dispositions for the various subjects. Furthermore, some ideas are suggested that were considered in the planning of units and learning units and learning plans that appear in the Instructional Toolkit.

Section 2: Our Five Considerations present main ideas and some strategies pertaining to five fundamental principles that have been considered in the planning of the units and learning plans provided in the *Teachers' Toolkit*. These considerations are:

- Literacy
- Numeracy
- Differentiated Instruction
- Assessment for Learning
- Integration of Information and Communication Technology (ICT)

In **Section 3**, we present an annotated learning unit and learning plan to provide greater clarity of what to expect in the *Teachers' Toolkit*. Additionally some ideas are presented on how to develop a learning plan.

Section 4 supplies a variety of engaging strategies that support teaching and learning in the new curriculum.

Section 5 offers a glossary of key terms for different subject areas.

It is hoped that this guide will help inspire teachers as they engage in planning instruction that sparks their students' interest and facilitates their learning at all levels of the primary school.

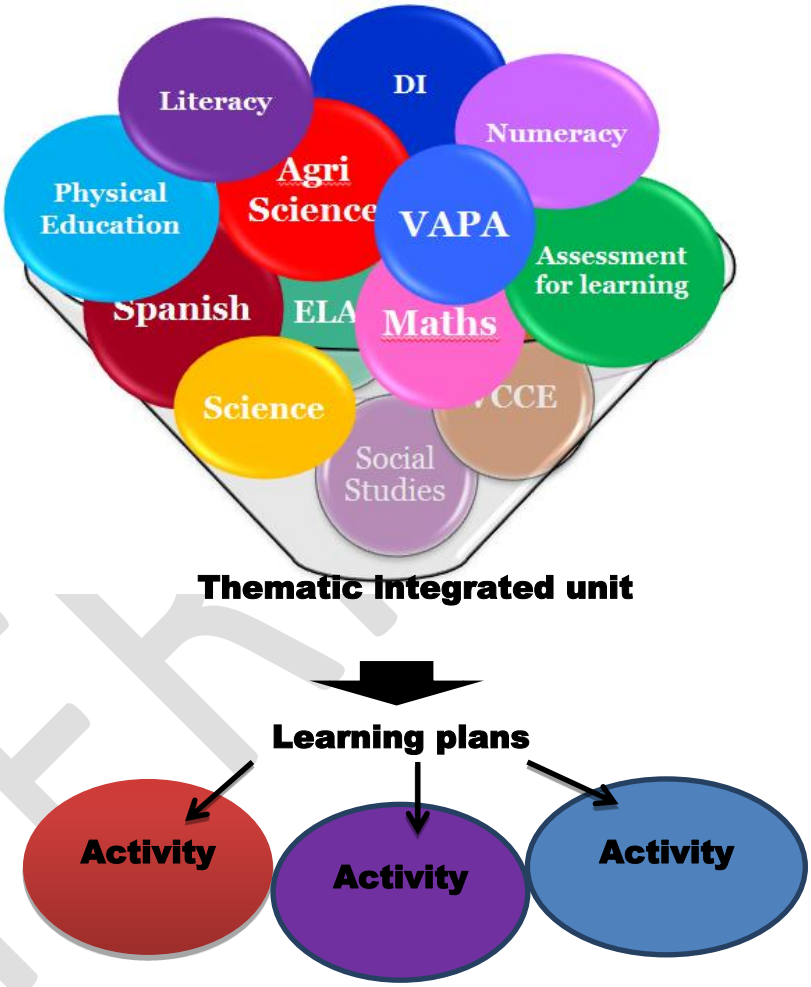
Teaching and Learning in the Thematic Integrated Curriculum

In the context of primary education in Trinidad and Tobago an integrated, thematic curriculum brings a significant shift to teaching and learning and translates educators into a new paradigm.

The Core Subjects

As detailed in the Curriculum Guide, this new curriculum comprises nine core subjects:

- Agricultural Science
- English Language Arts
- Mathematics
- Physical Education
- Science
- Social Studies
- Spanish
- Values, Character and Citizenship Education
- Visual and Performing Arts



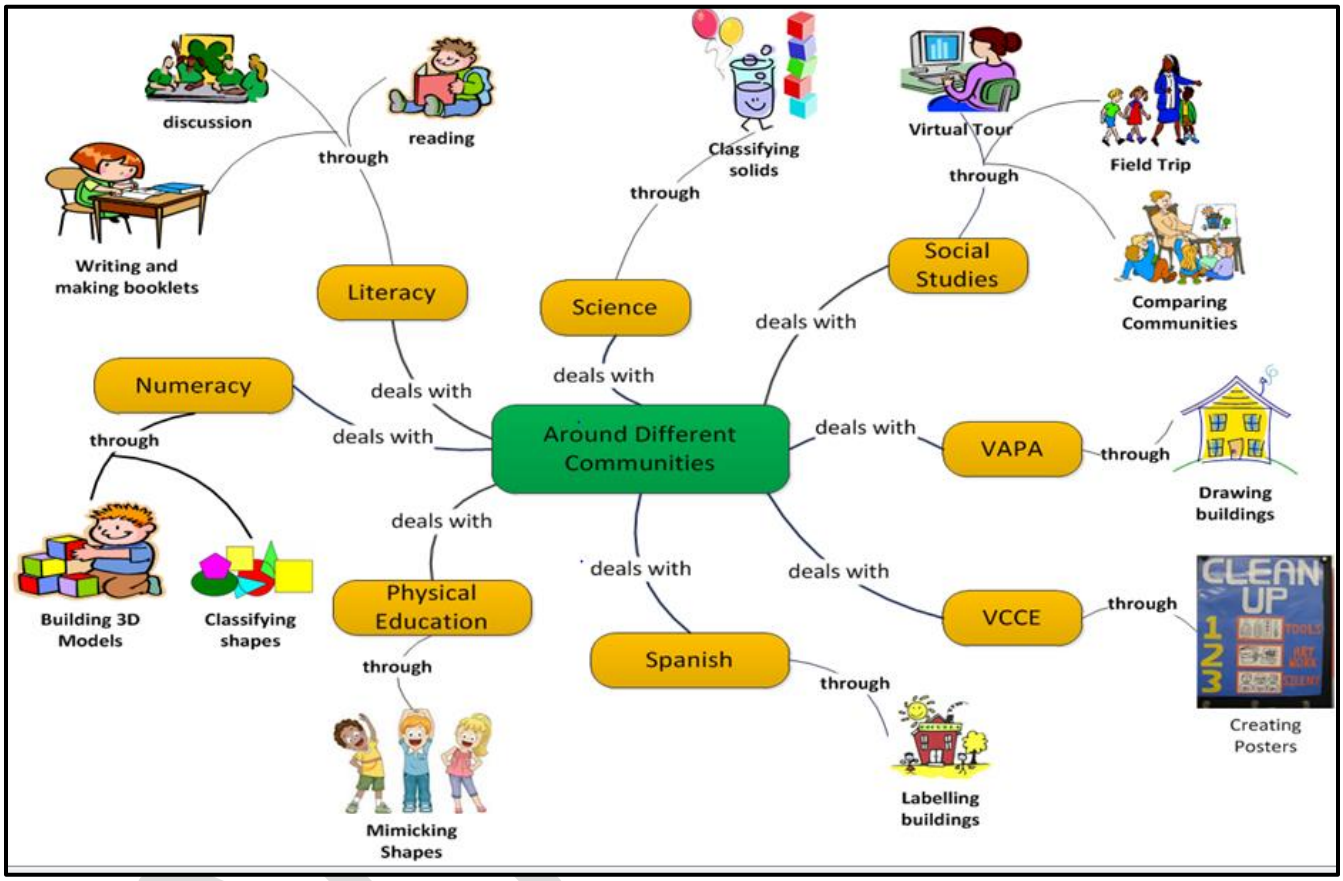
For each subject area, content including concepts and skills that students are expected to acquire, as well as the dispositions they are expected to display have been identified and developmentally sequenced via a series of learning outcomes, all of which are detailed in the *Curriculum Guide*.

The major shift occurs where students will not experience subjects as discrete and separated, but rather within themes which are contextualized and coherently organised and linked to real life situations. Instruction occurs through multi-disciplinary integrated Thematic Units within which the learning outcomes of the core curriculum are carefully sequenced and organized.

To assist educators through this transition, detailed planning of Learning Units and their constituent Learning Plans have been developed and are provided in the Instructional Toolkit for maximum ease of use on the part of implementers. Learning plans may comprise several related sessions with pre-planned activities. As with all cases of curriculum implementation, the classroom teacher is

encouraged to adapt the material to the specific contextual demands of his/her students and setting.

The concept map below gives one example of activities that may take place in an integrated thematic unit.



Our Themes

This curriculum is structured around seven broad themes which are as follows:

Infants 1	Infants 2	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5
Me and My World	My sense of belonging	My Country: the People and Culture of Trinidad and Tobago	My Country: The Environment of Trinidad and Tobago	Our Region The Caribbean	A World of Change	Pulling it all together: Projects and Subject Learning Becoming a global citizen.

The themes are expanded into related sub-themes which predominantly encompass the child's every-day interests and activities but additionally include moral, cultural and spiritual concepts as well as the promotion of citizenship. **T**

The Table below outlines all of the themes and sub-themes. This is followed by an overview of suggested ideas that are related to each sub theme.

Table 1

The Structure of Integrated Learning: Themes

LOVE OF LEARNING

Infant One: ***Me and My World***					
People Myself, My Family and Friends	**Places** My Home, School and Community	**Things** Things Around Me	**Activities** I Learn, I Play and I Work	**Activities** My Big Days and Celebrations	**People** My Health and Well-being
Infant Two: ***My Sense of Belonging***					
Mapping My Immediate Worlds	**Transportation** How I Get Around	**My Built Community** Places I Go	**People** Heroes in My Life	**Food** Things I Eat	**Activities** My Celebrations My Songs, Art, Dance and Drama

ENQUIRY AND DISCOVERY

Standard One: ***My Country - The People and Cultures of Trinidad And Tobago***			
My Country: The Past	**My Country:** The People	**My Country:** Leisure, Work and Entrepreneurship	**My Country:** Culture(s)
Standard Two: ***My Country - The Environment of Trinidad and Tobago***			
The Environment: Land	**The Environment:** Water	**The Economy:** Business and Industry	
Standard Three: ***Our Region - The Caribbean***			
The Region: Waters that Link and Divide Us	**The People:** Different but the Same	**The Economy:** An Interdependent World	

TAKING FLIGHT

Standard Four: ***The World of Change***		
Recognizing Bias and Truth Media and Information	**Understanding Change:** Becoming a Change Agent	**Making Decisions;** Making Choices
Standard Five: ***Pulling It All Together - Projects And Subject Learning***		
Contributions from All Subject Areas Encouraging Global Citizenship		

Infant 1: Me and My World

People: Myself, My Family and Friends

Provide learning experiences that explore physical, emotional, social and moral dimensions of a young child's life.

Issues may include:

- Developing an awareness of what my body can do.
- Expressing my feelings while showing respect for others.
- Exploring my senses.
- Interacting with my friends and family.

My Health and Well-being

Provide learning experiences that explore what it means to be healthy, safe and have a general sense of well-being.

Issues may include:

- Understanding what healthy foods do for my body.
- Understanding what unhealthy foods do to my body.
- Moving to be healthy (exercise).
- Creatively expressing healthy lifestyle choices.
- Demonstrating a basic understanding of personal hygiene practices.
- Showing awareness of safe and healthy physical activities.

Places: My Home, My School and Community

Provide learning experiences that give students opportunities to explore, examine, discuss and show awareness of where they live, where they go to school and places in their community.

Issues may include:

- Developing an awareness of my surroundings.
- Exploring my environment.
- Finding my way around familiar places.
- Describing and representing places I know.
- Caring for my environment.

Things: The Things around Me

Provide learning experiences that give students opportunities to observe and interact with things in their environment.

Issues may include:

- Exploring and describing colours, shapes, sizes, dimensions.
- Observing things and events in the world around me.
- Creatively representing things in the environment.
- Finding new ways to use old objects.
- Caring for my property and the property as others.

Activities: I learn, I play, I work

Provide learning experiences that give students opportunities to understand the norms and relationships within learning and recreational settings.

Issues may include:

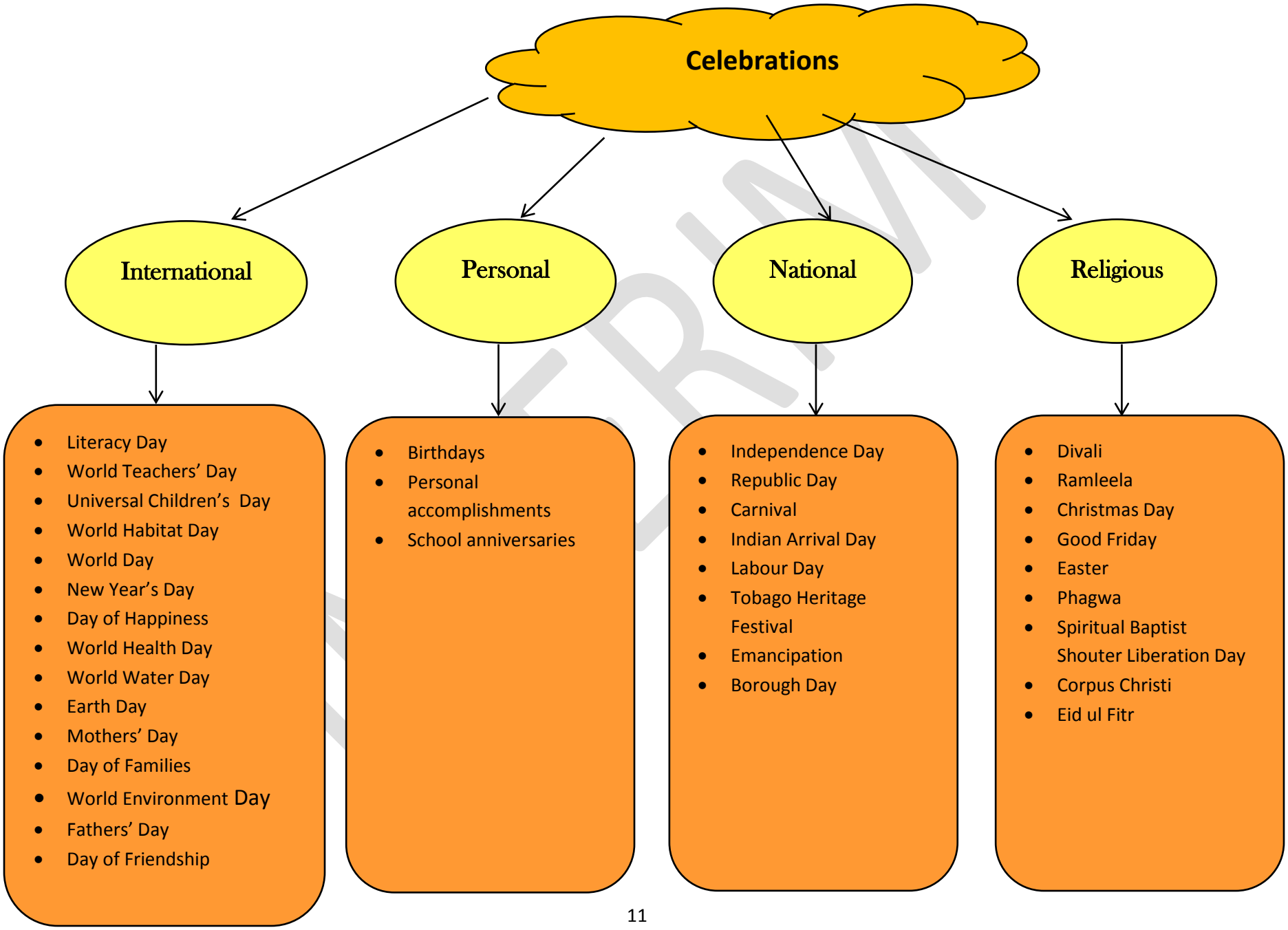
- Understanding my strengths and preferences as I learn, play and work.
- Building relationships as I learn, play and work.
- Understanding norms of relating with others in my world.
- Exploring rules and responsible behaviour.
- Exhibiting safe behaviours while learning, playing and working.

My Big Days: Celebrations

Provide learning experiences coming out of special days in the children's lives.

Issues may include:

- Understanding the significance of special days in my life, including birthdays, national days and international days.
- Celebrating things I can do.
- Appreciating the diversity of celebrations in my world.


Celebrations
International
Personal
National
Religious
Literacy Day
World Teachers' Day
Universal Children's Day
World Habitat Day
World Day
New Year's Day
Day of Happiness
World Health Day
World Water Day
Earth Day
Mothers' Day
Day of Families
World Environment Day
Fathers' Day
Day of Friendship
Birthdays
Personal accomplishments
School anniversaries
Independence Day
Republic Day
Carnival
Indian Arrival Day
Labour Day
Tobago Heritage Festival
Emancipation
Borough Day
Divali
Ramleela
Christmas Day
Good Friday
Easter
Phagwa
Spiritual Baptist Shouter Liberation Day
Corpus Christi
Eid ul Fitr

Some Celebrations during the Academic Year

	Term 1
Independence Day	31st August
International Literacy Day	8th September
Eid-ul-Fitr	TBA
Republic Day	24th September
World Habitat Day	1st October
World Teachers Day	5th October
World Food Day	16th October
Divali	October/November
Universal Children's Day	20th November
Ramleela	October/November
Christmas	25th December
	Term 2
Valentine's Day	14th February
Carnival	February/March
Ash Wednesday/ Lent	February/March
Phagwa	March
Shouter Baptist Liberation Day	30th March
International Day of Happiness	20th March
World Water Day	22nd March
Good Friday	March/April
Easter	March/April
World Health Day	7th April
Earth Day	22nd April
	Term 3
Mothers' Day	2nd Sunday in May
International Day of Families	15th May
Indian Arrival Day	30th May
World Environment Day	5th June
Fathers' Day	3rd Sunday in June
Corpus Christi	May/June
Labour Day	19th June
Tobago Heritage Festival	July/ August
International Day of Friendship	30th July
Emancipation	1st August

Infant 2: My Sense of Belonging

Mapping: My Immediate Worlds

Provide learning experiences that give students opportunities to explore, examine, discuss and show awareness of where they live, where they go to school and places in their community.

Issues may include:

- Exploring a sense of space and size.
- Exploring different shapes.
- Developing map literacy.
- Giving and responding to directions.
- Finding safe spaces in my world.
- Understanding values of fairness, honesty, caring and responsibility.

Transport: How I Get Around

Provide learning experiences that help to students to explore transport.

Issues may include:

- Identifying, comparing and classifying different modes of transport commonly used.
- Discussing how different forms of transport are used.
- Understanding safe practices on the road and in vehicles.
- Creatively exploring the sensory experience of the world of transport.
- Showing concern for others while getting around.

My Built Community: Places I Go

Provide learning experiences that give students opportunities to explore, examine and discuss my and other communities.

Issues may include:

- Comparing characteristics of different communities.
- Identifying and valuing places of significance in my community.
- Identifying ways to care for the community.

Heroes in my life

Provide learning experiences that give students opportunities to celebrate significant people in their lives and in their country.

Issues may include:

- Explaining the qualities of a hero.
- Identifying heroes in their lives.
- Identifying their nation's heroes.

Food: The Things I Eat

Provide learning experiences that explore the interesting and exciting possibilities of food.

Issues may include:

- Understanding what is good and not good to eat.
- Creatively representing food.
- Exploring where food comes from.

My Celebrations: My Songs, Art, Dance and Drama

Provide learning experiences that give students opportunities to explore their creative potential during celebrations.

Issues may include:

- Engaging in songs, dance, drama and art within celebrations.
- Exploring traditional art forms within celebrations.
- Engaging in creative expressions based on traditional art forms.

Standard 1: My Country: The People and Culture(s) of Trinidad and Tobago

My Country: The Past

Provide learning experiences that facilitate students' understanding and appreciation of the rich history of Trinidad and Tobago.

Issues may include:

- Outlining key events in the history of Trinidad and Tobago.
- Exploring the cultural heritage of the indigenous people.
- Understanding the contributions of our ancestors to agriculture.
- Understanding the Spanish influence in Trinidad and Tobago.

My Country the People

Provide learning experiences that give students opportunities to celebrate their identity as Trinidadians and Tobagonians.

Issues may include:

- Appreciating the diversity of our people.
- Recognising the emblems of my country and understanding their significance.
- Understanding and demonstrating national pride.
- Discovering what makes me unique as a citizen of my country.

Standard 1: My Country: The People and Culture(s) of Trinidad and Tobago

My Country the Culture

Provide learning experiences that give students opportunities to explore, multi-cultural aspects of Trinidad and Tobago

Issues may include:

- Exploring diverse cultural practices in Trinidad and Tobago (rituals, celebrations, cultural expressions).
- Engaging in representations of different cultural aspects of our country.
- Making linkages between current cultural practices and our past.
- Making linkages between current cultural practices and our environment.
- Understanding the need to respect the cultural and religious diversity of Trinidad and Tobago.

Leisure, Work and Entrepreneurship

Provide learning experiences that explore our watch words: “Discipline, Tolerance and Production.”

Issues may include:

- Understanding how and why we work and play.
- Exploring careers.
- Exploring roles in the world of work.
- Developing a positive work ethic.
- Exploring new possibilities for work and leisure.

Standard 2: My Country: The Environment of Trinidad and Tobago

Land

Provide learning experiences that give students opportunities to explore issues related to the physical features of land, as well as how human behaviour impacts on it.

Issues may include:

- Physical features (land) of Trinidad and Tobago.
- Uses of land.
- The positive and negative effects of human beings on the land.

Water

Provide learning experiences that give students opportunities to explore issues related to the physical features of water, as well as how human behaviour impacts on it.

Issues may include:

- Physical features (water) of Trinidad and Tobago.
- Uses of water.
- Conservation of water.
- The effect of human beings on water.

Economy: Business and Industry

Provide learning experiences that give students opportunities to examine different ways in which we use our resources to build our economy.

Issues may include:

- Explore different types of jobs
- Understand that the work of all persons contributes to the nation's economy
- Understand how human and natural resources contribute to the economy
- Understand communication and transport as tool to enhance the economy

Standard 3: Our Region: The Caribbean

Waters that Link and Divide Us

Provide learning experiences that give students opportunities to explore issues related to the similarities and differences among the islands of the Caribbean.

Issues may include:

- Identifying the physical waters that link us.
- Our location in relation to our Caribbean neighbours.
- Appreciating and conserving the beauty of our waters

The People: Different but the Same

Provide learning experiences that give students opportunities to explore and analyse the range of peoples and cultures that make up the Caribbean.

Issues may include:

- The differences and similarities in the way we express ourselves (names of food, different practices etc.).
- Cultural expressions that unite our Caribbean people.
- What makes us uniquely Caribbean.

An Interdependent World

Provide learning experiences that give students opportunities to understand the relationship between the Caribbean and the rest of the world.
Issues may include:

- Understanding the interconnected nature of the Caribbean.
- Exploring connections with the rest of the world.
- Appreciating that actions affect others in the country, the Caribbean and the world.

Standard 4: The World of Change

Media and Information

Provide learning experiences that give students opportunities to explore and interact with various types of media for a variety of purposes.

Issues may include:

- Defining media, technology, information and their uses.
- Defining themselves as digital learners.
- Skills and responsibilities of a citizen in the digital age.

Understanding Change

Provide learning experiences that give students opportunities to understand the inevitability of change and their changing world

Issues may include:

- Exploring nature of change at the level of the individual and the organism.
- Appreciate the contributions of persons to our current state.
- Examining the nature and impact of change on the environment.
- Be creative in thinking about changes and fostering positive changes.

Becoming a change agent

Provide learning experiences that give students opportunities to appreciate the gift of choice and to exercise the ability to choose responsibly within a variety of circumstances

Issues may include:

- Understand the process of decision-making and choice.
- Explore areas where making choices are significant to the individual as well as the nation.
- Appreciating the political story of our nation and the persons who have helped to shape it.
- Demonstrating responsibility in making choices and decisions.

Standard 5: Pulling it All Together – Projects and Subject Learning

At this level, students are now engaged in individual subject activity with topics that align with the theme, "Becoming a global citizen". This theme was selected because it encompasses a range of authentic and engaging learning experiences.

It is important to note that literacy, numeracy and technology should still be infused. Additionally the principles of differentiated instruction and assessment for learning are still principal strategies employed to optimize learning.

Our Five Considerations

Literacy across the Curriculum

What is it?

The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines literacy as the "ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. 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."– (2004)

Literacy across the curriculum is the application of these skills across content areas.

What it looks like in a classroom

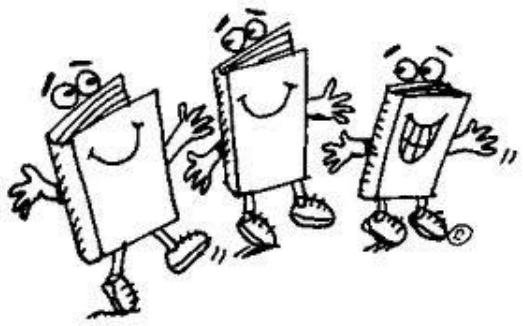
- Daily opportunities for instruction, student practice, student sharing and reflecting.

- Linking of comprehension strategies to content areas. Students may, for example:

  - Monitor their understanding of passages using reader-response journals.
  - Organise their thinking using a variety of graphic organizers.
  - Ask (different levels of) questions to themselves, their peers, and the teacher.

- Spotlighting vocabulary in other content areas through a variety of methods. For example:
  - Word Walls
  - Work Walks
  - Alphabet books
  - Subject dictionaries with illustrations

Suggested Strategies for the Teaching of Literacy across the Curriculum



Read Aloud

Reading aloud is one of the simplest yet powerful strategies that can be used in a classroom. The following are some suggestions for conducting a "read aloud" session.

1. Show students the book cover.
2. Look for story patterns to engage students. Allow them to read along. Use stimulus question or the title to create interest. For example, "What do you think this book is about?"
3. Discuss the author and illustrator. Ask students what they know about the author, what they think about the book cover and/or selected illustrations. This is to engage pupils with the text.
4. Discuss illustrations as they appear. Discuss what the illustrations reveal about the mood of the story. Let student express their feelings about the story.
5. While reading, modulate voice for interest, when words are repeated.
6. Make predictions and modify them as the story unfolds.
7. Make connections with other familiar books.

Shared Reading

Shared reading involves the reading of a selection while allowing the students to read along. In order to engage in shared reading:

1. Select printed material based on its quality. Then determine what can be done with it in the classroom.

2. Engage in a read aloud. Have students see the text of the story as it is being read. Story may be projected or print may be enlarged so that the children can read it.
3. Have students make predictions based on cover illustration, colours and font used among all the letters of the title and the name of the author.
4. Re-read the story allowing students to read along. Through their participation in the reading, they will notice punctuation marks, and acknowledge that they are there and have a specific function. Discuss the cues that help the readers know more about the story.

5. Based on the story, activities can be designed to help students become involved in the story-telling. For example,

    - Use character cut-outs to help students identify characters.
    - Sentence strips to sequence stories.
    - Speech bubbles for distinguishing between direct and indirect speech.

Book Walk

Every child does not understand how to choose books that really engage them. The teacher therefore needs to guide students to select the right texts. A "Book Walk" is one way to help guide their choice of books. Students select books and quickly skim through, looking at the titles, illustrations, theme of story, and text level. If the student can read the text without difficulty, then the book may be appropriate to the student's level and interest. If they

Build a bookmark

Students use this bookmark to show their progress as independent readers.

1. Distribute cardstock cut into a bookmark size as shown.
2. Have students select a book. They can use a book walk or apply the ***five finger rule*** to help them suggest. Ask students to put down a finger each time they don't know a word. When five fingers go down, it is probably too difficult for them. They can

What Good Readers Do?
WOW books (Draw a picture)
Draw interpretation of five finger rule. (hand)
Draw flow of reading.
Draw lines to show the reading pattern.

write the name of the book or draw a picture of the cover in the WOW section and draw an interpretation of the five finger rule in that section.

3. Students can monitor their reading flow. As they read aloud they can listen to themselves and draw illustrations of hour their readings sound. Choppy is straight line; wavy undulating shows fluency.

   NB: Reading fluently does not necessarily indicate that students have gained meaning. They may have simply memorised text.

4. Reflecting and sharing time- to conference and make notes. Chat about the bookmark. While independent reading is happening; monitor pupils, scaffold, make notes of pupils' book selection, chat with students concerning a book. Follow a simple format as below:

Note Taking Page

Date:	Date:	Date:
Notes:	Notes:	Notes:
Can do-	Can do-	Can do-
Next Steps-	Next Steps-	Next Steps-

Do this every day. Start with what the children can do when reading.
Allow pupils to read out loud, need to hear self and sounds of words.

Interactive Reading

Use any high interest book at the level of your students. Engage in shared reading and then do follow up group activities in other subject areas. For example, students can:

1. Contribute to a Word Wall.
2. Represent information from the book using graphic organisers like webs, Venn Diagrams etc.
3. Create maps of the setting of the story or of a character's journey.
4. Create a pictogram.
5. Create a movement piece.
6. Role play a character or object from the story.
7. Demonstrate the sound words in a piece.

Problem Solving

Literacy is about thinking
Thinking is about Literacy.

Think about questions to ask the children, with the objective of finding the mistakes in the reading of the sentences compared to the picture.

1. Does it make sense?
2. Is this the way we speak?
3. Does it look right?

Help for Struggling Readers

These strategies can be used in the regular classroom to support readers at risk and to assist struggling readers. The goal is to have your reluctant or struggling readers become confident and independent readers.

Classroom Time

To provide intervention, routine and consistency are a must. **Set aside 20 minutes each day for your reluctant readers.** Your group should not be larger than seven students. You will need to work with this group of seven students at the same time each day if possible. You will need to establish routines for the other children in your classroom. (This is an excellent time to have the rest of your students involved in silent reading, journal writing, printing or puzzle and challenge activities).

Provide Intervention on:

- Phonemic awareness,
- Phonics,
- Comprehension,
- Oral Spelling and Sounding of Words,
- Sight word vocabulary development,
- Connections between reading, writing and oral communication and
- Good literature that encourages children to read material that's within their comfort range.

Sample 20 Minute Activities:

- Select a story or chart paper poem for repeated readings (students are encouraged to chime in).
- Select individual words from the story for phonetic awareness.
- Use some of these words to develop phonemic awareness (ask students to say the word, then isolate each sound in the word e.g,- b-a-t- 'buh ah tuh' -bat. Then ask the students to brainstorm other words that sound like 'bat'.
- Develop word family charts as necessary and review often during your 20 minute block of time.

- Maintain a list of all books read, encourage students to practice these books both at home and school.
- Develop a word bank as students learn them. Print them on cards in a can to review frequently.
- Focus on letter sound correspondence on words within the printed selection.
- Separate 2 and 3 syllable words into sounds.
- Blend letters and cue students for the letters that make up the blend/digraph (ch, sh, pl, bl etc.).

All of the above activities are elements of the reading process. The suggested activities need to be worked together smoothly for a reader to develop confidence and independence as a reader.

Strategies for developing students' vocabulary

1. **Provide daily opportunities for independent reading and for listening to books read aloud.**
    - Use reading workshops.
    - Allow time for sustained silent reading, preferably of books they themselves choose.
    - Teach them how to use context clues.
    - Build word walls and teach them how to use them.
    - Read stories, poems, expositions, arguments aloud and focus on new words.
    - Let them chat about new words they encounter.

2. **Support students' development of word-learning strategies**

    - Word posters
    - Word maps
    - Word illustration in sentences
    - Word dramatization
    - Word sorting
    - Word chaining
    - Classifying words by semantic features
    - Using context clues
    - Using a dictionary
    - Analysing word parts

3. **Nurturing students' word consciousness**

    - Model interest in words and in using them precisely.
    - Expose them to books about words.
    - Have students collect words and post them on word walls.
    - Encourage word play.

Phonics: Blending

Blending Lines

Formal blending practice begins by using blending lines written on the chalkboard. These blending lines contain sets of words and sentences.
They are cumulative in nature, reviewing sounds and words previously taught.

For example:
Sat sad at

am Sam Pam

I am sad.

I see Sam.

Use the following blending procedure:

- Write the blending lines on the chalkboard.
- Have children chorally blend the words sound by sound. Run your hand under each letter as they blend the word aloud. Then have children say the word naturally. Model blending as needed. Continue this procedure for all of the words in each line.

- Blend the sentences by blending one word at a time, sound by sound. Then reread the sentence at a standard pace. As the year progresses, children will need less support blending each word in the word lines; they should begin blending the words independently, with support given only when necessary.
- Review the blending lines until you feel children can blend the words independently. For any high-frequency words in the sentences in the blending lines, simply state the word aloud as a whole unit.

Phonics

Encoding and decoding
Blending sounds of letters to make words.
Materials

- Letter cards
- Student sheet
- Pencils

Activity:

Students use consonant and vowel cards to make words.

1. Place the consonant cards face down in one stack and vowel cards face down in another stack. Provide each student with a student sheet.
2. Taking turns, students select two cards from the consonant stack and one card from the vowel stack.

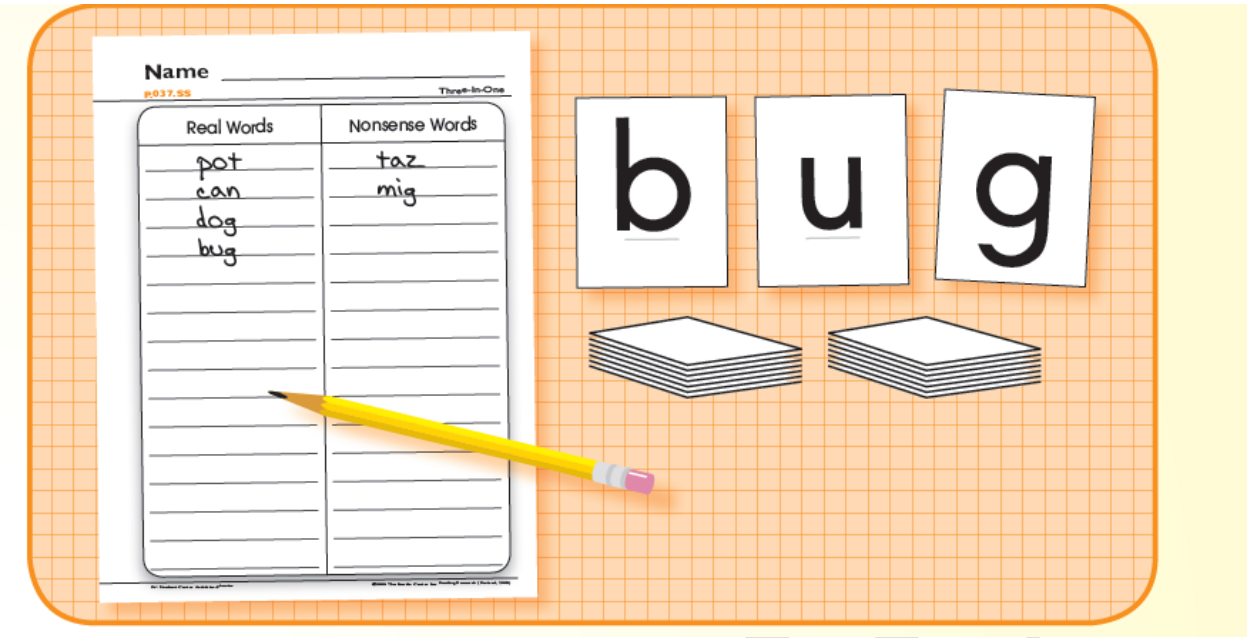
3. Place the vowel card between the two consonant cards. Say the sound of each letter, blend them, and read the word orally (e.g., "/b//u//g/, bug").

4. Determine if the word is real or nonsense and record it in the corresponding column on the student sheet. Return the cards to the bottom of the appropriate stacks. Select two more consonant cards and one more vowel card.

5. Continue until at least ten words are recorded.

Extensions and Adaptations:

Switch letters with other students to change nonsense words to real words.
sort the words by vowel.



The 42 sounds of the 26 letters are first learnt by students individually, how they are taught will be determined by the instructional method chosen by a teacher, school, or at the national level.

When these sounds have been learnt by the students they then move on to something referred to as Blending which helps with reading and the process for building vocabulary. When students start to read they need to understand the meaning of words. They must therefore work out in their heads what are the words they are saying, this is achieved by doing the following:

The teacher presents the word on a flash card:
Students will look at the letters then sound out the letters as they have been taught. While they are sounding out the letters they will hear the word and understand the meaning of the word e.g. C-A-T with blending the emphasis is on the first letter sound in this case C the other two sounds A and T are spoken very softly and quickly. Students realize that words are therefore a combination of sounds.

The students go from blending sounds aloud to blending sounds silently. From classroom observation students within the 5-6 age groups prefer to blend sounds aloud they enjoy this activity and also learn the correct sounds from their peers.

Non-Negotiable Components for Reading

Level 1 (Infants 1 and 2)
(Explicit Teaching Points).

LEVEL	STRAND	Students must
Infant Year 1	**Phonological Awareness** (Sound-Symbol Relationship)	**Know Sounds and Letters of the alphabet individually and in text.**
	Phonics	**Apply knowledge of letter sound correspondence.**
		Blend sounds to make and read words.
		Use word attack skills to decode words(chunking, syllabication).
	Vocabulary	**Recognize, spell, use and pronounce sight words.**
		Build reading and content area vocabulary.
	Reading Fluency	**Read familiar appropriate texts with proficiency.**
	Comprehension	**Apply comprehension skills and strategies to construct meaning.**
		Critically interpret text.
		Be able to answer literal and inferential questions.
Infant Year 2		
	Phonological Awareness	**Be able to identify and manipulate sounds that are associated with the sound-symbol**

LEVEL	STRAND	Students must
		relationship.
	Phonics	**Be able to make and read words using, long and short vowel sounds, consonant blends and digraphs, vowel diagraphs and diphthongs.**
		Be able to use word attack skills to decode words (chunking, syllabication).
	Vocabulary	**Be able to determine the meaning of words using definition clues, context clues and background knowledge.**
		Build reading and content area vocabulary.
	Reading Fluency	**Be able to apply meaning clues, structure clues, and decoding and word recognition skills to read fluently and monitor meaning.**
	Comprehension	**Be able to apply comprehension skills and strategies to construct meaning.**
		Be able to critically interpret and respond text.
		Be able to answer literal and inferential questions.

LEVEL	STRAND	Students must
Standard 1		
	Phonics	**Be able to apply appropriate phonic skills and strategies in reading.**
		Be able to read independently.
	Vocabulary	**Be able to infer the meaning of words (literal, figurative, factual) using text structure, definition clues, context clues, multiple meaning clues in context.**
		Be able to build reading and content area vocabulary.
	Fluency	**Be able to apply meaning clues, structure clues, and decoding and word recognition skills to read fluently and monitor meaning.**
	Comprehension	**Be able to apply understandings of text structure and organization to infer and deduct meaning.**
		Be able to use before, during and after reading strategies.
		Be able to use metacognitive strategies

LEVEL	STRAND	Students must
		to clarify meaning in text e.g. rereading, visualizing, thinking about the text, before, during and after reading strategies.

Strategy- Elkonin Boxes

Why this strategy is useful:
Elkonin boxes can be used to teach phonemic awareness by having students listen for individual sounds and marking where they hear them in the boxes. Each box in an Elkonin box card represents one phoneme, or sound. So the word sheep, which is spelled with five letters, has only 3 phonemes: /sh/ /ee/ /p/. Segementing words is one of the more difficult skills children acquire. It is also one of the best predictors of future success in reading. Elkonin boxes are a physical segmentation of words into phonemes.

How to use Elkonin Boxes

1. Pronounce a target word slowly, stretching it out by sound.
2. Ask the child to repeat the word.
3. Draw "boxes" or squares on a piece of paper, chalkboard, or dry erase board with one box for each syllable or phoneme.
4. Have the child count the number of phonemes in the word, not necessarily the number of letters. For example, wish has three phonemes and will use three boxes. /w/, /i/, /sh/
5. Direct the child to slide one colored circle, cube, or corresponding letter in each cell of the Elkonin box drawing as he/she repeats the word.

Using Elkonin Sound Boxes

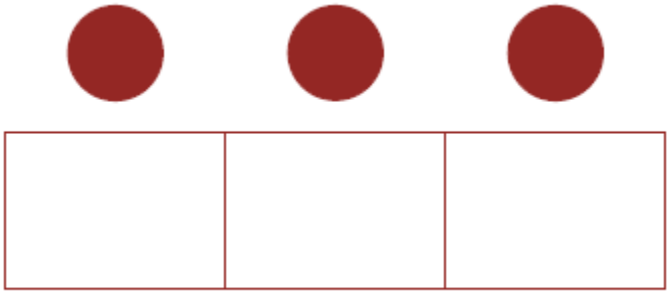
1. Have children draw three boxes on a sheet of paper or dry-erase board. You can also provide photocopied predrawn boxes.

2. Distribute counters to the children. Have them place counters above the boxes.

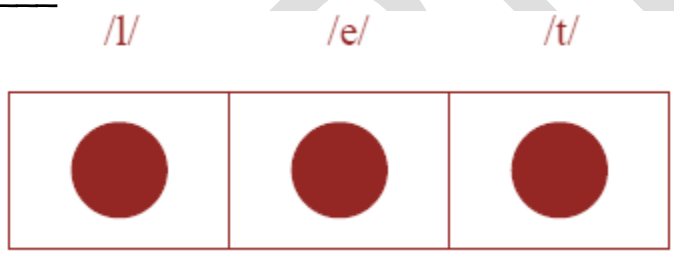
Model the activities before children begin.

3. Say it and Move it- For each phoneme, children move a counter to each box in a left-to-right progression.

For example: Say the word let.



Children move the counters that represent the sounds they hear in the word:_____



Children say the word again, sliding their finger below the boxes from left to right: let.

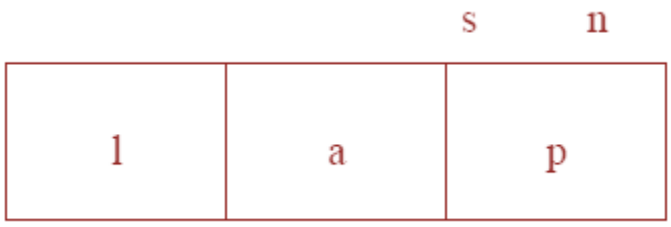
Other Activities for Elkonin Boxes

Ask children to listen for a certain sound in a word. Say a word that has that sound. Children place a counter in the first box if they hear the sound in the beginning of the word, in the middle box if they hear the sound in the middle of the word, and in the last box if they hear it at the end of the word.

For example, "Listen for the /m/ sound in the following words. Place a counter in the first box if you hear the /m/ sound at the beginning of the word; place a counter in the middle box if you hear the sound in the middle of the word; or place it in the last box if you hear the /m/ sound at the end of the word. Listen carefully: ham."

Other sample words: man, lemon, dream, mix, time

Replace the counters with several letters after appropriate letter-sound correspondences have been introduced.
For example, give children the letters a, l, p, s, and n.
Have children place the corresponding letters in the boxes for the phonemes as you say words. For example, say, "Lap. The cat sat in my lap."



Have children write letters in boxes as you dictate the words. For example, say, "The big dog barked at the girl. Spell the word big."
Big: /b//i//g/

Numeracy across the Curriculum

What is it?

Numeracy refers to the ability and competence to apply mathematical concepts (ideas) and skills (processes) to effectively engage in and manage diverse situations in real life. It facilitates the development of higher-order thinking skills that equip students with a solid foundation for the problem-solving challenges of the future.

What it looks like in the classroom:

- Consistent connection between Mathematics and real life situations. For example: games, taking medicine, grocery and online shopping, cooking, job (construction), trips.
- Focus on problem solving, communication, representation, critical thinking and reasoning rather than "finding the right answer".
- Daily opportunites to:

Read Mathematics	• Read-Alouds • Shared Reading • Literature in Math • Problem of the Day
Write Mathematics	• Mathematics language development • Math word study • Problem Solving • Reflecting, relating and representing • Journal Writing
Speak Mathematics	• Collaborative problem solving • Comprehension instruction • Small group instruction • Mental Math and Estimation • Calendar Math

Key Concepts and Strategies in Numeracy

Skill-Based Learning (Performance Tasks)

Learners carry out an activity or produce a product in order to demonstrate their learning. Both the process and product can be assessed. Mathematics skills assessed in Performance Tasks are:

- Use of Manipulatives,
- Problem solving,
- Representation and
- Communication.

Conceptual and Procedural Understanding

Conceptual understanding relates to underlying and foundational Mathematical concepts that accompany Mathematical procedures. It involves a situation where students are able to recreate formulas and proofs without rote process. Students are also allowed to make choices and apply their understanding through active engagement. A student must therefore have both procedural and conceptual understanding if they are to have an in-depth understanding of mathematics.

In recent times the teaching process has been shifting its focus to the balance of procedural and conceptual understanding. Procedural mathematics understanding is a knowledge that focuses on skills and step-by-step procedures without explicit reference to mathematical ideas. Mere procedural skills often fail to provide readily applicable methods to solve mathematics problem.

Use of Manipulatives

A manipulative is an 'object' that can be touched and moved by learners to introduce or reinforce concepts. The use of manipulatives is based on the belief that active involvement of learners in the learning process enhances their learning. Some considerations must be made prior to the use of manipulative in any classroom such as when, what, how, with whom the manipulative should be used. Manipulatives must be carefully chosen for concrete, semi-concrete and abstract levels.

Problem Solving

Students become problem solvers when they are challenged to solve real-life problems. Research suggests that students can learn new skills and concepts while they are working out solutions to problems. There is also evidence that it is not necessary for teachers to focus first on skill development and then move on to problem solving. Both can be done simultaneously.

As a result students with good conceptual understanding are able to perform successfully in tasks involving the transfer of knowledge and thus make better connections.

To increase opportunities for inventive problem solving, teachers should:

- Frequently use non-routine problems,
- Introduce a lesson involving a new skill by posing it as a problem to be solved,
- Regularly allow students to build new knowledge based on their intuitive knowledge and informal procedures,
- Expose students to a variety of problem solving strategies like guess and check, making an organised list, drawing a diagram and looking for patterns.

The Four Step Method is a process commonly used to solve a variety of story problems.

1. Analyze - Analyze the information so you can understand what you must do.
2. Choose - Choose a strategy you think may help you solve the problem.
3. Solve - Solve the problem using the strategy you chose.
4. Check - Check your answer. Read the problem again and see if your answer makes sense.

Mental Mathematics

The development of arithmetical skills, that is, those concerned with numerical calculations and their application, are important parts of the child's mathematical education. Rapid advances in information technology and the ready availability of calculators have not lessened the need for basic skills. Mental Mathematics refers to calculations that are done in a student's head without the use of pencil and paper, calculators or other aids. Mental math is often used as a way to calculate and estimate quickly, using math facts that a student has committed to memory, such as multiplication, division or doubles facts. It is very effective in developing "number sense" through the development of quick mental computation strategies, estimation and problem-solving skills. It is an excellent way to stimulate the minds of learners.

Mathematics Discourse

The teacher facilitates discussion and engages students in conversations with each other about Mathematics. Opportunities are created for students to express their Mathematical ideas in small groups before they share with the whole class. Through student conversations, the teacher can assess students' content level and knowledge of vocabulary. Peer learning is also facilitated as students are helped by others when they listen to different perspectives on the topic or solution.

Mathematical classroom discourse is about whole-class discussions in which students talk about mathematics in such a way that they reveal their understanding of concepts. Students also learn to engage in mathematical reasoning and debate. Discourse involves asking strategic questions that elicit from students both how a problem was solved and why a particular method was chosen. Students learn to critique their own and others' ideas and seek out efficient mathematical strategies.

Communication in the Mathematics Classroom: Strategies for getting the conversation rolling

- Set the tone right from the beginning. Model the importance of communicating math ideas to improve skills. Give students the opportunity to communicate as much as possible.
- Start with 'Math Talk Time'. Have discussions as a whole class while you scribe for the group. Use a variety of groups and partners to develop further conversations.
- Encourage the 'Math Talk' while students are working. A math class is active, busy, noisy, and focused, not a silent class!
- Build a class word list and keep adding to it.
- Encourage awareness of the words that students use in mathematics and make connections explicit about words used in other areas as well.
- Provide opportunities for brainstorming, clarifying ideas, confirming ideas, elaborating, seeing consequences and connections, critical thinking, and organizing information.
- Use gimmicks to probe students for more input. Wear a hat/carry a sign that says, "How did you do it?" Students will know that this is the question they will need to answer when you visit their table.
- Ask students to share their strategies orally with one another. Say, "In math you can use different strategies and still come up with the same answer." Then

ask which strategies they thought were most efficient and have them explain why.

- Keep a cumulative list of strategies in the class for quick reference.
- Encourage students to think before they speak. A one-minute reflection on which strategy might be most applicable for a problem will allow students time to gather thoughts and prepare for oral discussion.
- Trade student-written problems with other groups for discussion and solutions.

Communication Prompts for Mathematics

- Explain in your own words the meaning of…
- I learned that I…
- I was surprised that…
- I discovered that I…
- I was pleased I…
- Something I would really like to know about in mathematics is…
- The most important thing I learned in math this week is…
- How would you explain _____ to another student who doesn't understand?
- Draw a picture or build a model to illustrate your talk on _____ .
- I know my solution is correct because…
- To me mathematics is…
- My strengths and goals as a learner of mathematics are…
- Ways I have grown or changed during this unit/term/week/year are…
- Write a letter to a new student explaining a new concept or skill.
- Describe how you became 'unstuck' during problem solving.
- I'm unclear about that. Tell me what you mean.
- Could you tell me more about that?
- Can you explain your reasoning behind that decision?
- Why did you say that?
- In how many situations could that be used? Describe some of them for me.

Journal Writing Ideas by Strand

Number

- Why is a 3 digit number always larger than a 2 digit number?
- Explain the ways fractions are used outside of school.
- Name all the places you've seen numbers used today.
- What are the advantages of using expanded notation?
- Describe everything you know about this number…
- Imagine a world without numbers.
- If you were a number what number would you be and why?
- What does this number look like?
- Make a math riddle.
- Explain regrouping.
- Describe how an array is related to multiplication.
- Describe how you would explain _____ (operation) to a younger student.
- What addition strategy would help you solve 7 + 8 = ? Why?
- How does knowing that 6 × 6 = 36 help you solve 8 × 6?
- What are the four main operations? Name them and provide the symbol.
- Explain the relationship between +, -, ÷ and ×.
- Give one example and one non-example of a pattern.
- What is the relationship between the numbers in the pattern….
- Use this pattern to predict…

Measurement

- How do I know I was right?
- Why do we measure?
- What ways do you use measurement at home?
- What do we measure?
- How do we measure?
- Name some tools used to measure.
- What are units of measurement?
- What does a measurement tell us?
- How would you measure a round object?
- Why do we use units squared (cm^2, m^2) when we measure?

- If the units of a measurement are _____ (could be cm, m^2, m^3, etc), what is being measured?
- If I were one centimetre tall… (finish the story).

Geometry

- Write riddles.
- What is a _____? (cube, cone, etc?).
- How are a square and rectangle different or the same?
- Describe an unusual shape.
- Name six shapes you can see from your seat.
- Compare a pyramid and a prism.
- Why is a rhombus not a square?
- Why is a trapezium not a parallelogram?
- Give an example of a repeating pattern and a growing pattern.
- Explain or find a pattern from nature.

Statistics

- What does this graph tell you?
- What does this data tell you?
- Why does one number result more frequently than the other?
- Predict the result and state why?
- Give a real-life example of …
- What is the difference between mode and mean?
- What is a real-life example where you would need to use mean and mode? Why?

Differentiated Instruction

What is it?

Differentiated Instruction is the customising of instruction to suit students' varying interests, learning styles and degrees of readiness.

What it looks like in a classroom

In a differentiated classroom a teacher considers the students' interests, readiness and learning styles.

A teacher can differentiate:

Content:	Process:	Product	Learning Environment
What the students will know, understand and be able to do.	The activities that will help students to master content.	The ways in which students: • apply the knowledge they have gained. • demonstrate what they have learnt.	• The setting in which learning takes place. • The procedures that take place in this setting.

Assessment for Learning

What is it?

Assessment for learning is the process of seeking and interpreting evidence for use by learners and their teachers, to decide where the learners are in their learning, where they need to go and how best to get there.

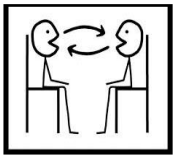
Assessment Reform Group 2002

http://www.uni-koeln.de/hf/konstrukt/didaktik/benotung/assessment_basis.pdf

What it looks like in a classroom

Assessment for learning

- Is linked to instruction.
- Provides multiple ways of assessing students' understanding.
- Is formative: constantly monitors the child's learning and understanding.
- Offers authentic tasks that are worthwhile and meaningful to the learner (e.g. creation of models, putting on productions, making oral presentations).
- Invites students to monitor their own understanding of concepts and processes using rubrics, checklists, oral and written reflections etc.



JOURNAL WRITING

- Dialogue journals
- Reflective log
- Learning log
- Scrapbooks
- Diaries

INTERVIEWS

- Structured
- Semi-structured
- Informal
- Conferencing
- Focus Group Meeting
- Debriefing

EXHIBITIONS/ CREATIVE PERFORMANCES

- Drama
- Dance
- Artworks
- Songs
- Oral Presentations

PERFORMANCE TASKS

- Investigations
- Reports
- Projects
  - Products
  - Processes

ASSESSMENT STRATEGIES

SELF/ PEER EVALUATION

- Checklists
- Rating Scales
- Reflective Focus Questions
- Reflective Items

GRAPHIC ORGANIZERS

- Concept Maps
- Semantic Maps
- Flow Charts
- Web Organisers

TRADITIONAL TESTS

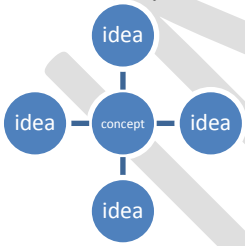
- Multiple Choice
- True/ False
- Matching
- Short Response
- Essays

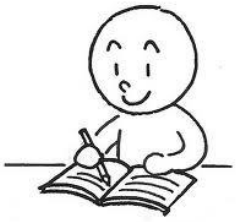
LOGICAL OBSERVATIONS

- Checklists
- Rubrics
- Anecdotal Notes

PORTFOLIOS

- Showcase Portfolio
- Working Portfolio

Tools for Formative Assessment Techniques to Check for Students' Understanding	
What's the Big Idea? 	Given an index card, students will write on both sides • Side 'A' - the big idea of the learning unit and what you understand as a summary statement. • Side 'B' - a statement or question on what you do not fully understand
Hand Signals 	Students use hand signals to indicate their understanding • Thumbs up – fully understand • Thumbs down – do not understand • Wave of hand – uncertain
One Minute Essay	Students focus on a specific question that can be answered in writing within a minute.
The minute paper/half sheet response.	After a unit of teaching ask students to write a response to the following questions: (a) What is the most important thing you learnt during this lesson? (b) What important question do you still need answered? This can be done on an index card or half a sheet of paper.
Semantic Map 	A graphic organiser that allows learners to perceive relationships between concepts through a diagramming key words representing the concepts.
Student Conference 	One-on-one conservation with students to evaluate their level of understanding.
Observation	Observe students as they work to check for learning. Can be

Tools for Formative Assessment Techniques to Check for Students' Understanding	
	done through: • Anecdotal Records • Rubrics • Checklists
Self-Assessment 	Students collect information about their learning, analyse what is revealed about their progress toward their goals and plan the next steps in their learning.
Exit Card	Students write responses to an open ended question posed at the end of a learning activity or at the end of the day on a card or slip of paper.
Portfolio Check	A portfolio is a purposeful collection of student work that tells the story of a student's efforts, progress, or achievement. (Arter, 1990). It can assess a variety of skills and caters to different learning styles. Students can create showcase/display portfolios or working portfolios about a specific topic or theme.
Quiz 	A quiz assesses what concepts, factual knowledge and skills students have learnt from learning activities. Some quiz examples are: • True/ False • Multiple Choice • Short Answer Responses • Matching • Essay Type
Journal Entry	Students record in journals their concepts, understandings and ideas of the topic being studied. Journals can be diaries, reflective or learning logs and/ or dialogue journals.

Tools for Formative Assessment Techniques to Check for Students' Understanding	
	
A-B-C-Summaries	Students find words related to the specific topics that begin with each letter of the alphabet.
One Sentence Summary	Students write one sentence that summarizes a particular topic. It answers the questions : **Who? What? Where? When? Why? How?**
One Word Summary	Students select <u>one word</u> which best summarises a topic.
Whip	Divide class into groups and ask each person to summarize what they learned in one sentence/10 seconds/three words. (Teacher can choose which)
Think-Pair-Share	Students think individually about a topic, then discuss it with another student (in a pair) and then share with entire class.
Turn to Your Partner	Students get directions and formulate an individual response. They then turn to a partner and share their responses. Teacher calls random pairs to give their responses to class.
Oral Questioning 	Student participation is increased and active learning is encouraged when oral questions are used in the classroom. Questions are posed to students to determine the knowledge, concepts and skills learnt from the particular topic. Some example of questions are : • How is _____ similar to/different from _____ ? • In what other ways might we show/illustrate _____ ? • Give an example of _____ • What conclusions might be drawn from _____ ? • What alternatives should be considered?

Integration of ICT

What is it?

Technology is the set of tools that help us act and think better.

What it looks like in a classroom

- Technology is paired with strong pedagogy.
- Students where possible have opportunities (where possible) to interact with various forms of technology. They:
  - Take photos and make presentations on them.
  - Create digital stories.
  - Use word processing, spread sheet and presentation software to create a variety of pieces.
  - Engage with interactive power point presentations
  - Browse the Internet – to do web searches for information/Webquests, current events.
  - Take virtual tours.
  - Do activities on interactive websites.
  - View videos and movies (downloaded by the teacher and used to “set the stage for learning) and ask questions, write summaries, use concept maps to organize their thinking about the video/movie.

How to download Videos

Videos are useful tools to introduce lessons or summarise concepts. Many times teachers will want to play videos that they may have sourced online, but a poor internet connection at school may prevent this. One solution is to download the video beforehand.

The software free KeepVid (at keepvid.com) can allow the teacher to download the video to their own computer so that they can play it on a video player. There are many free video players available. One of them is VLC because it is free and it plays many different video formats. VLC can be downloaded and installed from: http://www.videolan.org/vlc/.

Using Keepvid

- First of all you must make sure that you have the latest version of Java. This software is on most computers but must be enabled. (see: http://www.java.com/en/)
- Go to keepvid.com and download the software. Next, install the programme on your computer.
- Go to the website where your video is found like www.youtube.com.
- Browse to find the video that you would like to save. Search for videos by keywords in the search box at the top of the home page.
- Select a video to watch from the list of returns. If the video is one you want to download, copy the URL of the video from the address bar at the top of your Web browser.
- Click and drag over the URL in the address bar, then right click, and select copy.
- Open up the KeepVid software and paste the URL link in the top bar. You will see the words *Paste link here.*
- Click on *download*. Depending on the length of the video, the download may take a few seconds to a few minutes. The video is automatically saved in the KeepVid folder. You can now access the video at any time.

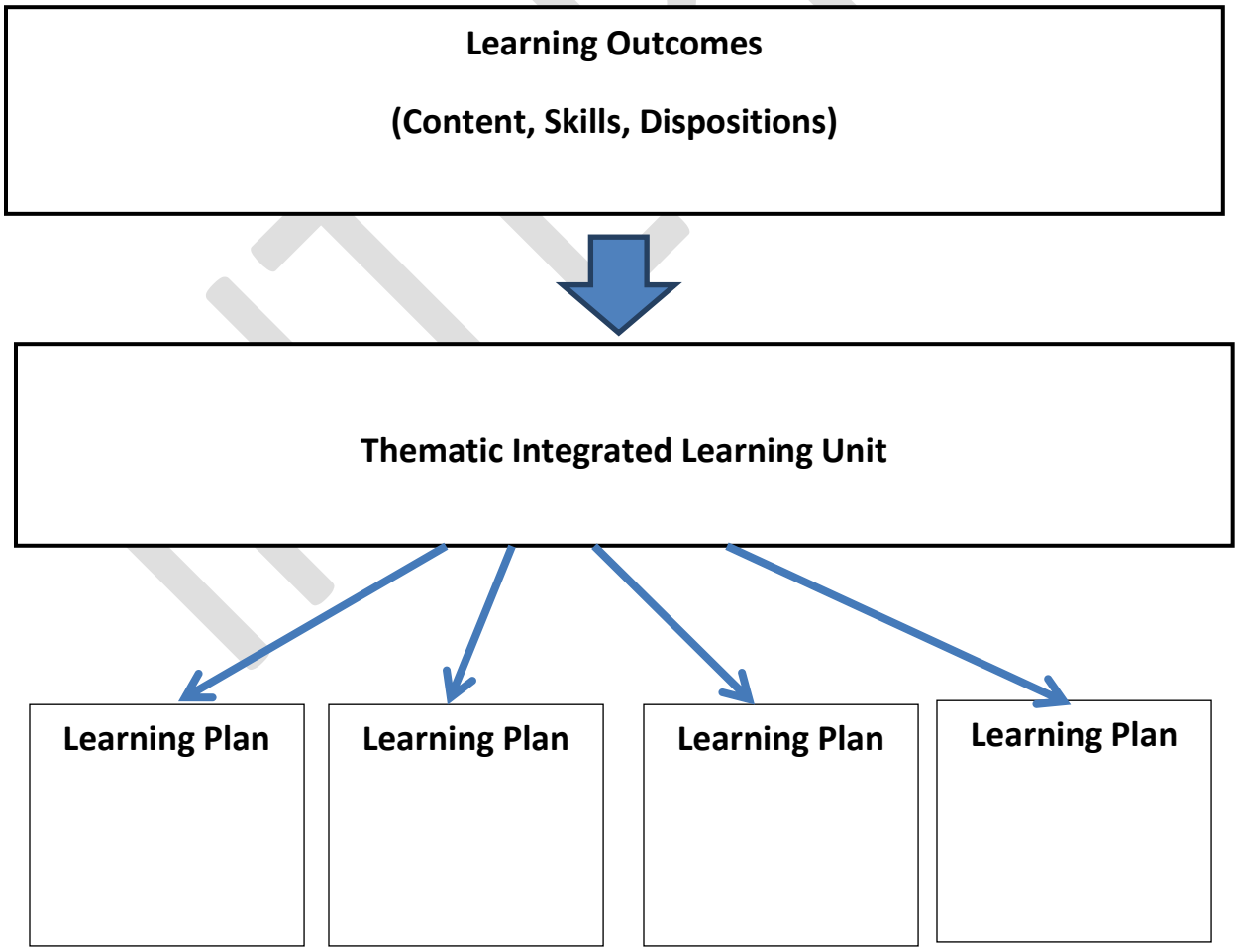
The Learning Units and Learning Plans

Understanding the Learning Units and Learning Plans

In this curriculum, content, skills and dispositions have been integrated and organised into **learning units** which are comprised of a series of learning activities organised within a **learning plan**. These learning plans and learning units have been placed in the *Instructional Toolkit* that accompanies the *Curriculum Guide* and *Teacher's Guide*.

A learning unit is completed over a period of time and its duration depends on the number of learning activities to be covered within the learning plan.

It is important to note that where some aspects of core subject content and skills need to be given focused attention, they may be incorporated within "stand-alone" topics which will come either as preparatory to or following work within a theme.



It is to be noted that this curriculum promotes the child-centred, activity-based learning and it is to be delivered in a learning environment that encourages and facilitates hands-on activities, sharing, communication and interaction among the learners, inquiry, problem solving, exploring, creativity, experimenting and practising, as well as types of expression that may often include physical movement and levels of sound. Because it is often project based, there should be many opportunities for presentation (often times group/collectively) and celebration of the learner's efforts. In this scenario, the teacher's role evolves more clearly into that of facilitator of learning, rather than one of dissemination of information. The child, in turn, becomes progressively responsible and independent.

Assessment in this curriculum is not only on-going but also authentic and related to the actual activity. Practitioners provide timely feedback and guidance to students as well as give them opportunities to monitor their own learning.

Steps to Writing a Learning Plan

The Instructional Toolkit provides a variety of samples of integrated learning plans that may be used in your classroom. However, you may want to create your own learning plans and units to suit the needs of your students. The following gives you a guide to the process of writing your own.

- ✓ Choose a year level and a theme.
- ✓ Establish some "essential questions" that will capture students' interests. Always start with the students in mind.
- ✓ Establish learning outcomes that will facilitate the answers to these questions. (Consult the outcomes in the *Curriculum Guide*)
- ✓ Think of a project or an activity that lends itself to integration of several subject areas.
- ✓ Consider the time frame for this plan.
- ✓ Plan activities that will help you to achieve your outcomes.
- ✓ Match your outcomes to the activities.
- ✓ Consider how you will assess the achievement of these outcomes.

A good learning plan will:

☐State the year level and theme chosen.
☐State the topic of the lesson.
☐State a suggested time frame needed for the completion of the project.
☐State outcomes drawn from different levels of the taxonomy.
☐Have a clearly written context statement that provides a rationale for the project.
☐Clearly outline activities drawn from at least three subject areas.
☐Have activities that match the outcomes.
☐Have built in assessment strategies that go further than traditional paper and pencil tests.
☐Reflect integration of the essential six: numeracy, literacy, assessment for learning, differentiated instruction, ICT integration.

Some Suggested Approaches and Strategies

Introduction

The following teaching-learning strategies are based upon the philosophy that ALL children can learn. As such, teachers should employ teaching strategies that educate and advance the whole child through their development of conceptual knowledge, dispositions and skills set within authentic, everyday contexts.

The strategies utilized are, for the most part, deeply rooted in child-centred, constructivist philosophies. While each has its own strength and may be more suited to different pedagogical requirements, it must be noted that similarities among them are many, thus promoting advantages for both student and teacher.

Integration with Other Curricula Areas

A cross-curricular approach to teaching can provide children with realistic and meaningful contexts for learning. The use of realistic contexts in other curriculum areas can be an opportunity for students to develop or practice mathematical understandings. The ability of teachers to recognise and make use of the natural connections that exist between different learning areas is the key to the success of an integrated approach.

Steps enhancing integration may involve

- including mathematics in daily routines
- teacher awareness of the value of placing mathematics into contexts that is interesting and relevant to children.

Constructivism

The Constructivist theory is based on the belief that learners construct their own knowledge through their experience with content and then through reflection on their experiences. The teacher's role is that of facilitator of learning. Students take responsibility for their own learning. They become actively engaged in the learning process through the use of manipulatives. The emphasis is on developing problem solving and critical thinking skills.

In the classroom, the constructivist view of learning can point towards a number of different teaching practices. In the most general sense, it usually means encouraging students to use active techniques (experiments, real-world problem solving) to create more knowledge and then to reflect on how their understanding is changing. The teacher makes sure she understands the students' pre-existing

conceptions (prior knowledge), and guides the activity to address them and then build on them.

Guided Discovery

Guided Discovery is a teaching approach used in the classroom to develop children's interest and excitement as they explore materials and their possible uses. Tasks selected for Guided discovery must be carefully designed, challenging but achievable. In the Guided Discovery style, the role of the teacher is to make all subject matter decisions, including the target concept to be discovered and the sequential design of the questions for the learner. The role of the learner is to discover the answers. Guided Discovery also provides opportunities for teachers to introduce vocabulary, assess children's prior knowledge, and develop responsibility among students as they use materials.

Group work and Cooperative Learning

In cooperative learning, students work with their peers to accomplish a shared or common goal. It is based upon the philosophy that most of what a child learns takes place in a social setting. The goal is reached through interdependence among all group members rather than working alone. Each member is responsible for the outcome of the shared goal. Cooperative learning does not take place in a vacuum but the group task is set so as to motivate pupils to work as teams.

Problem-Based Learning (PBL)

In a problem-based learning (PBL) model, students engage in solving complex, challenging problems and collaboratively work toward their resolution. PBL is about students connecting disciplinary knowledge to real-world problems—the motivation to solve a problem becomes the motivation to learn. PBL is an active and iterative process that engages students to identify what they know, and more importantly, what they don't know. Their motivation to solve a problem becomes their motivation to find and apply knowledge.

Inquiry Approach to Learning

This approach to learning focuses on the development of information-processing and problem-solving skills. The teacher acts as facilitator whilst students are engaged in the construction of knowledge through active learning activities. The emphasis of this approach is on "how we come to know" rather than "what we know."

Tips for Teaching Foreign Languages

Keeping Learning Engaging

To foster and maintain children's interest in learning anything, whether it is Mathematics concepts or language skills, always keep fun in mind. Play-based learning helps make learning easy for kids. Language learning activities should include singing, dancing, movement, playing games, role playing and reading. These activities make learning realistic, fun, and interactive. The teacher also needs to bring excitement and animation in the delivery of the lessons as students respond positively to this.

Teaching Foreign Languages Using Realia

Children need to interact with materials that are as close to real life as possible when acquiring new knowledge. If they are learning colours, provide a variety of objects of different colours to sort through. If they are learning about their families, use pictures for association. Activities for children should not be abstract. The language that they are learning should be relevant and realistic to their lives.

Teaching Foreign Languages through Movement

Active learning is essential in achieving success in language learning. At all levels, but especially at the younger ages, children love to and need to move. Ensure that you use lots of activities that include physical movement because they help children retain learning.

Introducing vocabulary

- When you introduce new vocabulary to your students, group the words in logical order. You could introduce feminine nouns first and then masculine ones. Words could be grouped according to a known order (such as days of the week or numbers).

- DO NOT include articles when you introduce nouns since grammar structure will not be the focus at this time.
- Link items of vocabulary to signs or gestures that will help students remember words (Total Physical Response strategy).

Repetition

- Repeating new language many times is crucial for remembering it as well as for accuracy I pronunciation
- Vary your mode of repetition: happy, sad, angry, quietly, loudly, fast, slow.
- Ask different groups to repeat vocabulary (boys, girls, other groups).

Silent period

Children should not be forced to speak in the target language until they are ready. Many will be reluctant to speak in front of the class until they feel more confident.
- It's better to ask for volunteers at the beginning.
- Quiet students often speak more confidently when they are in pairs or smaller groups.
- If a student does not know an answer, giving options will help, as he/she can hear the correct word and repeat it.
- When asking a question, or if you want students to do something, it's best to say the question first. Leave some time for all students to work out what you mean, and then ask for a volunteer.

Error correction

Help students accept errors and learn from them. Allow them to speak without over-correcting them so as not to develop inhibitions and fear of speaking the language. Teacher's tone must always be enabling. Praise the student for trying (even if what s/he said is wrong) but then say the correct word to reinforce learning.

Praising and encouraging

Use lots of Spanish expressions and accompanying facial expression and gestures for praising and encouraging. See the teachers' phrase book for examples.

Multimedia

Multimedia helps students visualize difficult concepts or procedures more easily by using static or dynamic multimedia. It scaffolds learning through activities enhanced by videos and online games. It makes language and culture come alive through the viewing and creation of audio and video instruction where they could share them with other classes both locally and abroad, comparing cultural norms and addressing other questions through a group blog or wiki.

Role-playing

Role-playing allows students to develop their fluency and accuracy by adopting a different persona. This allows them to express opinions they might otherwise be reluctant to express and helps them overcome any shyness they feel when speaking a foreign language. It encourages the use of critical thinking because it involves analysing and problem solving; therefore role play is a cognitive learning method. You, the teacher, need only set up the activity and then observe it, making notes of any repeated errors from students for correction later.

Musical Activities

Using songs or rhymes within the foreign language classroom is motivating for students and an effective method of developing listening and speaking skills. It's an easy way for them to learn and remember words and phrases. Children hear vocabulary and phrases in a natural and meaningful context and no longer as isolated words or sentences. They hear the natural rhythms and stresses of a language and this helps their pronunciation and fluency of speech.. Along with the music, melody and rhythm, actions can be found to go with the song. Additionally, using songs is a way for children to listen and practice Spanish in a group, joining in when they can without being singled out and gradually achieving more with each listening. A huge boost in confidence can be gained from this, which percolates through to all learning. There are many simple songs available for teachers to use, in Spanish and also bilingual versions. Teachers can also custom create their songs for particular themes, which can be sung to familiar tunes, such as Twinkle Twinkle Little Star, Mary had a Little Lamb etc. The creation of these songs can be very effective in language learning because the tunes will have been familiar to students.

Culture

Learning a language without learning the cultural relevance may lead to social blunders. For example, simply smiling and walking away after a conversation is not a sign of respect. Culture can be transferred to the student via: songs, stories, videos etc.

Total Physical Response

Total Physical Response (TPR) is a language teaching method which is based on the assumption that the coordination of speech and action will boost language learning. The use of TPR activities elicits whole-body responses when new words or phrases are introduced.

Teaching Through Reading

Reading and listening to stories enhance the learning of Spanish. These not only teach vocabulary, but also promote the appreciation of cultural differences. The telling of traditional fairy tales in Spanish may encourage interest in the language. Other more contemporary stories assist. There are a variety of bilingual stories that may be used.

Teaching languages Through Games

Teaching Spanish through games makes learning enjoyable. Through games, children interact with others, they are engaged in movement, they develop their critical thinking skills, all while reinforcing their language concepts.

Suggestions for Games

Bingo

Playing Bingo can help teach children basic Spanish, such as numbers, family members, colours or pets. For the younger learners, pictures may be used on the cards and the teacher can call out the words with students covering the corresponding squares. For older students, the words may be used on the cards, and pictures show for students to cover corresponding words.

Board Games

Pictionary and Charades are excellent games to reinforce basic Spanish Vocabulary. Students engage in fun activities which allow them to practice their Spanish vocabulary. Custom memory games may also be created where Spanish words can be printed on one card and the equivalent picture on another card. This is done for a list of vocabulary words. The students have to turn over the cards, ensuring that the word matches the picture.

Word Scrambles and Searches

Creating word scrambles with Spanish words can be useful for students at the higher level. These will help children recognize Spanish words and their spellings.

Camera Hunt

Students learn the vocabulary for different objects/concepts. They then go on a scavenger hunt to find pictures of the vocabulary that they would have learned. They may use digital cameras to take pictures of the objects.

Useful Strategies for Teaching Agricultural Science

- Practical Teaching- demonstration and modelling
  - *Teacher demonstration & children observe*
  - *Teacher demonstrates with help from the children*
  - *Children demonstrates with help from the teacher*
  - *Children demonstrate and teacher observe*
  - Use of Social Learning instructional strategies such as cooperative and collaborative learning
  - Provision of positive reinforcement and immediate feedback
  - Guided cues and questioning to develop critical thinking and enhance knowledge of the methods and skills used in agriculture, and the reasons why those methods are preferred.
  - Use of visual aids
  - Use of stories, drama, simulations, and role-play activities

- Enhancement of critical and creative thinking skills through model making activities – for example: design a model to solve a given problem on a farm; build a model of a plantation of agriculture in the past
- Integration of ICT in learning activities – virtual farm; research activities; PowerPoint presentations

Glossaries

Some key terms in Agricultural Science

Agricultural folklore	The traditional agricultural beliefs, myths, tales, and practices of a people, transmitted orally from generation to generation
Agricultural produce	Foods from plants and animals
Agricultural Science	An understanding of the principles and practices of cultivating crops and rearing livestock and related activities
Agricultural technology	Tools and machinery that are used in agriculture
Agriculture production system	A system which simplifies the work of the farmer in the process of growing plants or the rearing of animals
Agro processing	The conversion of primary agricultural products into other commodities
Agro-tourism	The promotion of agricultural products through tourist-based activities
Aquaculture	The cultivation of aquatic plants or animals for food
Aquarium	A transparent tank of water in which fish and other water creatures and plants are kept
Asexual propagation	A method of growing plants from parts of a plant, such as the stem, roots or leaves
Bison	an animal used by our ancestors to carry heavy loads
Breakfast	The first meal eaten at the beginning of the day
Condiments	A class of crops such as herbs and seasonings
Controlled environment	Any agricultural technology that enables the grower

	to manipulate a crop's environment to the desired conditions
Dinner	The main meal eaten at evening time
Equipment	Machinery used in the operation of an agricultural area or farm
Farm structures	Buildings that are found on a farm
Farmer	A person who cultivates land or grows crops or rears animals
Fertilizer	Any substance, such as manure or a mixture of nitrates, added to soil or water to increase its fertility
Field packing	Placing the produce from the field into suitable containers
Field sanitation	Removal of crop residue
Food fish	A fish that is reared for eating purposes
Food security	The availability of a sufficient quantity and quality of nutritious food for a population
Food tourism	The pursuit and enjoyment of unique and memorable food and drink experiences, both far and near
Fresh foods	Food that was recently harvested from the garden
Fresh water fish	A fish that lives in ponds and rivers
Fruit	The ripened ovary of a flowering plant, containing one or more seeds

Garden	A plot or piece of land that is used for the cultivation of flowers, vegetables, herbs or fruit
Genetic modified organisms	Special set of technologies that alter the genetic makeup of organisms such as animals, plants, or bacteria
Good environmental practices	Any agricultural practice that supports the environment
Grocer	Someone who sells food and other goods for the home in a small store
Grow box	A partially or completely enclosed system for raising plants indoors or in small areas
Harvest	To pick and collect crops or fish to eat
High density aquaculture	Fish production per unit of surface that is high and can be increased at will, as long as sufficient oxygen, fresh water and food are provided
Hybridization	The act of mixing different species or varieties of animals or plants to produce hybrids
Hydroponics	A method of growing crops in water rather than soil
Irrigation	To apply water to crops using artificial means such as pipes
Livestock	Animals that are reared for food
Lunch	A meal eaten in the middle of the day
Marketing	The activities involved in getting the produce from the farm to the consumer
Mixed farm	A farm where both crops are grown and livestock are

	reared
Moulding	Making a mound around the stem at the base of the plant using loose soil
Mulching	Covering the surface of the soil with organic matter such as dried grass or inorganic material (plastic) to conserve soil moisture, reduce evaporation and soil erosion
Ornamental fish	Fish that is reared for aesthetic purposes
Pest and disease control	Measures that are used to get rid of pest and disease in agricultural production
Pests	Any organism that hinders the growth and development of plants and animals, reducing yield
Plantation	A large area of land where one crop is grown
Ploughing	To break and turn over earth so that the sub soil comes on top and the top soil goes below
Post-harvest	The stage of crop production immediately following harvest, including cooling, cleaning, sorting and packing
Potting medium	A growing medium suitable for the establishment and development of a wide range of plants in containers
Poultry	Birds that are raised on a farm for eggs and meat
Praedial larceny	Theft of agricultural produce
Prepared foods	Food that has been cooked
Processed	To change produce from one form into another by preparing, handling, or treating it in a special way
Propagation	To produce a new plant

Retailer	A person who sells things directly to customers for their own use
Rotavation	A method of breaking up the soil into a fine tilth
Rubric	A guide for scoring students' work
Salt water fish	Fish that lives in the sea or ocean
Seedlings	A young plant that is grown from seeds
Self-Watering Grow Box	A special double-walled planter that can store and release water to plants growing inside it
Sexual propagation	The growth of plants from seeds
Shelf life	The length of time that food may be stored and remains good to eat
Spacing	Refers to the distance between and within planting rows where seedlings are planted or seeds are sown
Spices	A substance made from plants which flavours food or beverages
Spot application	Applying fertilizer in one location at the side of the plant
Staking	A method of supporting plants during growth
Tillage	Involves ploughing and rotavating land to a fine tilth for cultivation of crops.
Tools	A device used to perform or facilitate manual or mechanical work.
Transplanting	Transfer of plants from one location (nursery) to the place where it will be grown (field, SWGB)

Trellising	The use of a framework to support climbing plants
Value-added agricultural products	Refers generally to manufacturing processes that increase the value of primary agricultural commodities.
Vegetable	The edible part of a plant that does not contain seeds.
Vendor	A person who sells fruits and vegetables to consumers.
Water quality management	A method of ensuring that the water in an aquarium or pond is free of nitrates for successful growth of fish by changing the water when necessary
Weed	A plant found growing where it is not wanted
Weeding	The removal of any unwanted plants
Wholesaler	A person or firm that buys large quantity of fresh produce or processed goods from various producers or vendors and resells to retailers.

Terms Used in English Language Arts

Adjacency pair	A term used in sociolinguistics to refer to a single stimulus-plus-response sequence by the persons engaged in a conversation. Adjacency pairs usually function in initiating, maintaining and closing conversations, for example, greetings, invitations, requests, leave-taking and topic changing; it is a type of turn-taking where the second utterance depends on the first. Simple Example Speaker 1 Hello. How are you? Speaker 2 Hello. I am going well. How about you?
Age-Appropriate	Suitable for the age of the learner, as in materials and activities.
Appreciative listening	Appreciative listening includes listening to music for enjoyment, to speakers because you like their style, to your choices in theatre, television, radio, or film. It is the response of the listener, not the source of the message that defines appreciative listening. That which provides appreciative listening for one person may provide something else for another.
Articulate	The ability to speak and express one-self fluently, coherently and clearly; using language easily and fluently.
Aural	Of or relating to the ear or to the sense of hearing
Author's Purpose, Author's Craft, OR	An understanding of author's intention, style and presentation, point of view and impact on audience.

Author's Perspective

Background/Prior Knowledge	The reader's ***prior knowledge*** about a topic. Readers create meaning when prior knowledge is integrated with new knowledge. When students can draw upon their experiences and background knowledge, their understanding is enhanced, and reading comprehension is greatly improved. To relate unfamiliar text to their prior world knowledge and/or personal experience—those connections generally take three forms: *text-to-self connections; text-to-text connections; and text-to world connections.*
Body language	"Body language" or non-verbal communication, technically known as kinesics are subtle and sometimes not so subtle movements, gestures, facial expressions that indicate something is going on.
Characteristics of Texts	Components of texts that make them similar to other texts in a particular genre, for example, title page, table of contents, glossary, boldface headings, and index for informational texts.
Choral Reading	Students and teacher reading aloud from a text as the teacher models fluency and expression. This reading in unison helps children understand that print is speech written down as they hear the patterns of language and see the words. Choral reading also develops sight word vocabulary.
Classical Texts/Literature	Texts that have remained important since a considerably earlier time because of their literary merit.

Code-mixing	Involves the transfer of linguistic/language elements (words and grammatical features) from one language into another, for example English and Spanish – Spanglish. Some literature treat with code-mixing and code-switching as different concepts while some use the terms synonymously.
Code-switching	While code-switching (in some literature) refers to combining linguistic elements from two different languages, code-switching is characteristic of bilingual and bi-dialectal speakers where the speakers decide on the language or language variety to use depending on who they are speaking to, for example, using Trinidad English Creole as opposed to using Trinidad Standard English when speaking to a friend. A person can switch during a single conversation, topic or even sentence.
Communication	a process where there is the transmission and reception of information or a message between a source and a receiver using a signalling system which may be verbal or non-verbal or a combination of the two.
Concepts of Print	Concepts relate to the way language is conveyed in print. Print concepts include directionality (English language text is read from left to right and from top to bottom), the difference between letters and words (letters are symbols that represent sounds; words are made up of letters; there are spaces between words), the use of capitalization and punctuation, and the common characteristics of books (title, author, front/back).

Content-specific words	Content-specific vocabulary refers to the words and phrases that relate to a particular subject area. These content-specific words are also referred to as "Tier 3" or "domain-specific" words.
Contrastive analysis	An approach to investigating languages by looking at the structural differences between the languages usually with the intention of teaching a language. For example, comparing Trinidad Standard English (TSE) and Trinidad English Creole (TEC) to the points of structural differences which may pose difficulty in students' optimal use of Trinidad Standard English. Contrastive analysis is included in the English Language Arts (ELA) document because it is felt that students' use of TSE would improve if they were explicitly taught the differences between TSE and TEC so they would know when to use a particular linguistic feature correctly.
Contemporary Texts/Literature	Texts that are clearly not classical, but are more significant in literary history than those termed currently popular.
Context Clues	Context is the most helpful tool students use to unlock the meaning of print. This meaning comes from the words themselves, the word order, and the combination of the words.
Conventions	Accepted practices in spoken or written language, such as rules for grammar and language; "mechanics" in/of writing.
Critical Reading	Critical reading is the process of reading that goes beyond just understanding a text. Critical reading involves carefully considering and evaluating the

reading, identifying the reading's strengths and implications, identifying the reading's weaknesses and flaws, looking at the 'big picture' and deciding how the reading fits into the greater academic context (the understandings presented in other books and articles on this topic), and asking questions about the reading.

Cueing Systems

There are three interrelated signals or systems used in the reading process:

Semantic (meaning related) – semantic cues refer to the meaning attached to individual words and the interrelationships of words (knowledge of language). Readers use semantic cues to make sense of the text.

Syntactic (structural or grammar related) - syntactic cues concern the order of words in phrases and sentences. Readers use syntactic cues to predict and confirm words.

Graphphonic (visual or letter related) – Readers use graphphonic or visual cues to identify and associate print with letter sounds.

Decoding

Strategies used to assist in the pronunciation of unknown words.

Description

A form of discourse, the purpose of which is to picture a scene or setting. Though often used apart for its own sake, it more frequently is subordinated to one of the other types of writing; especially to narration, with which it most frequently goes hand in

	hand.
Determining Importance	Skilled readers know that not all information within a text has the same level of importance. The ability to perceive themes in literature, to surface the meaning of a poem, and to identify the most important information about ~~cell~~ structure in an expository text are essential to overall reading comprehension. By making categories and finding larger themes, students are able to organize, remember, and use information they read.
Dialect	Any regionally or socially distinctive variety of language identified by a particular set of words, grammatical structures and in some cases, by a certain accent or pronunciation. In Trinidad and Tobago (T&T), the term 'dialect' is used to refer to TEC or Creole – that language that is 'broken English' however in Linguistics, even Standard English is a dialect since there are many varieties of it including American Standard English and Caribbean Standard English.
Digital Communication Tools	Devices such as the computer and any applicable software, cellular phones, tablets, digital cameras, voice recorders and networks which are used to locate, evaluate, use and create information.
Directed Reading/Thinking Activity (DRTA)	A reading comprehension activity used to guide students to activate prior knowledge, make predictions about what the text might contain, and determine a purpose for reading.

Discriminative listening	Being sensitive to changes in the speaker's rate, volume, force, pitch, and emphasis, the informative listener can detect even nuances of difference in meaning.
Dolch Word List	List of basic sight words most frequently used in the English language
Efferent Reading	Reading for information.
Enunciation	To articulate clearly; skills associated with speaking clearly and fluently; to articulate, for example, fluency, volume and intonation
Evaluating and Responding to Text	Making assumptions and assertions about the content and merit of text that is supported and expressed
Explicit instruction	Systematic instruction of concepts, strategies and skills that builds from simple to complex.
Explicit Teaching	Direct, purposeful teaching of specific knowledge, skills, or strategies. In explicit teaching, the teacher
Expository Text	Text that is written by authors to explain, to describe, to present information, or to persuade. Expository text is subject oriented and contains facts and information using little dialogue. Examples of expository text structures: Compare/contrast, cause/effect, classification, and problem solving.
Five W's + How	These are questions whose answers are considered

questions	basic in information-gathering. They are often mentioned in journalism and research. Questions that begin with what, who, when,why, where and how.
Formal speech contexts	Generally determined by the audience and topic. Standard English is expected in formal speech contexts, for example Parliament and the classroom.
Fluency	The ability to use language automatically, accurately, and quickly for constructing meaning.
Gist	Understanding text as a whole by extracting and inferring information (getting the gist).
Gradual Release of Responsibility	An approach for teaching reading and writing strategies to students. It incorporates teacher modelling, guided practice, independent practice, and application of the strategies in authentic contexts.
Grammar	There are many types of grammar but the term is used in the curriculum document to refer to the study of the way words, and their component parts combine to form sentences.
Graphemes	Is the basic structural unit written in any given language e.g. individual written letters or symbols of the alphabet including punctuation marks and numerals.
Graphic Organizer	Visual organizers, such as a story maps, spider-webs, charts (KWL or T), or diagrams (Venn), used to

	create a visual organization of ideas.
Guided Reading	The teacher works with a small homogeneous group of students, guiding them through a selected text and helping them develop and practice reading strategies. In guided reading, the text is carefully chosen for the students and each child has a copy. Students and teacher read together and the teacher stops briefly to give direct instruction.
Haptic	Any form of nonverbal communication involving touch.
High-frequency words	High frequency words are those words which occur most frequently in written material, for example, "and", "the", "as" and "it". They are often words that have little meaning on their own, but they do contribute a great deal to the meaning of a sentence. Some of the high frequency words can be sounded out using basic phonic rules, e.g. "it" is an easy word to read using phonics. However, many of the high frequency words are not phonically regular and are therefore hard to read in the early stages. These words are sometimes called sight words
Inferences	Deep comprehension of text requires not only an understanding of information that is directly stated in the text, but messages and ideas that are also implied. Students can be taught the essential strategy of making inferences about what is not literally stated in a text by helping them to consider what is said in the text in combination with their prior knowledge. With the ability to infer, students will gain deeper comprehension of text, along with greater appreciation of the nuances in text.

Inferential/Implicit Questions	These questions often require students to interpret information from across parts of a text and to connect knowledge from the text with their own general background knowledge.
Informal speech contexts	Generally determined by the audience and topic. One may use any language or language variety especially a Creole or other language used among friends and familiar people. In T&T, one would usually use TEC in this setting but Standard English may also be used.
Intonation	Intonation is the way in which the vocal pitch changes to convey grammatical information such as distinguishing questions from statements (Really? Really!) or indicating contrastive and emotive stress (Put the boxes here, not over there! Or "I love my new iPad!")
Invented Spelling	A predictable pattern of children's spelling that progress through developmental stages. In invented spelling, students use their personal logic, knowledge of phonics, and print conventions to spell words. Invented spelling is *decodable*!
Jargon	A specialized vocabulary in the same subject, work or profession.
Journals	Journals provide a place for students to retell and reflect on happenings from their lives. Journals are informal and used as a vehicle to encourage students to get their thoughts and experiences on paper. They can serve as a source of ideas for writing

projects in writers' workshop.

See types of below:

Class: A common log in which to record observations about a class pet, activity, field trip, etc.

Dialogue: Provides a place for written conversation between students or between student and teacher. Entries are usually brief, personal and informal; may centre on a specific subject or concept, or may be purely conversational.

End of the day: A quiet way to end the day. Students can be asked to write about the best part of the day, the most fun, something important that happened, etc.

Learning Log: A place to record how and what and the student has understood about a concept or unit of study. May also include description of the learning process. May be used in any subject.

Personal : Similar to a diary; may contain personal thoughts, also stories or partial stories.

Poetry: Places to copy favourite poems, write original poems, or keep track of images to use when writing poetry.

Reflection : Students reflect on what they've

	learned and what they're still wondering about.
	Writer's Notebook: A place to record favourite phrases and words discovered in reading and or everyday life. Useful as a reference notebook when writing original pieces in writing workshop.
Language	At the specific level, language refers to the concrete act of speaking, writing or singing in a given situation, including sign language. At the abstract level, language is the defining feature of human behaviour.
Language awareness	Refers to an informed, sensitive and critical response to the use of language by oneself and others.
Levels of linguistics/levels of linguistic analysis	The study of a language or languages at the levels of phonology, morphology, syntax, semantics and in some cases, pragmatics.
Linguistics	Refers to the scientific study of language.
Literal/Explicit	The information to respond to these questions will not usually be found in one sentence, but in two to four sentences of contiguous text.
Making Connections	This strategy involves connecting new knowledge to prior knowledge. When students are able to make connections between what they read and what they already know about a specific topic, scenario, predicament, or character's feelings, their

comprehension will be enhanced.

Media A medium is something we use when we want to communicate indirectly with other people– rather than in person or by face-to-face contact. 'Media' is the plural of 'medium'. The term 'media' includes the whole range of modern communications media: television, cinema, video, radio, photography, advertising, newspapers and magazines, recorded music, computer games and the internet.

Media Etiquette Is a code of behaviour that delineates expectations for social behaviour according to norms within a society, social class, or group when using media and digital communication tools. (e.g. appropriate use of digital cameras, cellular phones and recording devices by (i) respecting privacy (ii) requesting permission to record/capture photos and voice (iii) mannerly use of cellular phones in public or group settings etc.

Media Literacy Consists of of a series of communication competencies, including the ability to **Access, Analyse, Evaluate**, and **Communicate** information in a variety of forms, including print and non-print messages. (http://namle.net)

Media Texts Refer to anything people can engage with to produce meanings about themselves, their society and their beliefs. Media texts are the messages in the programmes, films, images, web-sites (and so on) that are carried by the different forms of communication (Media). Media texts often use several types of communication at once – visual images (still or moving), audio (sound, music or

	speech) and written language. Media texts can be posters, billboards, pictures, advertisements, music, symbols, and signs. Typefaces, use of colours on covers or cover pages, size and shape of signs, flashing lights, different genres of music and other audio stimuli etc. are used to create impact and influence perception and meaning.
Mental images	Pictures which readers create in their minds while reading. Good readers use images to make emotional connections to the text, adapt their images as they read to include new information, use images to immerse themselves in rich detail as they read.
Metacognition	Reflecting on one's personal thought and learning processes. Examples of metacognition might be taking a moment to think about the way one reads while reading a passage, or asking oneself after reading a passage, "Why did that make me react the way it did?"
Morpheme	A morpheme is the smallest meaningful unit of language. For example, plural –s, -es. There are free morphemes which are words that are meaningful by themselves, and there are bound morphemes which need to be attached to a word for meaning, for instance, affixes.
Morphology	The branch of linguistics that studies the structure or forms of words.
Non-verbal communication	Refers to the non-linguistic features of communication including facial expression, gestures, paralinguistics, body language and posture,

	proxemics, haptics, eye contact.
Onset	The initial consonant or consonant cluster of a word or syllable (e.g. "str" in string). Some words or syllables have no onset e.g. (out, end, at, earth)
Oral	By word of mouth; spoken rather than written
Phoneme	The smallest sound unit in a language that is capable of conveying a distinct meaning, such as the b of bat and the t of talk
Phonemic Awareness	The understanding that speech is composed of a series of individual sounds. These sounds can be: • segmented – pulled apart words into sounds blended – put sounds back together • manipulated – sounds can be added, deleted or substituted.
Phonics	Teaches the relationships between the individual sounds in speech and the spelling patterns of written language. This is useful for reading and writing.
Phonogram	A combination of vowels and consonants giving one unit of sound e.g. ell, ight, tion.
Phonology	The study of the sound system of languages.

Pragmatic language	The study of language from the user's point of view; specifically the language choices and language constraints during or in an act of communication.
Pronunciation	the way language sounds when it is spoken
Prosody	The ability to orally read sentences expressively, with appropriate phrasing and intonation.
Proxemics	Proxemics is the study of humankind's "perception and use of space" (Hall 1968:83). People handle space differently and how they handle the space which they are in is largely determined by the culture in which they are immersed. Therefore, one's use of space conveys meaning.
Reading Fluency	Fluency is the ability to read a text accurately, quickly, and with expression. Fluency is important because it provides a bridge between word recognition and comprehension. When fluent readers read silently, they recognize words automatically. They group words quickly to help them gain meaning from what they read. Fluent readers read aloud, effortlessly and with expression. Their reading sounds natural, as if they are speaking. Readers who have not yet developed fluency read slowly, word by word. Their oral reading is choppy. Because fluent readers do not have to concentrate on decoding the words, they can focus their attention on what the text means. They can make connections among the ideas in the text and their background knowledge. In other words, fluent readers recognize words and comprehend at the same time. Less fluent readers, however, must focus their attention on figuring out the words, leaving them little attention for

	understanding the text.
Reading Process	Reading is a complex interaction between the text, the reader and the purposes for reading, which are shaped by the reader's prior knowledge and experiences, the reader's knowledge about reading and writing language and the reader's language community which is culturally and socially situated. The reading process involves 5 stages: • Pre-reading • Reading • Responding • Exploring • Applying
Rime	The part of a syllable which contains the vowel and final consonant or consonant cluster e.g. -ake in cake; -ouse in mouse. Some words contain rime only e.g. oat, eel
Scaffolding	The systematic sequencing of prompted content, materials, tasks, and teacher and peer support to optimize learning. Scaffolding is a process in which students are given support until they can apply new skills and strategies independently.
Semantics	The meaning system of language.
Strategic Reading	Strategic Reading involves the strategies that good readers use when building on comprehension. Using these strategies consistently will ensure

	comprehension with all readers.
Syntax	Refers to the study of rules governing the way words are combined to form sentences in a language.
Synthesizing Information	The final strategy involves the ability to blend together one's prior knowledge with new knowledge from the text for the purpose of constructing novel ideas, thinking, or asking questions. This is perhaps the highest level strategy students can be taught because all of the other strategies listed are required for the use of this strategy. Students should be taught to synthesize as they read as well as when they are done reading. By synthesizing as they read, students have the opportunity to stop and reflect, to summarize, and to consider their opinions as they read.
Text	A text is a medium through which ideas, experiences, opinions and information can be communicated. Examples of text Novels, story books, plays, poems, charts, graphs, timetables, advertisements, newspapers, magazines letters emails, films, games, labels, posters, signs, manuals and instructions, reports, text messages, blogs, social networking sites, web pages, catalogues and directories.
Think Alouds	Are prompts used by students to verbalize their thoughts as they learn.
Visualizing	Encouraging students to create images in their minds as they read or as texts are read aloud to them is essential. By creating mental images, students can make texts become "real" to them, assisting them in imagining themselves in a specific scenario in a text.

	Additionally, creating mental images helps students become more engaged in their reading and adds to their enjoyment of the text.
Word wall	An alphabetized chart posted in the classroom listing words students are learning.

Key terms in the teaching of Foreign Languages

Aural	Related to listening or to the sense of hearing.
Bilingual	Possessing proficiency in two languages, that is, the ability to understand and communicate in two languages fluently and to function in both easily.
Communication	The imparting or exchanging of information by speaking, writing, or using some other medium.
Cultural appreciation	An understanding of the value of different cultures within and outside of one's community.
Cultural awareness	The ability and willingness to objectively examine and to be aware of the values, beliefs, traditions and perceptions within our own and other cultures.
Culture	The sum of the beliefs, attitudes, behaviours, habits and customs of a group of people.
FLEX	Foreign Language Exploration. It is an introduction to a foreign language, emphasizing on basic language skills and concepts and exposure to the culture of that language.
Foreign language	A language that is not native to a particular region, country or to a person.
Hispanic	Relating to Spanish-speaking people and/or their culture. It is especially used to describe the people and culture of Central and South America.
Intonation	The rise and fall of the voice in speaking.
Language skills	The manner in which language is used. Listening, speaking, reading and writing are generally called the four language skills. Speaking and writing are the productive skills, while reading and listening are the receptive skills.
Linguistic proficiency	The ability of an individual to speak or perform accurately and fluently in an acquired language.

Oral	Related to the transmission of information by word of mouth or speaking rather than writing.
Second language	A second language is a language that is learned in addition to a person's mother tongue, or first language.
Single Language Offering	One of the options within the FLEX model. The emphasis is on providing limited introductory exposure to one language that students may later be able to choose for further study.

Some Key terms in Mathematics

Algorithm	An algorithm is a logical, step-by-step mathematical procedure used to obtain an answer, usually for a computational problem.
Analogue Clock	A clock with the numbers 1 to 12 (or representations) around the face and rotating hands to show the hours, minutes and sometimes seconds.
Angle	An angle is a measure of turn. Angles are formed when two straight lines (called the arms) meet at a common point (called the vertex) e.g. at the corners of plane regular shapes. Angles are measured in degrees (^{0}).
Anti-clockwise	The opposite direction to which the hands of a clock move.
Area	Area refers to the surface contained within the boundaries of a plane shape. It is the measure of the amount of surface. Area is measured in square units (e.g. square centimetres (cm^2), square metres (m^2)).
Ascending Order	Arranged from smallest to largest or increasing.
Associative Property	In addition and multiplication, no matter how the numbers are grouped, the answer remains the same. Examples: 2 + 1+ 7 = 2 + 7 + 1 or (2 + 1) + 7 = 2 + (1 + 7) and 4 x 5 x 2 = 4 x 2 x 5 or (4 x 5) x 2 = 4 x (5 x 2)
Attribute	The property of an object such as its colour, shape, position or size.
Axis (plural axes)	The horizontal and vertical lines on a graph that are used as reference lines. They represent the starting positions that allow for the placement of data and from which measures can be made.

Base	The flat surface that a solid stands on. It is usually opposite a vertex or apex or a face of the same size and shape. The base of a prism is the face with the shape of the uniform cross-section and not necessarily the face on which it is resting or standing.
Capacity	Capacity refers to the amount that a container can hold. Capacity is measured in litres.
Cardinal Number	Cardinal numbers (or cardinals) are numbers that denote quantity and represent the answer to "How many?" It does not refer to the order of objects or events.
Century	A century is one hundred years.
Circle	A plane shape with one continuous curved boundary that is always the same distance from the centre.
Clockwise	Moving in the direction of the hands on a clock.
Commutative Property	In addition and multiplication, the order in which the numbers are added or multiplied does not affect the solution obtained. Examples: 2 + 5 = 5 + 2 and 4 × 6 = 6 × 4
Compatible Numbers	These are numbers that are easy to manipulate mentally. Example: 40 and 60 are compatible numbers for addition because 40 + 60 = 100.
Composite Numbers	A composite number is a whole number that has more than two different factors. A composite number is not a prime number. Example: 12 has factors 1, 12, 2, 6, 3, 4. (12 is therefore a composite number).
Cone	A three dimensional shape or solid whose base is a circle and whose apex is directly opposite the centre of the circle.

Core	Refers to the repeating unit of a pattern. Example: 1,2,1,2,1,2,.. – the repeating unit or core is 1,2.
Cross-section	The shape observed when a solid is cut through parallel to the base. Example: the cross-section of a cone is a circle. A solid has a uniform cross-section if cross-sections obtained parallel to its base are always the same size and shape (cross-sections of prisms are uniform, whereas cross-sections of pyramids are not).
Cube	A solid or three dimensional shape with six square faces. The squares are all equal in size.
Cuboid	A box-shaped solid with six flat faces which may all be rectangular or four can be rectangles and two squares and where all the angles are right angles.
Cylinder	A solid with two equal circular faces and a curved surface connecting the two circular faces.
Decade	A period of 10 years.
Denominator	Represents the number of equal fractional parts a whole has been divided into and is the bottom number when writing a fraction. Example: $\frac{1}{2}$ means a whole has been divided into 2 equal parts
Descending Order	Arranged from largest to smallest or decreasing.
Digit	The ten digits are 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. They are used to create numerals or numbers. Example: the numeral 278 is made up of 3 digits ("2", "7" and "8").
Digital Clock or Watch	A clock or watch that uses numbers to show the time rather than hands. Example: 2:45
Discount	Represents the amount deducted from the price of an item.

Distributive Property	The distributive law states that the same answer is obtained when a group of numbers are added and then the sum multiplied by a number as when each number is multiplied by the number and then added separately. Example: 3 × (2 + 4) = 3×2 + 3×4
Edge	The line where two surfaces or faces meet.
Equilateral Triangle	A triangle with all three sides equal in length and where all the angles are equal.
Equivalent	Having the same value. Examples: 1 dollar is equivalent to 100 cents; 60 seconds is equivalent to 1 hour.
Equivalent Fractions	Fractions which have the same value, even though they may look different Example: $\frac{2}{5}$ and $\frac{4}{10}$ are equivalent.
Estimation	A guess of the actual value/amount or measure (such as length, area or volume) that is close to the answer. It usually involves some form of calculation.
Even Number	Any number that can be divided exactly by 2. (There is no remainder.) The last digit (or 'ones' digit) of even numbers are 0, 2, 4, 6 and 8.
Expanded Notation	The form used to show the value of each digit. It is written as a sum of each digit multiplied by its matching place value (units, tens, hundreds, etc.) Example: 2345 = 2 ×1 000 + 3 ×100 + 4 ×10 + 5 ×1 .
Face	The surface of a solid.
Factor	A factor of a number is a whole number that divides it exactly. Example: 1, 2, 3 and 6 are the factors of 6.
Fibonacci Numbers or	The sequence which starts with two ones and in which

Sequence	each subsequent term is given by the sum of the two preceding terms i.e. the numbers 1, 1, 2, 3, 5, 8,…
Formula	A type of equation that shows the relationship between different variables and/or numbers and symbols. Example: The formula for the Area of a Square is "Area = side × side ".
Fraction	A fraction is used to describe equal parts of a whole or equal parts of a collection of objects. It is a number (e.g. $\frac{1}{4}$ is a number on a number line). It is also used as an operator related to division (e.g. divide a number in half).
Hefting	The comparison of the weight of objects by holding one in each hand, so as to determine which is heavier or lighter.
Horizontal Line	Refers to a line drawn from side-to-side or left to right.
Improper Fraction	A fraction where the numerator (the top number) is greater than or equal to the denominator (the bottom number). Example: 8/3.
Interest	Refers to money paid for the use of other money.
Interest Rate	Refers to how much is paid for the use of money, as a percent.
Isosceles Triangle	A triangle with two sides equal in length and where two angles are equal.
Length	Refers to how long an object is or the distance from one point to another.
Loss	The amount of money derived by subtracting the selling price from the cost price. A loss occurs when an item is

sold for less than the cost price.

Mass Mass refers to the amount of matter or substance in an object. Mass is represented by how much an object weighs. It is measured in grams or kilograms.

Mean The mean or average is a score that represents a group of scores that is evenly divided or distributed. It is calculated by finding the total of a set of scores and then dividing by the number of scores.

Example: the mean for the scores 4, 5, 7, 12 is

$$\frac{4+5+7+12}{4}=7$$

Mixed Number A number consisting of a whole number and a fraction. Example: 3 ½

Mode The number or item that occurs most often or frequently in a list or set of scores/data.

Multiple The result of multiplying a number by any whole number greater than zero. Example: 20 is a multiple of 5 (the multiples of 5 are 5, 10, 15, 20, …)

Numeral A symbol that stands for a number. Examples: 3 and 45.

Numerator Represents the number of equal fractional parts or the equal parts of a whole to be counted and is the top number when writing a fraction. Example: 2/4 means 2 equal parts of 4

Odd Number Any whole number that cannot be divided exactly by 2. (There is a remainder of 1).The last digit of odd numbers are 1, 3, 5, 7 and 9.

Ordinal Numbers A number that indicates the position of something in a list. Example: 1st, 2nd, 3rd, 4th, 5th etc.

Parallel Lines Lines which are always the same distance apart. They never meet.

Parallelogram	A quadrilateral whose opposite sides are parallel and equal in length.
Percent	Percent means out of 100 or parts per 100. The symbol is %. Example: 25% means 25 per 100.
Perimeter	The total distance around the boundary of a plane shape. The perimeter of a plane shape is calculated by finding the sum of the lengths of the sides of the shape.
Perpendicular	Two lines are referred to as perpendicular if they meet or intersect at a right angle.
Place Value	The place a digit occupies in a number, such as units, tens, hundreds, etc. Example: In 457, the place value of the 5 is "tens".
Plane Shape	Refers to any flat shape that only has two dimensions (such as width and length) and no thickness.
Polygon	A plane shape with straight sides.
Prime Number	A number that has only two (different) factors, itself and one or a number that can be divided only by 1 and itself. 1 is not prime. 2 is the only even prime number. Example: 3 is a prime number because its only factors are 1 and 3.
Principal	The total amount of money borrowed (or invested).
Prism	A solid with two parallel, flat faces of the same shape and equal in size. (The two bases are the same shape and size). The cross section is the same all along its length.
Profit	The amount of money or income minus all expenses. It is

	calculated by subtracting the cost price from the selling price.
Proper Fraction	A fraction where the numerator (the top number) is less than the denominator (the bottom number). Example: $\frac{3}{4}$
Pyramid	A solid where the base is a polygon (a straight-sided shape) and the other faces or sides are triangles which meet at the top (the vertex or apex). Pyramids differ from prisms in that they only have one base and all the other faces are triangular in shape.
Quadrilateral	A plane shape with four straight sides.
Rectangle	A 4-sided plane shape where all the angles are right angles and where the opposite sides are straight, equal in length and parallel.
Regular Solids and Plane Shapes	Regular solids and plane shapes have all faces or sides equal and all angles equal. Examples: cube, square, equilateral triangle. Irregular solids and plane shapes are those opposite to regular solids and plane shapes. Examples: cuboid, rectangle, scalene triangle.
Rhombus	A 4-sided plane shape with straight sides where all the sides have equal length and opposite angles are equal.
Right-Angled Triangle	A triangle that has a right angle.
Scalene Triangle	A triangle with all sides of different lengths and where no angles are equal.
Sequence	A list of numbers or objects in a special order.
Solid	A three dimensional object. It has a thickness (height) together with length and breadth/width.

Sphere	A solid shaped like a ball. Every point on the surface is the same distance from the centre.
Square	A plane shape with four straight sides where all sides have equal length and every angle is a right angle (90°).
Square Number	The number you get when you multiply a number by itself.
Square Root	The square root of a number is that number which when multiplied by itself or squared, gives the original number. Example: The square root of 25 = 5 because 5^2 = 25.
Subitize	Refers to the skill of immediately recognising the number of objects in a small collection, at a glance, without counting.
Tessellation	A pattern made of the repeated use of shapes - the shapes must fit together without any gaps and should not overlap. The shapes completely cover the surface.
Time	Refers to the sequence of events taking place in the past, present or future. Clocks measure time using seconds, minutes and hours. However time is also measured in days, weeks, months and years. (The abbreviations 'am' and 'pm' are derived from the Latin words 'ante meridiem' which means 'before midday' and 'post meridiem' which means 'after midday' respectively.)
Trapezium	A 4-sided plane shape or quadrilateral with one pair of opposite sides parallel.
Triangle	A plane shape with three straight sides.
Vertex (plural vertices)	Can be the point or corner where two sides of a polygon meet or the point where three or more faces or edges

	meet in a solid.
Vertical Line	Refers to a line drawn from up to down or down to up in an upright position.
Visualise	To recreate and manipulate images mentally.
Volume	Volume refers to the amount of space occupied by an object and is measured in cubic units (e.g. cubic centimetres (cm^3), cubic metres (m^3)).
Weight	Refers to how heavy an object is. Even though weight and mass are different things (weight is a force which changes with gravity, while mass refers to the amount of substance or matter in an object and remains constant), weight often uses the units of mass: grams and kilograms.

Glossary of Scientific Terms

acoustic property an object's ability to transmit sound.

adaptation a structure or behaviour that enables an organism to survive in its environment.

air a mixture of gases that surround earth.

alternative affording a choice of two or more things, propositions, or courses of action.

amphibian a cold-blooded vertebrate which spends the early part of its life in water but most of its adult life on land.

aquatic relating to water; living in or near water or taking place in water.

aquatic pollution the contamination of water bodies e.g. Lakes, rivers, oceans, aquifers and groundwater.

bias introduced by an experimenter whose expectations about the outcome of the experiment can be indirectly communicated to the participants in the experiment

bird a two-legged, warm-blooded animal with a pair of wings, a beak and a body covered with feathers.

camouflage the process of animals changing their colours, patterns, and shapes to disguise them from predators or prey.

carbon an essential component of organic (derived from plants or animals) materials.

carnivore an organism that derives nutritional requirements from a diet consisting exclusively from animals.

classifying to group based on similarities or differences.

climate	the general weather pattern of a location over a long period of time.
climate change	a lasting change in average weather patterns.
communicating	the process of reporting data, including oral, written or using graphic representations.
component	a fundamental or basic part; ingredient.
consumer	an organism that gets energy by eating other organisms.
controlling a variable	keeping a selected quantity constant or fixed.
cycle	a process that repeats itself in the same order over time.
decomposer	a living thing that gets energy by feeding on dead materials and wastes.
deforestation	the cutting down and removal of all or most of the trees in a forested area.
design	to establish and define solutions for identified problems, or new solutions to problems which have been solved in a different way.
dietary requirements	food needed for good-health.
digestion	the mechanical and chemical breakdown of food into smaller components that are more easily absorbed.
distinguishing features	characteristics which set apart one thing from another.
drought	a period or condition of unusually dry weather within a geographic area where rainfall is normally present.

eco-friendly	an adaptation or feature that is designed to reduce any negative impact on the environment.
ecosystem	all the living and non-living things that interact with each other in an environment.
effect	a result or outcome
efficiency	a measure of the extent to which energy is converted into useful forms.
electrical property	a characteristic of materials which determines the ability to conduct electricity.
electricity energy	a form of energy that results from moving charged particles the ability to do work (light, sound, motion, electrical, heat, chemical)
enhanced greenhouse effect	an increase in the concentration of greenhouse gases in the atmosphere resulting in an overall increase of the Earth's average temperature
eutrophication	a process where fresh water plants receive excess nutrients resulting in oxygen depletion in the water.
experiment	a test under controlled conditions that is made to demonstrate a known truth or examine the validity of a hypothesis.
fair test	measures only what is intended to be tested, by ensuring conditions/quantities are constant except for the one that is being manipulated.
fish	a cold-blooded vertebrate animal that is typically covered with scales, has fins and gills that allows it to live in water.
flower	the reproductive structure of most plants

food chain	the path showing the flow of energy from one organism to another in an ecosystem.
food web	a combination of food chains that integrate to form a network.
force	a push, pull or twist.
form	the shape, size, dimensions, mass and/or other visual features which uniquely characterize an item or an object.
function	the action[s] that an item is designed to perform, the purpose it serves or for which it was made.
geothermal energy	the heat generated and stored in the Earth
global warming	the rise in the average temperature of Earth's atmosphere and oceans.
greenhouse gases	gases that trap heat in the atmosphere (water vapor, carbon dioxide, methane, and nitrous oxide).
habitat	the place where an organism or a community of organisms lives, including all living and non-living factors or conditions of the surrounding environment.
herbivore	an animal that feeds only on plants
hibernation	when animals go into a deep sleep during unfavourable environmental conditions.
hydroelectric energy	is power generated by the action of moving water.
hypothesis	a testable response, or potential solution, to a specific research or problem.
inferring	to deduce or make a judgement from information provided or gathered.

inquiry	the diverse ways in which scientists study the natural world and propose explanations based on evidence gathered.
insect	bone-less animal with six legs, three main body-parts (head, thorax, abdomen) and at least one pair of wings.
interaction	the direct effect or influence objects, actions or conditions have on each other.
invasive species	a species whose introduction causes or is likely to cause harm (economic, environmental, healthy); invasive species can be plants, animals, and other organisms (e.g., microbes).
invertebrate	an animal without a backbone
investigate	to conduct a systematic and detailed examination using data gathered.
leaching	the movement of water soluble components (minerals, pesticides) through soils.
magnetic property	to have the power to attract or repel materials
mammal	a warm-blooded vertebrate animal in which the female has milk-secreting organs for feeding the young such as cats, cattle, humans.
manipulated variable	the variable that is changed by the experimenter in a scientific investigation.
man-made	made by humans rather than occurring in nature.
mass	the amount of matter in an object or substance
material	matter which may be shaped or manipulated.
matter	is anything that takes up space and has mass.
measuring	an observation made more specific by comparing some quality of a system to a standard of reference.

migration	movement from one place to another; migration can be permanent, temporary, voluntary or forced.
movement	a change in place or position
natural	present in or produced by nature
non-living	a form of matter that exists but does not perform life functions/life processes. A rock is non-living.
non-native	relating to or originating from another place.
observable	recognizable through use of one or more of the five senses.
observation	information, some fact or occurrence in the natural world obtained using one or more of the five senses.
omnivore	an animal that eats either other animals or plants as a main food source.
optical property	an object's ability to transmit light.
organic	all carbon based molecules are known as organic.
organism	a living thing.
overpopulation	a situation that arises when the number of organisms is greater than the amount of resources needed to sustain them.
personal hygiene	keeping all parts of the body clean.
physical change	a change in the properties of a substance which does not affect its composition.
physical property	an attribute of a substance that does not affect its composition if changed.

plan	to identify systematic steps to achieve a desired outcome.
pollution	anything in the environment that can harm living things or damage natural resources.
precipitation	water that falls to Earth as rain, snow, sleet, or hail.
predator	an animal that hunts another animal for food.
predicting	the process of stating what is likely to happen next based on observations and past behaviour.
prey	the animal that is hunted and eaten.
producer	a living organism that makes its own food, such as a plant.
quantity	refers to measurable attributes of matter, such as mass, length, time, temperature.
recycle	the use of materials in old things to make new things.
reduce	to lessen or decrease.
reduce	to decrease the amount of waste produced by utilising multiple use items instead of single use or less packaging.
reforestation	the process of planting new trees in areas where they have been removed by cutting, destroyed by fire or disease.
reptile	a cold-blooded vertebrate covered with dry, hard, scale-like skin and lays eggs e.g. snakes, caiman.
responding variable	the quantity which changes as a result of a specific action on another .
reuse	using discarded or waste materials to create another useful product to prevent wastage.
sensory organ	part of the body used for observing the world, through the five senses: seeing, smelling, tasting, hearing and feeling.

separation	the procedure involved in extracting the original components from a mixture.
simple machine	a basic device, such as a lever, pulley, or inclined plane which enables work to be done more easily.
skeleton	the framework of bones in an animal's body.
solar	radiation from the sun.
sound	energy produced by vibrating objects.
stability	the ability of an object to restore its balance after being displaced from its rest position.
states of matter	the forms in which matter exist: solids, liquids and gases.
structure	a stable form or object composed of identifiable parts put together so that it serves a particular function or purpose.
sub-surface	relating to, or situated in an area beneath a surface.
system	a group of structures or processes that work together as a single unit; e.g. digestive, a pulley, ecosystems.
temperature	how hot or cold a substance is in relation to a standard scale of measurement.
tentative	subject to change as new evidence emerges.
terrestrial	relating to, living on, or growing on land.
texture	the degree of roughness or smoothness.
tidal energy	the power achieved by capturing the energy generated by the rise and fall of tides.
variable	a quantity or condition that can be changed in a scientific

	investigation.
variables held constant	all the variables that are kept the same in a scientific investigation.
variation	difference(s).
vertebrate	an animal that has a backbone.
weather	the state of the atmosphere at a place and time as regards to heat, cloudiness, dryness, sunshine, wind, rain, etc.
weight	a measure of the pull of gravity on an object.
wind energy	energy from the movement of the wind.

Glossary of Terms in Physical Education

Body Awareness	the way in which the body or parts of it can move (stretch, bend, twist and turn)
Flight	The ability to propel the body into the air.
Flow	The ability to link one movement to another with control and harmony.
Hop	Transfer weight from one foot to the same foot.
Jump	A light transfer of weight from one foot to both feet.
Lead-up Games	A game that involves one or more concepts and skills of a major team sport.
Leap	A light transfer of weight from one foot to the other foot.
Locomotor	Basic motor skills involving a change in position of the feet and/or a change in direction of the body (e.g. walking, and running).
Manipulative	Motor skills that involves the control of objects primarily with the hands and feet (e.g. bouncing a ball).
Motor Skills	A function which involves the precise movement of muscles to perform a specific task.
Movement patterns	The arrangement of a series of movement in relation to shapes, levels and pathways.
Pathways	Directional routes that are straight, curve or zig zag.
Personal space	The area around an individual that can be used while keeping one part of the body in a fixed position on the floor or on an apparatus (limited space).
Qualities	How the body can move. It is the ability to move quickly or

	slowly. The ability to perform light or heavy movements.
Relationships	The position of the body in relation to the floor, apparatus or other performers.
Sequence	A series of movements perform in succession.
Skip	A combination of a long step and a short hop with the leading foot alternating after each hop.
Space Awareness	The ability to move the body or its parts in specific directions.
Specialized Games	Sport–Specific activities such as dribbling a ball in football, shooting a ball in basketball, or performing a cartwheel.
Weight bearing	the ability of the bodily structure to hold or to bear its own weight in any given position.
Weight transference	movement so that their weight is moved from one supporting foot (or supporting limb/body part) to another one fully or partially.
Wellness	A positive way of life that includes seeking and maintaining the highest level of health and well-being.

Glossary of Terms in Social Studies

Afforestation	the replanting of trees to help preserve the environment.
Artefact	man-made object or tool used by people a long time ago. Usually measured in centuries.
Budget	a plan of how money is to be spent
Cabinet	A group of persons chosen by the head of a government to help in running the country.
Census	a count of the number of people who are living in a country.
Citizen	a person who belongs to country as a result of birth or naturalization .
Community	a place or location in which a group of people live
Conservation	saving, preserving or using resources wisely.
Constitution	basic laws by which a nation, state or group of people is governed or ruled.
Culture	the customs, beliefs, practices, food, dress, songs and dances and folklore of a people.
Deforestation	the large scale clearing or cutting of forests.
Democracy	a system of government which allows citizens to choose their representatives to act on their behalf.
Economy	the wealth and resources of a country.
Emblem	a symbol used to identify a nation, group or thing.
Employment	an occupation or a trade in which a person is involved.
Entrepreneur	A person who goes into business on his own.

Environment	the physical or social surroundings.
Expenditure	Money spent to purchase goods and services.
Exports	A country's products which is shipped and sold abroad.
Festival	A celebration which occurs at a special time of the year and is marked by special observances.
Government	A group of people with the authority to control and direct the affairs of a country.
Heritage	The cultural traditions which have been inherited from past generations.
Hill	land that rises above the surrounding land and can reach a height of 300m.
History	A study of life in the past.
Income	Money earned by an individual or country from various sources.
Island	A piece of land that is entirely surrounded by water.
Leisure	activities done for pleasure or relaxation which does not require much mental or physical exertion example reading a book, watching television
Mass Media	Those means of communication that reach and influences large numbers of people especially newspapers, magazine, radio, television and internet
Migration	The movement of individuals or groups from one place to another.
Mountain	A very high hill that is over 300m.
Mountain Range	A group of mountains running in a continuous line across a wide area.

Natural Disaster	Catastrophic natural events like earthquakes and tsunamis which cause massive levels of damage and are not caused by man.
Nationhood	A sense of identity that is linked to a people of a nation.
Need	Goods or services that are absolutely necessary for our survival.
Patriotism	The feeling of loyalty to one's country.
Plain	Land that is flat or almost flat.
Pollution	The contamination of the environment by manmade waste.
Population Census	Survey conducted by the Central Statistical Office every ten years to determine the number of people living in a country.
Recreation	Activities done for fun which require some physical exertion example swimming, riding bicycle, playing football or cricket.
Resource	Any aspect of the human and physical environment that can be used in the production of goods and services.
Revenue	Money the government receives from taxes and other investments.
Role	What a person or thing is expected to do.
Rural	Areas that are sparsely populated.
Technology	The various mechanisms and devices created by humans to assist them in performing tasks.
Thrifty	Refers to a person who has good money management skills.
Tourist	Anyone travelling for recreation, holiday, health, religion,

	sport or business and staying away from home for more than 24 hours. **Domestic tourist - travelling within one's own country** **Regional tourist - traveling within a defined region.** **Eco tourist -visitors who come to our country to enjoy the natural beauty of the place**
Trade	The exchange of goods and services for money or for other goods.
Transport	The movement of persons or goods from one place to another areas that are densely populated.
Vendor	Someone who sells goods.
Want	Goods or services that are not absolutely essential for our survival but can be acquired to facilitate our comfort.
Work	Activities that require much physical and mental exertion. These activities sometimes bring monetary gains to individuals.

Glossary of Terms used in VAPA

Drama

Act	To perform or play a role; a division of drama.
Actor	A person who performs in a play, who assumes the role of a character.
Arena	Also called theatre-in-the round; theatre space where the audience sits on all four sides of the auditorium and watches the action in an area set in the middle.
Characterization	The process of creating a believable person for a performance.
Characters	A person, animal, or entity in a story, scene, or play with distinguishing physical, mental, and attitudinal attributes.
Costume	Items worn by actors to create characters.
Cultural Forms	Various events that occur in Trinidad and Tobago that reflect our cultural identity.
Devising	To mentally arrange or plan an act.
Downstage	Area nearest to audience.
Festival	An event, usually and ordinarily staged by a local community, which centres on and celebrates some unique aspect of that community on a particular space and at a particular time.
Flash forward	Theatrical convention in which the audience is able to see future scenes through the eyes of one of the characters in a play.
Flashback	Theatrical convention in which the audience is able to see

scenes from the past through the eyes of one of the characters in a play.

Folk Characters Fictitious beings who are part of the traditional stories of Trinidad and Tobago. Some examples being Papa Bois, Douens and Jumbies.

General Space Refers to the area that is used by students. A classroom will be considered a general space.

Gestures The movement of a body part or combination of parts with the emphasis on the expressive aspects of the move.

Heritage Games Also known as song games/rings games. Activities with set movements and songs that aid in the development of particular skills and dispositions. Some examples are given below:

There Is A Brown Girl In The Ring…
Who Is Coming Here…
I Lost My Glove…
In A Fine Castle…
Toe Knee Chest Nut…

Journal A record of the activities done by students in a book either in writing or using pictures and/or drawings.

Mantle of the Expert An approach that allow students in the classroom to become "experts" in their field of study. The students research the topic and present their information in role.

Miming The art of performing without the use of speech and sound.

Mirroring Copying the movement and/or expression or look of someone else exactly.

Personal Space Refers to the area immediately around an individual. Students can identify personal space by extending arms and moving them left to right.

Portfolio A collection of information, pictures and/or artefacts on a

	particular theme/ topic.
Proscenium	A theatre in which the audience sits on one side with the action being viewed through an opening or frame (the proscenium arch) that separates the acting area from the audience space.
Ring games	(see Heritage games)
Role play	Changing one's behaviour and assuming a particular character
Scenario	An outline or synopsis of a play.
Script	The written dialogue, description, and directions provided by the playwright.
Soundscape	A sound or a combination of sounds created to enhance performances. These can be created by humans, using found or created environment as well as recorded sounds.
Stage left	Area that is left of the actors (actor must be facing audience).
Stage Positions	Refers to the locations on stage.
Stage right	Area that is right of the actors (actor must be facing audience).
Tableau	A technique in creative drama in which actors create a frozen picture, as if the action were paused; plural is tableaux. A representation of a scene, painting, sculpture by a person or group posed silent and motionless.
Traditional Mas	These refer to characters done during Carnival time that are done each year. Midnight Robber, Perriot Grenade, Baby Doll, Fancy Sailor and Fancy Indian are considered traditional mas characters.
Upstage	Area furthest away from the audience.

Recommended texts:

Song games from Trinidad and Tobago – J.D. Elder
Websites:
www.artsonthemove.co.uk
http://www.trinidadlakeasphalt.com/home/history/legends-a-myths.html
http://www.legendsandlore.com/sockpuppets.html
http://rookiemag.com/2012/05/how-to-make-a-zine/

Visual Arts

Balance	Is a feeling of visual equality in shape, form, value, colour, etc. Balance can be symmetrical or evenly balanced or asymmetrical and unevenly balanced. Objects, values, colours, textures, shapes, forms, etc., can be used in creating a balance in a composition.
Brochure	A small booklet or pamphlet, often containing promotional material or product information.
Collage	The combination of pieces of cloth, magazines and other found objects to create artwork by sticking or gluing onto a flat surface.
Colour	Refers to specific hues and has 3 properties, Chroma, Intensity and Value. The colour wheel is a way of showing the chromatic scale in a circle using all the colours made with the primary triad. Complimentary pairs can produce dull and neutral colour. Black and white can be added to produce tints (add white), shades (add black) and tones (add grey).
Colour and Design	Includes the elements of both graphic design and painting.
Composition	The organisation of the elements of design to create a piece of artwork or painting.
Contrast	Offers some change in value creating a visual discord in a

	composition. Contrast shows the difference between shapes and can be used as a background to bring objects out and forward in a design. It can also be used to create an area of emphasis.
Diorama	A scene or a model reproduced in three dimensions by placing objects or figures in front of a painted background.
Drawing	The usage of instruments to create markings on a two dimensional surface.
Elements of Design	The elements and principles of design are the building blocks used to create a work of art. The elements of design can be thought of as the things that make up a painting, drawing, design etc. Good or bad, all paintings will contain most of if not all, the seven elements of design.
Emphasis	An area or object within the artwork that draws attention and becomes a focal point.
Form	Is a 3 dimensional object having volume and thickness. It is the illusion of a 3 D effect that can be implied with the use of light and shading techniques. Form can be viewed from many angles.
Instruments	includes drawing media such as pencils, crayons, pastels and charcoal
Layout	a plan or sketch indicating the arrangement and relationship of parts of a design.
Line	is a mark on a surface that describes a shape or outline. It can create texture and can be thick and thin. Types of line can include actual, implied, vertical, horizontal, diagonal and contour lines.
Media	The art material that is used in a work of art such as clay, paint or pencil.

Mobiles	Are groups of suspended, three dimensional items that have several smaller objects, such as seashells or stuffed animals, hanging from crossbars. A prototypical one would have a main string to which several horizontal supports are tied. Then a series of objects are tied to these braces, usually at different heights.
Model	A three dimensional form made by shaping materials to create a replica of something.
Narrative Drawing	Is art that tells a story, either as a moment in an ongoing story or as a sequence of events unfolding over time.
Papier Mache	A construction material or paste made from torn paper or paper pulp and glue.
Pattern	Consists of three or more units placed at predictable intervals repeating other elements such as colour, line, shape, size and form.
Poster	A visual representation of information made to attract attention.
Pottery (pinch, slab, coil)	Objects that are shaped from clay .Types include pinch, slab and coil.
Principles of Design	The Principles of design can be thought of as what we do to the elements of design. How we apply the Principles of design determines how successful we are in creating a work of art.
Print making	Is an art form in which ink or other materials are transferred unto a material like paper, fabric, wood or stone to create an image.
Proportion	The spatial relationship between one element and another in terms of its scale and placement.

Props	An object used by the actors performing in a play or film.
Puppets/Puppetry	inanimate objects or representational figures animated or manipulated by an entertainer.
Repetition	created when objects, shapes, space, light, direction, lines etc. are repeated in artwork.
Rhythm/Movement	Is a movement in which some elements recur regularly. Like a dance it will have a flow of objects that will seem to be like the beat of music.
Rubbing collage	Created by placing materials beneath a sheet of paper and using crayons/oil pastels on the surface of it so that impressions of the objects are left on the paper.
Sculpture (additive, subtractive, assemblage/constructional)	A sculpture is a three- dimensional form made from clay, stone, metal and other material.
Shape	Is a 2 dimensional line with no form or thickness. Shapes are flat and can be grouped into two categories, geometric and organic.
Textiles	Art that involves creating images or designs on cloth/ fabric
Texture	Is about surface quality either tactile or visual. Texture can be real or implied by different uses of media. It is the degree of roughness or smoothness in objects.
Three Dimensional Studies (3D)	Includes the creation of forms that have length, width and height.
Unity	Occurs when all of the elements of a piece combine to make a balanced, harmonious, complete whole. Unity is

	another of those hard to describe art terms but, when it's present, your eye and brain are pleased to see it.
Value/Tone	Is the degree of light and darkness in a design. It is the contrast between black and white and all the tones in between. Value can be used with colour as well as black and white. Contrast is the extreme changes between values.
Variety	Is often obtained through the use of diversity and change by artists who wish to increase the visual interest of their work. An artwork which makes use of many different hues, values, lines, textures, and shapes would reflect the artist's desire for variety. Unity is the principle which is its variety's opposite; but when there is too little variety, the result is monotony.

Dance

Accent	Emphasis
Alignment	proper posture
Beat	underlying pulse
Body awareness	body shapes, body base, body part, locomotor, non-locomotor
Body base	standing, sitting, kneeling, lying
Body parts	arms, legs, head, fingers, ankles, elbows, knees, shoulders, toes, wrists
Body shapes	shapes that are curved, stretched , twisted, angular or straight, while executing either non-locomotor or locomotor movements
Choreographic structure	the way in which movement is organised and shaped to create a dance (e.g. ABA, theme and variations, narrative)
Communication	conveying or transmitting meaning with a particular context
Culture	understandings, patterns of behaviour, values and symbol systems that are acquired, preserved and transmitted by a

	group of people and that can be embodied in art works
Dance elements	body awareness, space, time and energy, relationships
Dance work	a product of dance making activity (e.g. stylised Bele, ballet , hip hop performance)
Direction	forward, backward, right, left, up, down, diagonals
Duration	long, short
Dynamics	the quality of movement influenced by weight, tension, flow and time
Elements of dance	the key components of movement (e.g. space, time, energy, relationships and body awareness)
Energy	float, swing, sudden, smooth, sharp, percussive, vibratory, explosive
Focus	fixed, moving, single, multi
Force	the instigator of movement, push or pull
General space	space in the overall dance area
Genre	a specific category of dance that has a tradition or history and is identifiable by specific characteristics, social functions, cultural contexts (e.g. ballet, hip-hop, stick fighting)
Group formations	a square, a triangle, two parallel lines, a straight line, a circle or a part of a circle, a V, or an inverted V
Improvisation	spontaneous movement in response to a stimulus
Interpretation	analysis or appreciation of meaning in a dance work by a viewer: or the particular meaning communicated by the performer of an existing work

Kinaesthetic signs and symbols	movement, gestures, and body language
Level	high, medium, low
Locomotor	movement in which the body travels across space (e.g. running, creeping rolling)
Mirror	two dancers facing each other to execute the same movement using opposite sides, as in a mirror
Movement motif	a movement or gesture that can be elaborated upon or developed in a variety of ways in the process of dance choreography
Movement phrase	a series of movements linked together to make a distinctive pattern
Movement sequence	a series of movements, longer than a phrase but shorter than a section of a dance
Narrative structure	a choreographic structure that tells a story
Non-locomotor	movement in which the body remains anchored to one spot by a body part (e.g. bending, twisting)
Pathways	patterns created in the air or on the floor by the body or body parts , as a dancer moves in and through space
Personal space	the space bubble around the body, extending as far as the body and body parts can reach
Range	near, far, big, small
Relationships	Orientation
Repetition	repeat the motif exactly

Rhythm	pattern, breath, steady, irregular
Space	level, size, range place, focus, direction, pathway
Sudden dynamic	movement is created by a sudden release of energy; movement with an explosive quality
Sustained dynamic	one long continuous movement idea without change of energy or stops
Technique	the dancer's skill in executing the movements specific to a dance form
Tempo	fast, slow, increasing, decreasing
Time	rhythm, tempo, beat
Unison	dancers moving at the same time

Music

Accompany	A part performed with the main part for richer effect.
Answering phrase	A musical response to a given phrase.
Bar/measure	The notes and rests between two bar lines.
Beat	A reoccurring regular pattern of sound. Rhythmic pulse felt in most music.
Body percussion	Using body parts to make sounds as accompaniment.
Call and response	Separate groups of performers alternate or respond to each other

Clef	A symbol at the beginning of the staff which determines the pitch of the notes on that staff.
Compound duple	Music with two beats to the bar where the dotted note represents one beat.
Crescendo	Growing progressively louder.
Decrescendo	Gradually decreasing volume.
Diction	How lyrics are pronounced.
Dynamics	Refers to the loudness or softness of a musical composition.
Elements	The different aspects that make music what it is, for example, pitch, rhythm, harmony, dynamics, phrasing, style, interpretation and tempo.
Folk songs	A song composed by common people and passed down through generations.
Form	The structural organization of a music composition, for example, verse, chorus or verse chorus, verse, call and response, round.
Graphic notation	A method of writing music using symbols to represent sounds.
Instrument families	Classification of instruments, for example, wood wind, brass, percussion, string.
Invented notation	A method of writing music using arbitrary symbols to represent sounds.
Jingles	Captivating music used to advertise a product.
Leap	A melodic interval greater than a major 2nd.

Melodic contour	The direction in which a succession of pitches/notes move.
Melodic instruments	Tuned instruments. These can play a melody/tune.
Melodic patterns	Recurring melodic/pitched ideas. Recurring snippets of melodies.
Melodic phrase	A musical idea with a melody.
Meter	A pattern of beats in successive measures which usually corresponds to the time signature.
Notate-Notation	Methods of writing music. The way music is written down, usually on a staff.
Note	A musical sound. A symbol that represents a musical sound.
Ostinato/ Ostinati	A short rhythmic or melodic pattern that is persistently repeated throughout an entire composition or portion of a composition.
Percussion instruments	Instruments whose sounds are created by striking or shaking, for example, drums, triangle, claves, sitar, guitar, piano.
Phrase	A single line of music played or sung. A musical sentence. A complete musical idea.
Pitch	The height or depth of a sound.
Pitch accuracy	Singing or playing the correct pitch or note.
Pitch movement	The movement of high and low sounds.
Pulse	A strong stress or emphasis on one of the beats usually the first beat of each measure.

Raps	A style of music made distinct by rhyming lyrics that are spoken or half sung in a syncopated style over a rhythmic accompaniment.
Repeated notes	The same note played or sung in succession.
Rhythm	The treatment of time in music. Notes can be held for varying lengths of time.
Rhythmic instruments	Un-tuned percussion instruments.
Rhythmic patterns	Recurring rhythmic ideas.
Rhythmic phrase	A rhythmic idea.
Round	A song in which two or more voice parts sing the same words and pitches, but start and finish at different times.
Score	Written or printed music.
Silences	No sounds
Simple duple	Music with two beats to a bar/measure.
Simple quadruple	Music with four beats to a bar/measure.
Simple triple	Music with three beats to a bar/measure.
Simplified (stick) notation	The use of stick symbols to represent sounds in music.
Solfege/ Solfa	Vocal exercises in which syllables are assigned to notes, (do, re, me, fa, so, la, ti).
Sound pictures	Sounds created to identify objects, persons, animals etc.

Soundscape	A range of sounds created to tell a story.
Staff	The five lines and four spaces on which music is written. The horizontal lines on and between which notes are written.
Standard notation	Acceptable western method used to represent sounds in music.
Step	A melodic movement of one or two half steps. A small melodic movement between pitches.
Stringed instruments	Instruments whose sounds are created by bowing, plucking or striking a stretched string, (violin, guitar, mandolin, sitar).
Strong and weak beats	Strong beats are more pronounced and are usually at the beginning of a measure. The other beats in the measure are called weak beats.
Structure	The way the parts of a musical piece is arranged, for example, verse then chorus or chorus, verse then chorus again.
Style	A genre or type of music, for example, calypso, parang.
Tempo	The speed of a piece of music.
Texture	The thickness or thinness of the musical sound based upon the number of different tones produced at the same time.
Three part round	A song in which three voice parts sing the same words and pitches but start and finish at different times.
Timbre	The character or quality of sound that distinguishes one instrument, voice, or other sound source from another.

Time	The number of beats in a bar/measure.
Tone colour	Same as timbre. The identifying quality of a sound emanating from voice/instrument that distinguishes it from another.
Traditional songs	Songs from our culture, for example, stick fighting songs.
Tuned percussion	Instruments which can create definite pitch when struck or shaken, for example, steel-pan, sitar and piano.
Unison	Two or more voices or instruments playing the same notes simultaneously.
Un-tuned percussion instruments	Instruments which create un-pitched sounds when struck or shaken, for example, tambourine, tabla, cymbals, claves.
Wind instruments	Instruments whose sounds are created via an enclosed column of air when one blows into it.