

Vanuatu National Curriculum for Kindergarten

# Acknowledgements

Acknowledgement and thanks are due to all the stakeholders who provided input into this document. This document benefited from contributions by provincial coordinators, key teachers and teachers.

The contents of this document are guided by all materials previously prepared by the Ministry for Early Childhood Care and Education (ECCE). This document could not have been written without the dedicated and knowledgeable support of Jennifer James, the National Early Childhood Care and Education Coordinator. The generous support of Roy Obed (Director of Education Services), Jessie Dick (Director General of Education),

This document was prepared in collaboration with Jennifer James, Joan Littleford, and Teresa Gonzalez. The unique expertise of Mona L. Renzone is showcased in the design of the document.

This document is further informed by the following Republic of Vanuatu, Ministry of Education documents: the National Quality Framework for ECCE 2012, the Inclusive Education Policy and Strategic Plan 2010-2012, the Vanuatu Childcare and Education Policy 2010, and the Vanuatu Curriculum Statement, K to 3 Curriculum.

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# Introduction

### Kindergarten Syllabuses

This document includes the set of four syllabuses for the following subjects at the Kindergarten level:

- Language and Communication
- Mathematics
- Science
- Living In Our Community

Each subject syllabus follows the same format and includes the following:

- An Introduction that gives details about each subject's Rationale, Aims and Content Overview including a description of the Strands, Sub-strands and Learning Outcomes.
- A Learning Outcomes Section that identifies the learning outcomes, the student indicators and related activities for each strand for Kindergarten.
- A General Section that provides some assessment charts, a glossary of specific terms and some of the key references used during the development of the syllabus.

#### Introduction

The *Vanuatu National Curriculum Statement (VNCS* 2010) guides the development of the national curriculum from Kindergarten to Year 13. Teachers should refer to this important document. In particular, teachers should refer to Section 4: Vanuatu's Curriculum Values; Section 6, Guiding Principles for Teaching and Learning; and Section 8: Paramount Outcomes. The following statements focus on some key ideas from these sections of the VNCS.

## Language of Instruction

Vanuatu is comprised consists of many islands, cultures and languages. Constitutionally, English and French are the official languages of instruction at all levels of schooling. However, recent research shows that when students use their vernacular languages in the early years of schooling, they enhance their future level of literacy. A vernacular language is

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defined by the *National Language Policy* (2012) as "the language most used at home, in the school community or as being the student's mother tongue". The vernacular language might be a local language, Bislama, French or English. The *National Language Policy* (2012) advocates using the a vernacular language as the language of instruction in Years 1 and 2, introducing English or French half way through Year 2, and using English or French as the language of instruction in Year 3. It is, therefore, imperative that children are educated in their home language through the Kindergarten programme. Communities or their elected representatives will agree upon the agreed vernacular to be used in their schools. Teachers should continue to use the vernacular to support students' learning and students will use their knowledge and skills in the vernacular to assist their learning across the curriculum. Teachers of Years 1 to 3 must will continue to extend and build a good base in students' vernacular language as this language will be the vehicle or bridge to the introduction of the official languages of instruction English or French at Year 3.

This approach will enables students to move, with more ease, into the official languages of instruction for the years 4-6 which are taught with more ease because in Years 4 to 6 they will be taught by teachers using either French or English as the language of instruction.

### Transition from Preschool to Year 1 Primary

The syllabuses developed for the Kindergarten years were developed to easily mesh with the syllabuses for Primary Year 1. It will provide children with the skills necessary for a successful transition to the formal school system. They will have had opportunities to learn in all areas of child development – socially, emotionally, physically and cognitively and will have had opportunities to develop language skills as they interact with others in a program that meets the specific needs of young children.

## Inclusive Curriculum/Multi-Age Teaching

Parents send us their children whom they have loved and cared for. They have done their best they can to provide them with the love, support and guidance they need to develop holistically in those important early years, but not all children will have reached the important milestones that will allow them to ease into the school program. They may have difficulties with their emotional, social, physical, language or cognitive development. Our role as educators is to accept each child that comes into our classroom and do our best to help them to develop and enhance their skills in all areas of learning.

The curriculum, has set out in this document, allows children to develop skills in all developmental stages at their own pace through learning centres. The role of the teacher is to assess what children are ready to learn next and to temporarily place group children

temporarily in small groups of children with the same needs. Support is can be given to each this small group until and then they are ready to learn at the next level. These groups are temporary because learning is not linear does not follow a set process but is dependent on the specific skills each child has developed. Children tend to learn some concepts quickly and take some time learning something else. The groups are designed to meet the specific needs of children at a particular point in time and within a particular learning area.

Children, who have advanced skills, should not be left to take part in activities that are always below their level of understanding. They require challenges and interesting ways to think and plan. Learning centres can easily accommodate their learning requirements. By interacting with these children and suggesting problems for them to solve;, adding more advanced materials for them to play with or pairing them with children whom they can assist, will provide challenges that are more suited more appropriately to their needs.

## Assessment, Recording and Reporting

Each learning area contained in this syllabus discusses appropriate assessment practices and ways to record children's learning in appropriate ways that are appropriate in a play-based program. By observing, listening, and talking with children the teacher learns what the child knows and how the child thinks. This information should then be documented for later analysis so the teacher can then report accurately to the parent how the child is progressing in all learning areas. Additionally the teacher is able to report on how children are meeting milestones in all developmental areas. This is particularly important in the e

# Syllabus 1

# Language and Communication

#### Introduction

The *Vanuatu Language and Communication Syllabus* for Kindergarten identify the knowledge, skills, attitude and values that children are expected to demonstrate by the end of Kindergarten. Because the curriculum is focused on children's learning, achievements are expressed as outcomes and indicators in this syllabus.

The purpose of the Language and Communication Syllabus is to assist teachers in developing teaching and learning programs for Kindergarten-aged students that are appropriate to their specific developmental learning needs. The syllabus aligns with the Syllabus for Years 1 to 3 of primary school and it provides a foundation upon which to build the skills required in that curriculum.

#### Rationale

Language and communication play a pivotal role in uniting the nation of Vanuatu. When citizens interact and communicate their thoughts, feelings, beliefs and concerns in a way that is understood, they are able to face successes and challenges together and develop plans for moving forward in positive ways. The majority of children, in Vanuatu, live in rural villages on islands where communities place a high value on their own culture and vernacular. Communities also believe that learning their official languages of French and English is an important step towards children's future success and for the development of

Vanuatu. Children need to be able to use language well in order to communicate and interact with others in their community and beyond.

It is important for children to attend the early years of school speaking and listening to the vernacular but also to learn the languages of school instruction, Bislama, English and/or French. Unless children have a solid base in one language it is difficult for them to layer a second language on that language. Children learn instinctively the placement of nouns and verbs in a sentence according to their home language structures so they can then apply this understanding to a different language. The language of instruction in the Kindergarten programmes should be the same as what children are hearing at home but at appropriate times they can be introduced to French or English through story telling or singing. The process is gradual and natural.

Young children in Kindergarten classes have emerging literacy skills. By understanding that writing is simply the recording of someone's thoughts, children are open to learning to record their own thinking. By recording words daily either in the form of a statement about the weather; a message to or from one of the children; or a record of something significant that happened in the classroom, the teacher is able to demonstrate both the purpose and process of writing. As they are able, children are encouraged to take part in this writing by either printing one letter in a string of letters (that form a word) or a single word that they are able to write.

#### Aims

The aims of Language and Communication for Kindergarten are as follows. Children will:

- develop their oral language skills as they listen and speak with others
- use the language skills developed in their home language to build skills in French and English
- understand the processes involved in reading and apply emerging reading strategies to simple texts
- understand the act of reading has many purposes
- enjoy reading
- understand the processes involved in writing and apply emerging writing strategies to the writing of simple texts
- understand that writing has many purposes
- use writing to convey their thinking

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- engage in shared reading and writing activities with the teacher in order to learn to apply the processes independently
- understand the influence of media in their lives
- begin to create their own media texts (advertisements, signs)

#### Content Overview

The Language and Communication Learning Area includes the skills, knowledge and attitudes needed to communicate and understand the communications of others at home, at school and in the community. The content of this syllabus is organized as follows:

- learning area outcome
- strands
- sub-strands
- prior knowledge that relates to the outcome
- indicators that the learning outcomes have been achieved, by strand
- activities associated with the learning outcomes and indicators
- · ways to assess the learning

## Learning Area Outcome

The *Vanuatu National Curriculum Language and Communication* outcome describes what students should know in Language and Communication by the time they complete Year 10.

By understanding the connection between the Kindergarten outcomes and the exit outcomes of Grade 10, the teacher understands the importance of the Kindergarten curriculum in establishing the basic skills for language and communication learning. This method of planning is known as Outcomes Based Planning or Backwards Mapping.

The Language and Communications Learning Area Outcome is as follows:

Children use language competently and critically, in oral and written forms (speaking, listening, reading, writing, and viewing) to communicate their thoughts and feelings, knowledge and understanding to acquire and share traditional and contemporary knowledge and to make sense of the world around them.

This syllabus contains learning outcomes, indicators and activities for Language and Communication that are appropriate to the developmental needs of children in Kindergarten.

#### Strands

The learning area of Language and Communication is broken down into specific strands. These strands define major units of learning within the subject, in this case:

	Strand	Listening and Speaking	Reading	Writing	Viewing	
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#### Sub-strands

Each strand or learning unit is then subdivided into sub-strands. The sub-strands define specific aspects of learning within the strands.

Strand	Listening and Speaking	Reading	Writing	Viewing
Sub-strand	Skills and     Strategies	Skills and     Strategies	Skills and     Strategies	Skills and     Strategies
	• Production	• Production	• Production	• Production
	Context and Texts	Context and     Texts	Context and     Texts	Context and Texts

### **Learning Outcomes and Indicators**

The content of the Strands and Sub-strands is expressed as specific learning outcomes and indicators at each grade level. A learning outcome is a specific statement that identifies what children are expected to know, and the skills, attitudes and values all children are expected to acquire by the end of the learning period which is, in this document, by the end of Kindergarten. Learning outcomes are student centered and written in terms that require them to be demonstrated by the child and assessed by the teacher.

Each learning outcome is accompanied by a set of indicators. Indicators are identifiable benchmarks of what children are able to do, know and understand when they have achieved the learning outcomes. Teachers use these indicators as the basis of developing their language programme. The indicators presented are examples and the teacher may add additional benchmarks. Teachers should use the indicators as a guide to planning activities that are child-centered and open-ended, allowing children to work at their own level of understanding. Indicators are also used to develop and provide evidence of learning. Literacy instruction has traditionally involved what was known as pre-reading and pre-writing skills such as developing fine motor control so they can hold a pencil, completing phonics work sheets, or learning disassociated letter sound relationships. This curriculum document defines a much more active approach to literacy that works from the assumption that young children are ready and eager to follow texts of songs or poems that

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they know (reading) and follow how the teacher records their ideas (shared writing). Phonics instruction becomes embedded in the reading and writing process as children talk about what letter they need to print to start their name or to label the picture they have drawn. It is a developmental process that requires multiple steps along a continuum of literacy learning.

#### **Activities**

Some teaching and learning activities have been included to provide teachers with examples of how to develop learning programs that support all children in achieving the outcomes. The activities have been carefully selected to represent activities appropriate to the specific learning needs of young children as they engage in a play-based program. Teachers are expected to expand the list of activities, limiting time spent on paper and pencil tasks. Instead, time should be spent on observing children talking and thinking in the classroom as they play with materials and find authentic applications of language.

#### **Prior Learning**

Specific to this syllabus for Kindergarten, and accompanying each learning outcome, are descriptors of situations in which the child has developed language and communication skills prior to coming to school. A child's first learning occurs in the home and the community in which they live. It is important, therefore, that parents understand that children can learn literacy from household activities and that they provide these learning experiences for their child in the context of everyday life. By engaging in conversations with others and feeling free to express their ideas and emotions, children become stronger communicators. When they have the freedom to pretend to read a book or write scribbles down that they feel tell a story for others to read, children learn to communicate through reading and writing.

#### Description of the Language and Communication Strands

Young children cannot read about something that they do not understand or about which they have little knowledge. They read and understand stories about events they have experienced, about places with which they are familiar or about things in which they are interested. The role of the teacher is to prepare children for the reading prior to the actual reading of the book by using specialized vocabulary they will read about in the book, introducing activities that will help to build the children's knowledge, or holding discussions about a topic that will come up in the book. Through these discussions and activities, vocabulary that will be found in the book is used. This means that instead of having to sound out a word, sound-by-sound, a child predicts that a word will show up in the book and when they see the first letter of the word they anticipate and read it. When

children know, for example, that the book is going to tell a story about a goat, the page has a clear illustration of a goat and a word starts with the letter g, most children then read the word goat. They are not sounding out each of the letters to read the word, but are using meaning and simple phonics to read. It is relatively simple for a child to make a picture of a goat and print either the word as copied from the book, or the g from the first letter of the word to provide the context for their picture. At this stage in their literacy development, one letter to represent the word is to be considered an approximation that is developmentally appropriate.

The foundation of any literacy program is oral language. Children in early years classrooms must spend a great deal of time listening to language modeled by the teacher, both in terms of interesting vocabulary and correct enunciation. They must also be exposed to a wide range of opportunities to talk at school. They should be thinking and answering interesting questions that challenge their thinking; they should ask questions that help them to deepen their understanding, and they should be talking with their friends about what they are doing, how they are thinking and making their decisions while at play. When children understand how language works, have a broad listening and speaking vocabulary and can talk about their thinking, they are in a solid position to move forward with their learning. Their reading and writing instruction makes sense to them and they are excited to move forward with their literacy learning.

The literacy section is, therefore, divided into four strands: oral language, reading, writing, and viewing.

#### Speaking and Listening

Oral language is the basis of a literacy program. Children in Vanuatu are educated in their first language in Kindergarten to ensure that they develop a deep understanding of the vocabulary and the language structures that make up the language. This provides the structure onto which second or third languages can be mapped as they move through the primary division.

A strong sense of oral language also teaches children how language sounds so that when they are reading it or writing; they know when a word or a thought sounds right or when to make a correction. Readers and writers must make sure that the text follows the oral language.

Children in Kindergarten need opportunities to hear adults use interesting, specialized and grammatically correct language. Just as importantly, they need to have many opportunities to engage in conversations that provide authentic purposes for independently using this vocabulary. The repetition of rhymes and songs has a role to play but it is secondary to providing opportunities for children to put sounds and words together themselves and

experience more complex language independently. Learning should be much more experiential than rote learning and involve authentic purposes for speaking.

A Kindergarten classroom should be a noisy, active environment where an observer hears language being used to think aloud, share ideas with friends, talk with and listen to an adult, and to have fun with other children. The learning centers that are set up by the teacher or co-operatively with the children serve to provide different opportunities for language to occur. Children work together at the centres and explore language as they interact with each other. The teacher extends the oral language of the group at play by joining in on the play and extending children's thinking. For example, at the First Aid centre the teacher may take the role of a parent bringing in a child to meet with the medical staff. Speaking in role, she may explain the symptoms the baby is exhibiting and even offer some advice to the staff as to possible remedies they might consider. Do you think you should write out a prescription for my baby for some medicine? Which bottle of medicine does my baby need? How can I get my baby to stop crying? In this way, children hear relevant vocabulary used in the context of an appropriate conversation and know how and when to use those words. They can then use those same words themselves, in context, as they converse with the teacher in role. In this way, language is learned naturally and contextually. It becomes the basis of the other areas of language and learning. Once the foundations of language are clearly understood, it is easier to learn a second language or the language of a specific subject area in school. Mathematics, science and other subject areas have their own vocabulary and ways of communicating so it is essential that a good language learner is able to transfer language skills to take on any new challenge.

#### Reading

At a very early age, children are ready to begin developing the skills and knowledge and, most certainly, the critical attitudes to become readers. They learn by being read to, by reading with an experienced reader and by having opportunities to read simple, familiar texts independently. These include reciting the words to a favorite song that the teacher has printed out on a chart or on a chalkboard for children to follow as they sing; pointing to and reading a list of children's names that a child chooses to read for her own purpose, and listening to stories being read aloud by the teacher. Children should actively jump into reading and learn to read by reading rather than being held back until they acquire a certain defined set of skills.

### Writing

Children from the youngest of ages realize that the purpose of writing is to clarify their own thoughts or communicate those thoughts and ideas to another person. The rules and structures that children learn and follow, serve to make that communication clearer and

more effective. They should practice authentic purposes for writing in Kindergarten, from writing notes to each other (I lik u), to making a list of what they are going to grow in their garden when they are playing in the home centre (bns, korn, rc). By accepting approximations of the correct word or wording, the teacher is signifying that the letters they used allow the message to be understood and the closer they get to the correct spelling, the better the communication.

### Viewing

Viewing is an increasingly important aspect of literacy. Children around the world are bombarded with messages in the media about how others live, behave, speak to others, eat, dress, groom themselves, etc. In order to maintain the societal standards of a culture, a country, a community, or a home it is vital that young children begin to understand that the messages they see and hear are designed to tempt them and that they have to use their own values as a filter to accept or to reject these messages. Media can be used to enhance a culture and, as children move through the school system, it is important for them to embrace media to produce their own messages to portray the life they live. In Kindergarten children begin their awareness of media by recognizing that they are surrounded by messages. They see road signs that help them know which way to go, signs on shops to tell them what they might want to buy, signs on some food products that tempt them to buy the product or inform them of its contents. They see posters that inform them of danger or important events. They hear and see advertisements for items they might choose to buy. As media becomes more and more of a presence in the lives of children, they need to be able to interpret the messages and be able to create their own. By ensuring children are aware of the various messages in their environment and by creating their own messages, they are learning about the messaging upon which they can build a deeper understanding in later grades.

## Assessment of Language and Communication

Assessment is the ongoing process of gathering and interpreting information about children's achievement. In this document, assessment data is based on the learning outcomes described in the Language and Communication syllabus and is determined by individual schools and teachers, i.e. 'school-based." Teachers use assessment criteria derived from the learning outcomes and their indicators to make consistent and fair judgments about children's achievements. The criteria are then clearly explained to the children so they know what they have to do to be successful.

In Kindergarten, the teacher gathers data by observing children as they attend to lessons and respond to questions or initiate ideas at play as they apply what they understand and

have learned. Teachers record their observations so that they have evidence of children's application of knowledge and skills.

Unlike the completion of a worksheet, playing at the learning centres provides many opportunities for children to demonstrate their understanding to the teacher and to think in literate ways. When choosing materials for each centre, teachers must be sure that they represent a wide range of applications.

### Gathering Information

In *Observing and assessing children's learning*, 2013 teachers are reminded of the following:

Children come to school with a wide range of skills and abilities. They vary in the way they interact with others, how well they socialize, and in what knowledge they bring to an activity. When teachers observe children as they work and play in the classroom, they have the unique opportunity to understand how to modify classroom activities, routines and instructional practices to provide optimal learning for all students. Gathering student observation data provides teachers with opportunities to reflect on the classroom environment, curriculum, and teaching strategies and to determine which aspects of the learning experience are working well for the children and which might be changed to better meet children's needs.1

The checklists contained within that document assist teachers in gaining a holistic view of children's learning and how they interact with their peers in the learning situation. Below, is a suggestion of how to gather and document information specific to the Language and Communication Learning Area. It is specific to the learning outcomes and indicators that are appropriate for Kindergarten.

The following are useful and suitable methods for gathering information on children's achievements at this level of schooling.

<sup>&</sup>lt;sup>1</sup> Ministry of Education. Vanuatu, Early Childhood Care and Education. *Observing and assessing children's learning*. 2013. pg. 3.

### **Examples of Different Assessment Methods**

Observe	Conference	Document
<ul> <li>Informal observation as children play</li> <li>Application of literacy skills through play</li> <li>Systematic observation based on specific criteria</li> <li>Use of checklists and notes</li> <li>Discussion and feedback from families</li> </ul>	<ul> <li>Interaction with children as they communicate with their peers through play</li> <li>Peer sharing and modeling. For example, "I think you write it like this."</li> <li>Conversational questioning that will help children demonstrate their knowledge of, for example, how to write a message to a friend</li> <li>Asking children to explain their thinking "Would you read this message to me? What sounds did you hear in this word? Listen while I stretch the word for you. What other letters do you hear?"</li> <li>Asking leading questions and listening carefully to how children respond. For example: Show me how you read this story we have been reading this week. Show me where we start reading. Use your finger to show me the words you are reading. Let me hear you read the story.</li> <li>Listening to children's responses during lessons and recording responses.</li> </ul>	<ul> <li>Record what is observed. For example, children may take on the roles of vendor and buyer in the classroom         Market Centre and interact using appropriate language.         This observation and what happened is recorded in, for example, an anecdotal journal page for that child.</li> <li>Keep track of the lettersound relations a child knows so you know what letters/sounds to teach next.</li> <li>Record the book handling skills each child uses when reading through a book or a chart story (reading from left to right, reading from the top to the bottom of the page)</li> </ul>

### Conference

In order to learn what children are thinking when they are working or playing and the strategies they are using or considering, it is important to talk with children and ask them to explain their thinking.

#### Conferencing Questions or Discussion Starters

- Tell me about the story you want to write down.
- What do you like to read about?
- Let's think of some places where you could write in our classroom.
- Why do you think people need to learn to read?

#### Sharing My Learning

#### Ask a child to share:

- · how she feels about herself as a reader.
- how he feels about himself as a writer.
- why he likes to read
- why she likes to be a writer
- what is easy about reading/writing
- · what makes reading/writing hard

#### Document

When observing children in a variety of situations, a great deal of information can be learned about the child and how that child learns. These observations are recorded as a way of ensuring that, over time, data has been collected in all learning areas, strands and sub-strands. The date the observations were made, the learning centre or situation in which the child was engaged, and exactly what was said or done by the child in relation to the strand or sub-strand must be recorded. Teachers must also record *who* (child's name), *when* (date the activity occurred), *where* (the experience in which the child was engaged), and *what* (exactly what was heard and seen related to the learning) using charts such as those found in APPENDIX – Observations (page 39). A recording sheet for the class is used to ensure that data is collected on all children and that their learning is documented. This is particularly important for those children who are quiet and who may not be obvious learners. Additionally, teachers must track individual children and their language learning in all strands using a chart such as APPENDIX – Strand Observations (page 41).

### Overview of all Strand and Sub-strand Learning Outcomes

The learning area outcome that appears below describes the endpoint of Language and Communication learning for Year 10. The table describes the strand learning outcomes for each of the four strands in Language and Communication for Years 1-10.

#### Learning Area Outcome

Children use language competently and critically, in oral and written forms (speaking, listening, reading, writing, and viewing) to communicate their thoughts and feelings, knowledge and understanding; acquire and share traditional and contemporary knowledge and make sense of the world around them.

The Language and Communication syllabus is organized into four Strands: *Listening and Speaking; Reading; Writing, and Viewing*. The related Learning Outcomes for Years 1 to 10 are as follows:

Strand	Listening and Speaking	Reading	Writing	Viewing
Learning Outcomes	Listen and speak appropriately for a variety of purposes, audiences and situations	Read with under- standing and pleasure a range of fiction and non-fiction texts	Write a range of fiction and non- fiction texts for a variety of purposes, audiences and situations	Analyse, interpret, create and evaluate a range of visual texts for a variety of purposes, audiences and situations

These advanced learning outcomes have been modified by grade to ensure that children gradually and systematically build the skills from Kindergarten to Grade 10. Each of these strands is organized into sub-strands for the Kindergarten syllabus as shown in the following table.

Strand	Listening and Speaking	Reading	Writing	Viewing
Sub-strands	<ul><li>Skills and Strategies</li><li>Production</li></ul>	<ul><li>Skills and Strategies</li><li>Production</li></ul>	<ul><li>Skills and Strategies</li><li>Production</li></ul>	Skills and Strategies     Production
	<ul> <li>Context and Texts</li> </ul>	<ul> <li>Context and Texts</li> </ul>	<ul> <li>Context and Texts</li> </ul>	Context and     Texts

#### **Indicators**

Each of these sub-strands has explicit learning outcomes that identify what a child at this level must do in order to achieve these outcomes. For each sub-strand outcome, a list of indicators highlight what a child must demonstrate at each particular level of schooling, in order to achieve the grade level outcome. Please note that indicators are the benchmarks of what children must demonstrate to achieve the outcome. **They are not to be used as a checklist to be systematically ticked off.** Teachers need to use the indicators to help make judgments about children's achievements. Teachers also develop their own indicators for the learning outcomes using these as guideposts.

### Activities for Language and Communication in a Play-Based Classroom

Play is the way young children learn. They love to explore, experiment, take risks, construct, de-construct, repeat successes, and learn from challenges in a safe, interactive and co-operative environment. The teacher in a play-based classroom facilitates and guides learning; observes children at play, and is a co-learner and collaborator. The teacher spends some time teaching a new concept and skill but then provides many different play-based learning opportunities for the children to apply those skills themselves.

Children come to school with a vast range of experiences and skills and learn at different paces. Open-ended play activities allow children to work at their own level and demonstrate to the teacher what they know and understand about a particular skill. As teachers observe children at play, they identify what children know, are ready to learn next or where there are gaps in their knowledge.

The activities in this document are examples of authentic activities that help children to practice and apply literacy skills.

# Language and Communication Indicators

### Listening and Speaking

Listen and speak appropriately for a variety of purposes, audiences and situations

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Skills and Strategies	Listen and respond to others for a variety of purposes in their vernacular	Use basic skills of listening and speaking in their vernacular	Demonstrate a range of listening and speaking skills in the classroom
Production	Communicate     effectively using their     vernacular language	Listen and speak effectively with those around them using their vernacular language	Speak confidently and listen actively using the vernacular in informal and formal situations in the classroom
Context and Texts	Demonstrate that we speak differently according to the audience	Be aware that we speak differently in different situations	Recognise that speaking changes to suit particular situations at school

### Reading

Read with understanding and pleasure a range of fiction and non-fiction texts

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Skills and Strategies	Use emergent reading skills	Use pre-reading skills	Develop skills and strategies to read and understand familiar, vernacular texts
Production	Read familiar texts using emerging reading strategies	Demonstrate pre- reading behaviour when interacting with texts	Read and respond to simple vernacular texts
Context and Texts	Use text and pictures to gain meaning	Recognise that pictures and words convey meaning	Recognise that texts can be imaginary or factual

### Writing

Write a range of fiction and non-fiction texts for a variety of purposes, audiences and situations

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Skills and Strategies	Use emerging writing skills to record ideas	Develop and use pre- writing skills	Develop beginning handwriting skills using script and cursive
			Use basic rules of writing to construct simple vernacular texts
Production	Use pictures, letters, and some words to record ideas	Represent ideas and information using pictures and dictation to an adult	Write sentences to create simple texts in their vernacular
Context and Texts	Understand that writing is purposeful	Recognise that writing and symbols are used to record ideas and convey messages	Recognise that writing is used for different purposes

### Viewing

Analyse, interpret, create and evaluate a range of visual texts for a variety of purposes, audiences and situations

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Skills and Strategies	Recognise some simple messages in the environment	Identify some simple signs and symbols in their environment	Share messages using signs and symbols and visual texts
Production	Create simple media texts	Make signs and symbols to share simple messages with others	Express their personal thoughts and messages using signs, symbols and visual texts
Context and Texts	Talk about how media texts convey messages	Talk about how some signs and symbols are used in their local community to convey messages	Recognise when and where some signs, symbols and visual texts are used in the community to convey special messages

# Listening and Speaking

## Skills and Strategies

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Experienced how their family listens and communicates with others. They will have been exposed to language even when they were not participating in the conversations.	Listen and respond to others for a variety of purposes in their vernacular.	Engage in a variety of activities that improve their ability to communicate with others by listening and speaking.
Children may have been exposed to:  a. had many different opportunities to listen to others in the vernacular  b. had many different opportunities to speak with others in the vernacular  c. had assistance with articulation of sounds  d. listened to stories, rhymes, songs in the vernacular	This is evident when the child, for example:  a. listens attentively  b. carries on conversations with others  c. follows simple instructions  d. understands and imitates simple vocabulary  e. isolates sounds in a word e.g., the first letter of their name (phonemes)  f. matches letters to sounds (phonics)  g. plays with sounds e.g., creates rhyming words, non-sense words	Children could, for example:  a. listen to stories or songs told or sung with the teacher  b. have many different opportunities to speak spontaneously with others as they work and play in the classroom  c. use vernacular to communicate their thinking in learning centres  d. listen to the ideas of others  e. participate in rhyming games with the teacher  f. play orally with words e.g., non-sense rhymes, rhythmic chants  g. participate in games and activities that help them to isolate individual sounds in words

# Production

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Listened to and spoken with family members and community members in many different situations.	Communicate effectively using their vernacular language.	Practice using communication skills as they interact with others in the classroom.
Children may have been exposed to:  a. many opportunities to hear family and community members communicating. They may have heard:  • vernacular vocabulary  • pronunciation of words  • grammatical structures  • emphases e.g., how your voice goes up when asking a question  b. Many opportunities to communicate with others  • using the vernacular  • using gestures and facial expressions	This is evident when children for example:  a. Engage in discussions in the classroom  b. Listen to others  c. Communicate own thoughts and ideas  d. Participate in singing or reciting songs, rhymes and chants  e. Communicate with friends at learning centers  f. Listen to stories read or told to them and respond appropriately e.g., ask questions, discuss characters, interprets pictures	a. communicate with their friends at learning centres  b. in role at the Doctor Centre or Home Centre  • using social language when sharing material at the art centre or a sorting centre  • tell stories to the class about their home life or community events  • share ideas during class discussions  • respond orally to books read or stories told by the teacher  • sing songs or recite simple poems with the class  • put on plays using costumes or puppets that they create themselves

## Context and Texts

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Had experiences listening and speaking in many different contexts and with many different people.	Demonstrate that they speak differently according to the audience.	Have opportunities to speak differently in different contexts.
Children may have been exposed to:  a. opportunities to use more formal language when speaking with, for example, elders or church leaders  b. opportunities to use more informal language with close family members or playmates	This will be evident when children, for example:  a. greet people appropriately:  • formally for elders or community leaders  • informally for friends and family  b. use language in different ways at school, depending on the situation. e.g., laugh and call out when on the playground, sit quietly during a story, and wait for a turn to share ideas  c. participate in discussions on appropriate classroom language and volume	children could, for example:  a. speak differently in different contexts  b. engage in appropriate conversations with the teacher or visiting community members  c. engage in appropriate conversations with friends when at learning centers  d. participate in cultural events at school and use appropriate communication skills e.g., quiet listening, participate at appropriate times  e. re-enact or retell familiar stories using props either at home or in the community, for example, at church or during a cultural event

# Reading

# Skills and Strategies

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Exposed to reading in the home or in the community.	Use emergent reading skills.	Have many opportunities to develop emerging reading skills.
Children may have been exposed to:  a. signs, billboards etc. in the community  b. books at home, church, neighbours' homes  c. oral story telling  d. songs, poems or chants at home or through cultural experiences	This will be evident when children, for example:  a. listen to the teacher read books  b. engage in discussions about the books read  c. look through books independently, telling a story from the illustrations  d. participate in reading a text with the class that they can all see (shared reading)  e. follow text with a finger or pointer while reading  • from left to right  • from top of page to bottom  f. know that stories must make sense and make corrections in their reading until it does	Children could, for example:  a. look at books and talk about the pictures (commercial or teacher/class made)  b. handle books correctly  • holding it right side up  • looking through from front to back  c. reread simple stories or charts the teacher has created with the class, pointing to words (this may be memorized)  d. recite alphabet song or rhyme  e. identify sounds within a word

# Production

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Aware that written words can be read by others.	Read familiar texts using emerging reading strategies.	Participate in shared reading with the teacher and learn to apply emerging reading skills independently
Children may have been exposed to:  a. people in the home reading or commenting on reading  b. the priest at church reciting prayers  c. family members reading signs  d. books being read to them  e. discussions about the story following a book reading	This will be evident when children, for example:  a. read the daily message that the teacher writes  b. demonstrate knowledge of book handling skills, e.g., holding the books appropriately reading text from top to bottom and left to right  c. identify some words that occur frequently  d. predict words that they expect to see in the text  e. use the illustrations to help make sense of the story  f. identify differences in fiction and non-fiction texts  g. discuss texts with the class  • relate events in the text to their own life  • make connections to other books  • infer information not stated in the text but demonstrated through the illustrations	Children could, for example:  a. reread charts, poems, song lyrics etc. that the teacher has written in large text  b. look through books at the reading centre  c. discuss ideas related to a book with the teacher/class  d. ask questions that help clarify information that is confusing in a book  e. draw a picture to demonstrate their understanding of a book the teacher has read

# Content and Texts

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Been exposed to illustrations in magazines, books, billboards, newspapers and recognize how they help to tell the story.	Use text and pictures to gain meaning.	Recognise that pictures and illustrations help to tell the story
Children may have been exposed to:  a. discussions about stories told or read to them e.g., explanations of stories from the bible  b. role play such as enactments of stories through their church or at cultural events  c. story books with clear pictures that help to tell the story  d. print materials with pictures, photographs, diagrams that convey information  • posters at the local clinic  • magazines/ papers/flyers  • signs/posters in the community	This is evident when children, for example.  a. use the pictures in a book to tell a story  b. make connections to the illustrations and share that thinking  c. use pictures to gain information from a nonfiction text	Children could, for example:  a. look at and discuss the illustrations in a book read by the teacher  b. predict what will happen next based on the story as told by the pictures in a book  c. gain exposure to a variety of texts including books, posters, magazines, poetry  d. connect the pictures in a book to their own knowledge or experience

# Writing

# Skills and Strategies

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Play with writing material to record ideas at home	Use emerging writing skills to record ideas.	Use emergent writing skills to record ideas independently.
Children may have been exposed to:  a. people writing for a purpose	This is evident when children for example:  a. draw pictures and tell the corresponding story  b. draw pictures to convey information e.g., parts of a plant, animals in their environment  c. record own name in many contexts  • attendance chart  • on drawings  • response to a written question (see math)  d. offer suggestions to teacher as she records information for the class (shared writing)  e. record simple words and letters to record an idea when they are ready  *this may be a squiggle or a mark, not necessarily a fully formed name  f. use emergent writing skills to record ideas independently	children could, for example:  a. demonstrate an understanding of various purposes for writing  b. record thoughts and information through pictures and labeled diagrams as ready  c. form letters in a way that is recognized by others, beginning with the letters of their name

# Production

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Seen print in the environment and experienced opportunities to practice making their own messages.	Use pictures, letters, and some words to record ideas.	Engage in a variety of activities that build their fine motor skills and have opportunities to play with writing.
Children may have been exposed to:  a. using writing materials, including pencils, pens, crayons to develop the fine motor skills that make writing easier  b. drawing pictures and talking about what they drew. Adults have asked the child to tell them about their drawing.  c. using pencils and paper at home and pretending to record a message e.g., I love you.	This is evident when children, for example:  a. tell a story to an adult who records it for the child  b. draw or paint a picture and tell the story about the art e.g., This is my home and my brother is playing with me outside.  c. draw pictures and record one or two letters to identify a label e.g., child draws a house and prints the letter h for house  d. contribute ideas to shared writing with the class  e. add some letters to the shared writing with help from the teacher e.g., print a letter that is found in their names  f. use writing material in the centres to pretend to record messages e.g., I am going to write a sign for the Clinic today saying it is open. or This baby needs some medicine fast. I am going to write it down so you can take it and get the medicine.	Children could, for example:  a. play with material in centres that require fine motor skills such as stringing beads, using small building material, dressing dolls, cutting paper  b. play at any centre and know that they can incorporate writing into their play e.g., at a math center, copying the teachers question while sorting shells. Do you like round shells? Do you like pointed shells? Children might take their own survey of their friends.  c. put their name on their own art work, using squiggles, single letters or their full name  d. create labels for organizing a centre e.g., to sort medicine for babies/medicine for moms, or fruit/vegetables  e. record lists of items that will sink and items that will float in the water

# Content and Texts

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Observed various purposes for writing at home and in the community	Understand that writing is purposeful.	Demonstrate an understanding of different purposes for writing
Children may have been exposed to:  a. seen people at home and in the community writing for a variety of purposes  b. had access to writing materials at home that they are encouraged to use  c. Heard adults talking about messages that they need to record or written messages they have received	This will be evident when children, for example:  a. have help from an adult to record their ideas or thoughts and add an illustration  b. use simple sentence starters, e.g., I liketo begin recording their own thoughts independently accompanied by a picture  c. use scribbles or individual letters to create a message  d. know where to find material for recording ideas (pencils, paper, chalk, blackboards) to take to any center	a. have access to paper and writing instruments at all times to use in centres  b. record information at centres e.g., write prescriptions at the clinic, write signs for the market, record observations about items that a magnet attracts/repels  c. record their names (in any approximation) for example. Signing in each day, or on their art work as part of the shared writing  d. see the teacher play with them and model writing for a purpose at that centre  e. see the teacher modeling a wide variety of purposeful writing during the day and think aloud why and how the text is created

# Viewing

# Skills and Strategies

Prior Learning Skills		Kindergarten Sub-strand Outcome and Indicators		Kindergarten Activities	
Heard or seen media texts or messages.		Recognise some simple messages in the environment.		Demonstrate an understanding that signs convey a message.	
to:  a. a vari messa televi b. discus about media c. signs the ei	ety of media ages on radio or sision ssions with adults what some of the amessages mean they recognize in nvironment and what they mean		Il be evident when n, for example:  identify signs and symbols that are seen in their community recognize signs and symbols they see in the media discuss messages conveyed by the signs and how some of these messages try to make them feel	b.	home e.g., a box that held medicine, a food container and read the messages with the class create posters for their classroom with the teacher that sends a message e.g., please wash your hands, first aid, centre, danger signs create their own signs as a part of their play e.g., danger signs around their building construction

## Production

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Children will have seen signs, posters, labels, and advertisements in their communities.	Create simple media texts.	Demonstrate an awareness of how to create a media text (a sign, a picture) that conveys a message for others.
Children may have been exposed to:  a. posters or other advertisements for community, cultural or religious events  b. conversations with family members about signs or posters they have seen and what they mean  c. cultural or religious events that are closely tied to a message e.g., Independence Day  d. traditional dances or stories that tell historical information  e. posters or advertisements for community, cultural or religious events  f. conversations with family members about signs or posters that they have seen and what they mean  g. cultural events that are closely tied to a message  h. cultural events such as traditional dances	This will be evident when children, for example:  a. create signs, posters, symbols to create media messages  b. use natural material to convey custom messages  c. participate in cultural events that convey a message	a. use the writing materials in the classroom to create their own media messages  • posters for teeth brushing  • signs for centers  b. create an advertisement, with the help of the teacher, for others to come to a class cultural event  c. have access to natural material to create their own custom messages  d. engage in cultural activities and discuss their meaning e.g., the Nativity scene at Christmas  e. participate in learning simple traditional dances, listen to traditional stories and discuss the meaning

# Context and Texts

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities	
Observed messages signified through cultural events.	Talk about how media texts convey messages.	Create media messages.	
Children may have been exposed to:  a. participation in cultural ceremonies and dances and discussed the meaning with their families  b. an understanding of some cultural symbols that have specific meanings  c. observing women weaving, men carving, priests' vestments within the community and discuss the signs and symbols with family members	This will be evident when children, for example:  a. demonstrate an understanding of the meaning behind ceremonies in their community  b. express meaning through songs and dances familiar to their community  c. understand that certain cultural symbols have significant meanings. e.g., carvings, statues, pictures  d. demonstrate an understanding of plays or pageants through discussions or further reenactment	children could, for example:  a. imitate a ceremony in the dramatic play centre  b. bring props such as conch shell, tam tam, bell, gong, bamboo, coconut shells and costumes for dressing up  c. have opportunities to imitate dances and to create their own movements to express emotion  d. create replicas of cultural symbols and discuss their purpose or message e.g., use play dough to replicate carvings, use paper strips to weave  e. observe cultural events such as dances, songs or ceremonies at their schools discuss the meanings with the participants	

# A Sample Lesson

Strand:	Writing
Sub-strand:	Production
Materials	chalk board and chalk
Lesson:	begin by discussing with the children the parts of the plant as a part of their science programme
	record some of the words on the chalkboard
	contribute some terms that the children did not consider or know
	stretch the word so the children can hear the sounds in the word
	ask children to suggest letters that make the most obvious of those sounds
	invite a child, who you feel is capable, to print one or two of the letters for you
	review the words with the children so they know what the labels say
	challenge children to consider new ideas as they work with their friends at the centres during the week
Application:	ensure that there are writing materials and purposeful opportunities for writing at many centres (See Learning Centres table)

Home Centre	Writing Centre	Painting Centre	
<ul> <li>add pencils or pens and small pieces of paper stapled together to create a note pad</li> <li>play with the children, if necessary, to model authentic purposes for writing e.g., I am going to take the baby to the clinic on Wednesday. I am going to write that down on the paper so we remember (write baby, doctor, Wednesday)</li> <li>observe and document those children who choose to copy this idea or find their own purposes for writing</li> </ul>	<ul> <li>provide children with a variety of writing materials</li> <li>ensure children know that they can move material from this centre to other areas of the classroom consider:         <ul> <li>pens/markers/chalk/pe ncils</li> <li>paper of different colours and sizes</li> <li>envelopes - used ones are fine</li> <li>staplers so they can make booklets</li> <li>coloured construction paper for making signs or covers for books</li> <li>a box that is decorated for mail so the children can write to each other</li> </ul> </li> </ul>	Children, with help from the teacher, print their name and/or a simple sentence of a few words that describe what they have painted  cut strips of paper to staple to the painting so they can write on this  leave a strip of blank paper at the bottom of the painting  provide markers for printing their names	
Science Centre	Market Centre	Water Table	
demonstrate how to record information at the science centre     o labels on diagrams     o pictures of what they have sorted or categorized      ensure that paper is available for children to record their findings at this centre	<ul> <li>ensure children have an opportunity to role-play positive interactions between the buyer and the seller</li> <li>add paper and writing tools so children can make signs to advertise what they are selling</li> <li>allow children to write prices</li> </ul>	<ul> <li>demonstrate, in a class lesson, how to record the results of an experiment</li> <li>demonstrate how to set up a two column chart for recording items that sink in one column and items that float in the other column (children may draw pictures, print letters or words)</li> <li>ensure writing material is at this centre so children can record what items float and what items sink</li> </ul>	

## APPENDIX - Observations

Learning Area:	Language and Commu	Learning Area: <i>Language and Communication</i> Strand: <i>Reading</i> Sub-strands: <i>Skills and Strategies</i> , Production, <i>Context and Texts</i>	ing Sub-strands: Skills	and Strategies,
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Learning Area: Langu	Learning Area: Language and Communication	_	Strand: Viewing Sub-strands: Skills and Strategies, Production, Context and Texts	rategies, Production,
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# APPENDIX - Strand Observations

# Syllabus 2

## **Mathematics**

### Introduction

The *Vanuatu Mathematics Syllabus* for Kindergarten identifies the knowledge, skills, attitudes and values that children are expected to demonstrate by the end of Kindergarten. Because the curriculum is focused on children's learning, not prescriptive lessons, achievements are expressed as outcomes and indicators in this syllabus.

The purpose of this Mathematics Syllabus is to assist teachers in developing teaching and learning programs for Kindergarten-aged students that are appropriate to their specific developmental learning needs. The syllabus aligns with the Syllabus for Years 1 to 3 of primary school and it provides a foundation upon which to build the skills required in that curriculum.

#### Rationale

An understanding of mathematics is a critical skill for survival in a global society. For example, mathematics provides the basic information needed for growing and preparing food; making purchases; predicting natural events or making a living. Children in Vanuatu come to school with a wide range of experiences. They come from different cultural, social, and economic backgrounds but all are expected to have developed some mathematical knowledge. Some children have been exposed to a wide variety of mathematical activities in the home or in the community while others have limited exposure to mathematics. It is

essential in Vanuatu that all children are provided with the attitudes, skills, and knowledge necessary to participate fully in their society; to feel confident and take pleasure in thinking mathematically and to take part in the mathematical activities around them in everyday life. As they become mathematical problem solvers and thinkers, they develop skills that allow them to participate fully in the world around them.

In planning for Mathematics learning, the Kindergarten teacher must understand that a single lesson cannot be expected to meet the needs of all the children in the class. Each lesson will be difficult for some and too simple for others. Therefore, it is important for the teacher to identify the range of abilities in the class and to differentiate the learning by providing assistance in small groups to either enhance or remediate that learning. By creating open-ended learning activities, children work independently at their own level of development. It is well-known that when they are at play, children work within in their own learning or comfort zone, applying the skills that they have developed to complete or enhance the task and often, to extend their knowledge. Sufficient time to work independently on related mathematical tasks should be reflected in the schedule of the day.

A curriculum that focuses on the basic skills that children require for future mathematical learning is essential. Young children must learn mathematical language, problem solving, logical and mathematical thinking, and effective communication in relation to mathematical concepts. The majority of children in Vanuatu live in rural villages on islands where communities place a high value on their culture. It is essential that children are enabled to participate fully in their society. The development of mathematical knowledge, skills, understanding, and confidence will not only help them to participate but also to progress in other life skills. When mathematics education in Kindergarten is approached through play, young children develop a positive attitude and derive pleasure from problem solving in logical, mathematical ways. They become aware that mathematics surrounds them and will recognize how mathematics is part of everyday life in their community and learn to value these skills.

#### Aims

The aims of Mathematics for Kindergarten are as follows. Children will:

- understand numbers as they count and learn how numbers work
- understand the processes of adding and subtracting numbers and apply them in their play
- understand how to share and group objects as a foundation to fractions
- develop an awareness of shape, space and spatial relations

- · understand and apply the concepts of measurement and time
- recognize and replicate simple patterns
- understand and construct simple graphs to organize data

#### Content Overview

The Mathematics learning area includes the skills, knowledge and attitudes needed to communicate mathematically at home, at school and in the community. The content of this syllabus is organized as follows:

- learning area outcome
- strands
- sub-strands
- prior knowledge that relates to the outcome
- indicators that the learning outcomes have been achieved, by strand
- activities associated with the learning outcomes and indicators

### Learning Area Outcome

Within the *Vanuatu National Curriculum Statement* Mathematics and Science are situated in the same Learning Area. The following Learning Area Outcome describes what students should know in Mathematics and Science by the time they complete Year 10. By understanding the connection between the Kindergarten outcomes and the exit outcomes of Grade 10, the teacher understands the importance of the Kindergarten curriculum in establishing the basic skills for mathematical learning. This method of planning is known as Outcomes Based Planning or Backwards Mapping.

The Mathematics and Science Learning Area Outcome is as follows:

Describe, interpret and analyse social, natural and physical systems and apply mathematical and scientific concepts and processes to develop an understanding and appreciation of our physical and natural world and make reliable judgments.

This syllabus contains learning outcomes, indicators and activities for Mathematics that are appropriate to the developmental needs of children in Kindergarten.

#### **Strands**

The learning area of Mathematics is broken down into specific strands. These strands define major units of learning within the subject, in this case:

	Strand	Number	Measurement	Geometry	Patterns	Probability and Data
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### Sub-strands

Each strand or learning unit is then subdivided into sub-strands. The sub-strands define specific aspects of learning within the strands.

Strand	Number	Measurement	Geometry	Patterns	Probability and Data
Sub-strand	<ul><li>Whole numbers</li><li>Operations</li><li>Fractions</li></ul>	<ul><li>Length, weight, capacity</li><li>Time</li><li>Money</li></ul>	<ul><li>Shapes and angles</li><li>Position and space</li></ul>	• Patterns	<ul><li>Probability</li><li>Handling data</li></ul>

### Learning Outcomes and Indicators

The content of the Strands and Sub-strands are expressed as specific learning outcomes and indicators at each grade level. A learning outcome is a specific statement that identifies what children are expected to know, and the skills, attitudes and values all children are expected to acquire by the end of the learning period which is in this document, by the end of Kindergarten. Learning outcomes are student centered and written in terms that require them to be demonstrated by the child and assessed by the teacher.

Each learning outcome is accompanied by a set of indicators. Indicators are identifiable benchmarks of what children are able do, know and understand when they have achieved the learning outcomes. Teachers use these indicators as the basis of developing their mathematics program. The indicators presented are examples and the teacher may add additional benchmarks. Teachers should use the indicators as a guide to planning activities that are child-centered and open-ended, allowing children to work at their own level of understanding. Indicators are also used to develop and provide evidence of the learning. Mathematics instruction has traditionally involved paper and pencil tasks but research has shown that young children learn best by "doing" thereby being active and involved learners.

#### **Activities**

Some teaching and learning activities have been included to provide teachers with examples of ways to develop learning programs that support all children in achieving the outcomes. The activities have been carefully selected to represent activities appropriate to the specific learning needs of young children as they engage in a play-based program. Teachers are expected to expand the list of activities, limiting time spent on paper and pencil tasks. Instead, time should be spent on observing children talking and thinking mathematically in the classroom as they play with materials and find authentic applications of mathematics knowledge.

### **Prior Learning**

Specific to this syllabus for Kindergarten, and accompanying each learning outcome, are descriptors of situations in which the child has developed mathematical skills prior to coming to school. A child's first learning occurs in the home and the community in which they live. It is important, therefore, that parents understand that children can learn math from household activities and that they therefore provide mathematical learning experiences for their child in the context of everyday life. By engaging in mathematical activities and talking about mathematics in their lives, children become mathematical thinkers.

### Description of the Mathematics Strands

The five strands of Mathematics are described in some detail below in relation to Kindergarten.

#### Number

The Number strand focuses on the development of an understanding of numbers using indigenous as well as foreign counting systems. It involves developing children's confidence in both understanding and competence in their use of the basic operations of addition and subtraction to solve relevant problems. Children learn to count, calculate and estimate in a variety of ways through a combination of direct teaching, small group or individual guidance and a range of child centred, play-based activities.

#### Measurement

The Measurement strand covers concepts and skills that are relevant and applicable in the everyday lives of children. Children learn to estimate, and measure length, weight, capacity and time using non-standard or local measures, and play with concrete materials in appropriate ways. Through play, they find relevant applications for their learning. Children

are given opportunities to explore and learn through hands-on activities with real materials.

### Geometry

The Geometry strand helps children recognize different shapes and understand the properties and symmetry of each. Children have opportunities to explore shapes; to recognize, draw, and describe the characteristics of two and three- dimensional shapes; and to identify objects by their shape. They also learn to explore the space around them, thereby gaining an understanding of how they and other objects are related and share the space around them.

#### **Patterns**

The Patterns strand helps children identify and reproduce simple patterns of number, shape, design and movement. These concepts can be explored in nature, local art forms, or music using natural and man-made materials.

### Probability and Data

The Probability and Data strand allows children to use information to make sensible estimations, or guesses, consider the predictability of current events and to record their findings in a mathematical way. In Kindergarten, probability is commonly related, but not limited to, activities that regularly occur in their community. Children gather data relevant to their daily lives by observing their surroundings (*How many girls are at school today?*), responding to simple survey questions (*Do you like rice or fruit for breakfast? How many people live in your home?*) and discussing their results with others.

#### Assessment of Mathematics

Assessment is the ongoing process of gathering and interpreting information about children's achievement. In this document, assessment data is based on the learning outcomes described in the Mathematics syllabus and is determined by individual schools and teachers, i.e. 'school-based." Teachers use assessment criteria derived from the learning outcomes and related indicators to make consistent and fair judgments about children's achievements. The criteria are then clearly explained to the children so they know what they have to do to be successful.

In Kindergarten, the teacher gathers data by observing children at play as they apply what they understand and have learned. Teachers record their observations so that they have evidence of children's application of knowledge and skills. Worksheets fail to convey

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whether the child is able to exceed the outcomes of the activity or where he or she may be encountering difficulty within the specifics of the task.

Unlike the completion of a worksheet, playing at the learning centres provides many opportunities for children to demonstrate their understanding to the teacher and to think in mathematical ways. When choosing materials for each centre, teachers must be sure that they represent a wide range of mathematical applications.

### **Gathering Information**

In *Observing and assessing children's learning*, 2013 teachers are reminded of the following:

Children come to school with a wide range of skills and abilities. They vary in the way they interact with others, how well they socialize, and in what knowledge they bring to an activity. When teachers observe children as they work and play in the classroom, they have the unique opportunity to understand how to modify classroom activities, routines and instructional practices to provide optimal learning for all students. Gathering student observation data provides teachers with opportunities to reflect on the classroom environment, curriculum, and teaching strategies and to determine which aspects of the learning experience are working well for the children and which might be changed to better meet children's needs.<sup>2</sup>

The checklists contained within that document will assist teachers in gaining a holistic view of each child's learning and how they interact with their peers in the learning situation. What follows is a way of gathering and documenting information specific to the Mathematics Learning Area. It is specific to the learning outcomes and indicators that are appropriate for Kindergarten.

The following are useful and suitable methods for gathering information on children's achievements at this level of schooling.

<sup>&</sup>lt;sup>2</sup> Ministry of Education. 2013. Vanuatu, Early Childhood Care and Education. *Observing and assessing children's learning*. p3.

### **Examples of Different Assessment Methods**

Observe	Conference	Document
<ul> <li>Informal observation as children play</li> <li>Application of mathematical knowledge through play</li> <li>Systematic observation based on specific criteria</li> <li>Use of checklists and notes</li> <li>Discussion and feedback from families</li> </ul>	<ul> <li>Interaction with children as they use numbers in their play</li> <li>Peer sharing and modeling. For example, "Why don't you try it like this?"</li> <li>Conversational questioning that will help children demonstrate their knowledge, for example of counting, adding to a number or taking away from a number</li> <li>Asking children to explain their thinking "I see that Roy has 5 shells, Venena has 4 shells and you have 10 shells. Do you all have the same number of shells? What could you do to make sure you have the same?" or "How can you share these shells with everyone? There are 19 shells and 3 people. What are you going to do?"</li> <li>Asking leading questions and listening carefully to how children respond. For example: "How could we remember how many people want bananas for snack today and how many want pineapple?"</li> <li>Listening to children's responses during lessons and recording responses.</li> </ul>	<ul> <li>Recording what is observed. For example, children may be seen using cultural trading practices in the classroom Market Centre which relates to the indicator for Money. This observation and what happened is recorded in, for example, an anecdotal journal page for that child.</li> <li>The following observations may be recorded:         <ul> <li>using cooking measurement tools appropriately</li> <li>using mathematical language</li> <li>demonstrating counting shells in a variety of ways</li> <li>dividing a set of shells so everyone has the same number</li> </ul> </li> </ul>

### Conference

In order to learn what children are thinking when they are playing and the strategies they are using or considering, it is important to talk with children and ask them to explain their thinking.

#### Conferencing Questions or Discussion Starters

- Tell me about what you are doing.
- How did you decide what to do?
- I wonder what else you could do next time?
- What did you like about this activity?

#### Sharing My Learning

#### Ask a child to share:

- · how he felt about the activity
- what she knows now
- what she can do now
- what he learned about himself as a learner
- how he would change the activity next time

#### Document

When observing children in a variety of situations, a great deal of information can be learned about the child and how that child learns. These observations are recorded as a way of ensuring that, over time, data has been collected in all learning areas, strands and sub-strands. The date the observations were made, the learning centre or situation in which the child was engaged, and exactly what was said or done by the child in relation to the strand or sub-strand must all be recorded. Teachers must also record *who* (child's name), *when* (date the activity occurred), *where* (the experience in which the child was engaged), and *what* (exactly what was heard and seen related to the learning) using charts such as those found in APPENDIX - Observations (page 67). A recording sheet for the class is used to ensure that data is collected on all children and that their learning is documented. This is particularly important for those children who are quiet and who may not be obvious learners. Additionally, teachers should track individual children and their mathematical learning in all mathematics strands using a chart similar to that in APPENDIX – Strand Observations (page 72). Examples of data collection might be the following.

### Learning Outcomes, Indicators and Relevant Activities

### Overview of all Strand and Sub-strand Learning Outcomes

The learning area outcome for Mathematics and Science that appears below describes the endpoint of Mathematics and Science learning for Year 10. The table describes the strand learning outcomes for each of the five strands in Mathematics for Years 1-10.

### Learning Area Outcome

Describe, interpret and analyse social, natural and physical systems and apply mathematical and scientific concepts and processes to develop an understanding and appreciation of our physical and natural world and make reliable judgments.

The Mathematics syllabus is organized into five Strands: Number, Measurement, Geometry, Patterns and Probability and Data. The related Learning Outcomes for Years 1 to 10 are as follows:

Strand	Number	Measurement	Geometry	Patterns	Probability and Data
Learning Outcomes	Apply     effective     strategies for     numerical     calculation     and problem     solving	Demonstrate skills of estimation and measurement in a range of contexts, using appropriate units, instruments and formulae	Demonstrate an under- standing of geometric reasoning and spatial awareness and analyse mathe- matically the spatial features of objects	• Recognise, describe and represent patterns and relation-ships and apply algebraic techniques to solve problems	Collect, organize, present and analyse data and use pro- babilities to draw conclusions and make predictions

These advanced learning outcomes have been modified by grade to ensure that children gradually and systematically build the skills from Kindergarten to Grade 10. Each of these strands is organized into sub-strands for the Kindergarten syllabus as shown in the following table.

Strand	Number	Measurement	Geometry	Patterns	Probability and Data
Sub-strand	<ul><li>Whole numbers</li><li>Operations</li><li>Fractions</li></ul>	<ul><li>Length, weight, capacity</li><li>Time</li><li>Money</li></ul>	<ul><li>Shapes and angles</li><li>Position and space</li></ul>	• Patterns	<ul><li>Probability</li><li>Handling data</li></ul>

#### **Indicators**

Each of these sub-strands has explicit learning outcomes that identify what a child at this level is expected to do in order to achieve these outcomes. To assist the teacher, for each sub-strand outcome, a list of indicators is included. Indicators highlight what a child is expected to demonstrate at each particular level of schooling, in order to achieve the grade level outcome. Please note that indicators are the benchmarks of what children should demonstrate to achieve the outcome. **They are not to be used as a checklist to be systematically ticked off.** Teachers need to use the indicators to help make judgments about children's achievements. Teachers can also develop their own indicators for the learning outcomes using these as guideposts.

The process skills of problem solving, reasoning and communicating mathematical ideas are over-arching skills that are learned and assessed within the strands of number, measurement, geometry, patterns and probability and data. Through observations of children as they participate in both lessons and independent application of their learning, the teacher will learn how each child is able to solve problems using mathematical thinking and how the child explains that thinking to others.

### Activities for Mathematics in a Play-Based Classroom

Play is the way young children learn. They love to explore, experiment, take risks, construct, de-construct, repeat successes, and learn from challenges in a safe, interactive and co-operative environment. The teacher in a play-based classroom facilitates and guides learning, observes children at play, and is a co-learner and collaborator. The teacher spends some time teaching a new concept and skill but then provides many different play-based learning opportunities for the children to apply those skills.

Children come to school with a vast range of experiences and skills and learn at different paces. Open-ended play activities allow children to both work at their own level and demonstrate to the teacher what they know and understand about a particular skill. As teachers observe children at play they identify what children know, are ready to learn next or where there are gaps in their knowledge.

The activities in this document are examples of authentic activities that help children to practice and apply mathematical skills.

### **Mathematics Indicators**

### Number

Apply effective strategies for numerical calculation and problem solving.

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Whole Numbers	Count objects, matching one to one	Count objects using vernacular number system	Count, write numerals, compose, compare and order groups of objects up to 10
Operations	Explore putting together and taking away concrete objects	Explore putting together, taking away, grouping and sharing concrete objects	Solve problems involving addition and subtraction of single digit whole numbers using concrete materials
Fractions	<ul> <li>Sort and regroup a collection of objects in different ways</li> <li>Learn to share equally</li> </ul>	Recognise an object or a collection of objects that can be broken down	Break up objects into pieces and redo them

### Measurement

Demonstrate skills of estimation and measurement in a range of contexts, suing appropriate units, instruments, and formulae.

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Length, weight and capacity	Explore length, weight and capacity of objects using non-standard measures	Measure length, weight and capacity of objects using local methods	Measure and compare length, weight, and capacity using non- standard methods
Time	Participate in and discuss daily routines using local time markers	Describe and predict daily routines using local time markers	Tell time in traditional ways and estimate duration of a variety of activities and events
Money	Imitate traditional bartering methods of exchange in play	Identify and imitate the traditional bartering methods of exchange	Identify and describe the coins 5, 10, 20, 50 and 100 vatu and use them to make various sums of money to purchase goods

### Geometry

Demonstrate an understanding of geometric reasoning and special awareness and analyse mathematically the spatial features of objects.

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Shapes and Angles	Recognise and compare common shapes in their environment	Recognise and name common shapes in their environment	Identify and describe shapes in their environment
Position and Space	Participate in activities that require understanding of position and space	Describe location of objects and familiar places	Follow and give directions for moving from place to place using directional and positional language

### **Patterns**

Recognize, describe and represent patterns and relationships and apply algebraic techniques to solve problems.

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Patterns	Recognise and make a pattern of 2 or more criteria	Recognise and make a variety of patterns using materials in their local environment	Create, describe and extend regular and irregular patterns using local materials

### Probability and Data

Collect, organize, present and analyse date and use probabilities to draw conclusions and make predictions.

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Probability	Engage in conversations with the teacher about the chances of natural or community occurrences	Identify and describe events that happen in the community	Identify and describe events that happen in the community
Handling Data	Talk about and sort data about familiar topics	Talk about and sort data about familiar topics	Collect and organize simple data to represent information

# Number

### Whole Numbers

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities	
Practice counting at home and see and hear others counting.	Count objects matching one to one.	Engage in a variety of activities that involve counting, both independently and with the assistance of the teacher.	
Children may have been exposed to:  a. Learning how to count in sequential order  b. Opportunities to hear others counting  c. Opportunities for authentic purposes to count, for example, I am the second child in my family, or How many eggs did the chickens hatch today?  d. Opportunities to hear others using ordinal numbers	This will be evident when the child:  a. Recites the numbers to 10  b. Counts common objects  c. Touches objects while counting, matching 1:1  d. Talks about how numbers are used in real situations (thinking mathematically)  e. Uses ordinal language - first, second, third, appropriately  f. Matches digits to the correct number of objects counted to 5  g. Counts from a number e.g., if counting 7 finger, knows that one hand has 5 so starts counting at 5  h. Identifies some of the symbols, pictures or objects used to represent numbers	Children, for example:  a. Listen to stories or songs told or sung with the teacher that involve counting  b. Learn to count from a number - first with sets that remain the same (our fingers) and then other common objects (stones)  c. Practice counting in a wide variety of ways in the classroom e.g., counting beads while making a pattern, counting the number of children in class, number of boys, number of chalkboards needed for the group to work together  d. Recognise numerals to 10  e. Begin to write numerals  f. Use ordinal numbers appropriately in classroom routines e.g., I want to be first in the line.	

# Operations

Prior Learning Skills		Kindergarten Sub-strand Outcome and Indicators		Kinder	garten Activities	
Experience situations in which items have been grouped and regrouped according to number.		Explore putting together and taking away concrete objects.		them I	e in activities that help earn how and why to and regroup objects.	
Children may have b	een			Childre	Children, for example:	
exposed to:  a. purchasing f market, cou asking for m	nting and	child: a. b.	groups objects together counts items that have	a.	sort crayons evenly from a container of crayons by adding or taking away some	
b. purchasing f counting and some back	d putting	C.	been grouped together understands the concept that when counting objects in a group, the	b.	work with an adult to make equal amounts of food for a snack e.g., nuts, biscuits	
c. sharing food adding or ta some to shal e.g., biscuit	king away re fairly		last number counted is the number of objects in the group	C.	group objects in the Home Centre and add to or take away from these	
d. using appropriate language when and regroup more, less, s	oriate en grouping ing e.g., same	d.	counts from a number (demonstrating an understanding that the number of items counted in the first group is permanent)	d.	objects.  use the language of regrouping appropriately e.g., more, less, same	
e. adding or su items to be when barter market	purchased	e.	understands concepts of grouping and regrouping objects			
		f.	adds more objects to a group of objects and counts how many			
		g.	takes away from a group of objects and counts how many			
		h.	describes the purpose they have found for adding or taking away objects from a group			
		i.	uses the language of regrouping e.g., more, less, same			

# Fraction

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Learned about how to share material in equally or fairly at home or in the community.	Sort and regroup a collection of objects in different ways and learn to share equally.	Engage in activities that help them to learn about how to sort items equally or fairly.
Children may have been exposed to:  a. fair distribution of food in the home kitchen  b. sharing of food with siblings e.g., packet of biscuits, peanuts  c. sharing of play material e.g., marbles, crayons  d. cutting of a cake in equal slices to share	This will be evident when the child:  a. recognizes that a group of objects can be divided  b. shares equally a collection of objects with friends while playing  c. sorts items into collections of like properties e.g., shells with pink inside, round shells  d. helps prepare snack and cuts or shares food equally  e. understands when items are not shared equitably	Children, for example:  a. share objects fairly among friends e.g., peanuts, fruit, learning materials  b. help a friend who is not sharing equally  c. divide an object into equal pieces e.g., birthday cake  d. hand out learning materials to classmates e.g., everyone gets one piece of paper and three crayons

# Measurement

## Length, Weight, Capacity

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Heard appropriate vocabulary to describe characteristics of length, weight or capacity and will have had opportunities to see others engage in measuring and comparing.	Explore length, weight and capacity of objects using non-standard measures.	Engage in activities that help them explore concepts of length, weight and capacity and learn the associated vocabulary.
Children may have been exposed to:	This will be evident when the child:	Children, for example:  a. explore measurement when
a. family members and community members using standard measuring units to measure length when, for example they are building	<ul> <li>a. compares lengths and weights using their own methods</li> <li>b. measures length, weight, and capacity using local resources</li> </ul>	they are given appropriate measuring tools for their play. They may, for example:  a. use a tape measure to compare how long items are in
b. family members or community members using standard measuring units when, for example, measuring weight at a medical clinic or food in the market  c. family members or community members using standard measuring units to measuring capacity when, for example, they are baking  d. the language of measurement whether in the vernacular, Bislama, English or French	c. collects items of different sizes, lengths, and weights and arranges them in order of size, length, or weight  d. uses correct vernacular words or words of comparison to describe length, weight, and capacity of objects  e. uses appropriate vocabulary to describe as the concepts of full, empty, heavy, light, long, short, tall, short	long items are in the classroom  b. use a little scale to weigh the baby in the Medical Clinic  c. use cups or spoons to measure the sugar when cooking in the Home Centre or the cake stand  b. explore measurement using non-standard measuring tools. They may, for example:  a. measure how tall their friends are using the height of a shelf for comparison  b. compare weight when, for example, they are playing with a balance scale  c. use non-breakable cups and containers at the water table to compare the capacity of the various measures

### Time

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Participated in activities that are time sensitive or occur at particular times regularly during the day.	Participate in and discuss daily routines using local time markers.	Engage in activities that help them to develop a concept of time and a vocabulary associated with time.
Children may have been exposed to:  a. routines that are time sensitive such as wake up time and bed time  b. adults who identify the days of the week  c. adults who point out natural time markers such as the sun rising or setting, plants that begin to close at sunset  d. the association of regular events according to the day of the week. e.g., We go to church on Sunday.	This will be evident when the child, for example:  a. identifies parts of the day in the vernacular e.g., morning or afternoon  b. identifies traditional measures of time  c. demonstrates knowledge of some annual events and celebrations such as harvest time, Easter, Christmas Day  d. identifies days of the week  e. uses time markers such as yesterday, today, tomorrow  f. identifies time markers such as morning, afternoon, evening	Children, for example:  a. sing a song about the days of the week and identify today's day  b. observe how nature follows the time of the day. e.g., position of sun or moon  c. observe how some animals' routines follow the time of day  d. create, with the teacher's help, a simple pictorial timetable to follow daily occurrences  e. use language and routines associated with time in their dramatic play. e.g., put the baby to bed at night in the Home Centre, get up in the morning and make breakfast

# Money

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Experienced exchange and bartering activities with their families and are aware of the vocabulary commonly used.	Imitate traditional bartering methods of exchange in play.	Engage in activities that help them to learn about traditional methods of exchange and bartering.
Children may have been exposed to:  a. family members bartering for goods in the market  b. family members who are merchants and rely on exchange to sell their product to others  c. discussions with family members regarding how bartering processes work	This will be evident when the child:  a. talks about traditional bartering with community members  b. exchanges goods during role play at the learning centres  c. uses items such as coins in their play e.g., at the Market Centre	Children, for example:  a. exchange their snack with a friend during break time  b. discuss exchanges that occur in the markets prior to role playing this at a learning centre  c. role-play bartering when playing at the Market Centre  d. identify, when playing, objects that have the same value  e. sort, with the teacher, representations of items with similar value  f. use local currency in play

# Geometry

## Shapes and Angles

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Identified 2 and 3 dimensional shapes in their environment but did not necessarily learn the labels for them.	Recognise and compare common shapes in their environment.	Engage in activities that help them to learn about 2 and 3 dimensional shapes in their environment.
Children may have been exposed to:  a. common vocabulary associated with a shape but not necessarily the mathematical language. e.g., a box as compared to a cube, a ball as compared to a sphere  b. the identification of objects that are similar which leads to sorting by shape	This will be evident when the child:  a. recognizes and finds different shapes in the environment  b. names two dimensional shapes  c. matches and sorts objects of various sizes and colours according to their shape	Children, for example:  a. search for and identify objects in the classroom with the same shape  b. sort blocks according to their shape  c. draw common shapes and incorporate them into their drawings as appropriate  d. go on a "shape" walk in the community to search for common two and three dimensional shapes

### Position and Space

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Opportunities to hear and respond to positional language and to develop a sense of space.	Participate in activities that require an understanding of position and space	Engage in activities that help them learn the vocabulary of positions e.g., behind, under, over, etc. and recognize features of space.
Children may have been exposed to:  a. positional language such as behind, in front, under, over  b. movement related to understanding space such as lifting their foot the correct height for a step, walking past a person and not into a person, running to catch a ball in time  c. the idea of locating items in their home or places in the community	This will be evident when the child, for example:  a. follows instructions according to positional language  b. uses positional vocabulary e.g., behind, beside  c. identifies where to locate familiar objects using positional language  d. respects boundaries that are both easily identifiable and those that are invisible	a. play games with the teacher that require following directions of position. e.g., stand beside someone, run behind a tree, crawl under the rope  b. play games that require moving through space while respecting the personal space of others. e.g., a modified game of soccer  c. practice positions in space while dancing e.g., going under the arm of their partner, dancing with hands up  d. remain within a space identified by the teacher such as the school yard boundaries  e. complete simple puzzles and provide descriptors for how space is related to the task  f. play with building blocks and create bridges, rooms, spanned arches, etc. using spatial vocabulary

# Patterns

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Surrounded by patterns in their environment.	Recognise and make a pattern of 2 or more criteria.	Engage in activities that show them how to recognize and repeat a pattern.
Children may have been exposed to:  a. patterns in nature e.g., patterns in leaves or flowers  b. patterns in fabric or jewelry  c. activities that involve making clapping patterns with adults  d. songs that have repeating sections  e. discussions about how some patterns are identified in their environment	This will be evident when the child  a. recognizes a pattern  b. talks about patterns they see and identifies the features of the pattern  c. repeats patterns e.g., follows a rhythmic clapping pattern, makes and/or copies a pattern with beads  d. creates a pattern	Children, for example:  a. search for repeating patterns in the classroom  b. identify patterns in fabric  c. use local objects to make a pattern e.g., stone, shell, stone, shell  d. copy a clapping pattern with the teacher  e. use a drum or a shaker to create a simple rhythmic pattern  f. create a pattern using coloured beads, various shapes of shells

# Probability and Data

# Probability

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Experienced events that occur regularly.	Engage in conversations with the teacher about the chances of natural or community occurrences.	Engage in activities that help them predict the probability of events.
Children may already have been exposed to:  a. daily events that occur at a particular time of the day such as when they waken or when they go to sleep  b. attendance at an event on a particular day of the week e.g., church  c. the anticipation of a cultural or religious event that occurs at a particular time of year or date  d. indicators of weather events such as dark clouds preceding a rain storm	This will be evident when the child  a. discusses with the teacher the probability of weather events occurring according to current conditions e.g., It is cloudy today. Do you think it is going to rain?  b. recognizes events that occur regularly and are predictable such as bedtime, mealtimes, church services  c. discusses probability of cultural events occurring at certain times of the year  d. predicts what might happen when playing e.g., If I put this block on the tower, I think it will all fall down.	Children, for example:  a. identify events that occur regularly and are therefore predictable such as sunrise and sunset  b. engage in play activities and use the language of probability e.g. If I put this nut in the water, I think it will sink.  c. look forward to seasonal events such as harvest, Christmas

## Handling Data

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Some experience with the analysis of data.	Talk about and sort data about familiar topics.	Take part in activities that help them to sort data.
Children may have been exposed to:  a. discussions involving the analysis of data at home or in the community e.g., Look at this weather forecast for the next few days. We cannot plant in the rain.  b. discussion involving a list of who has paid for their produce and how much they have paid  c. discussion around quantity of food eaten or available  d. discussions about rain and crops and the consequences of too much or not enough rain	This will be evident when the child:  a. participates in discussions of data and the creation of simple graphs with the teacher  b. creates simple surveys independently, following a pattern established by the teacher  c. identifies the results of data gathering with the class	a. create a weekly weather chart with the teacher  b. develop a variety of surveys about class members e.g., number of people in their family, age of the children  c. develop human graphs to sort data e.g., stand in a line according to height, age, or favorite colour  d. use surveys and graphs created with the teacher as examples for creating their own simple survey or graph. During play time some children may choose to take simple surveys or graph their friends' responses e.g., using pictures instead of words to design a survey or graph  e. create an attendance chart by placing the names of those children who are absent on the other side  f. Gather data by printing their name under the correct response to a question e.g., Do you have a dog? Yes/No

# A Sample Lesson

Strand:	Patterns
Materials:	<ul> <li>string</li> <li>different colours of beads</li> <li>a completed bead necklace that follow a simple pattern</li> </ul>
Lesson:	begin the lesson by singing a familiar song that has a repeating pattern or incorporates a clapping pattern. This will stimulate the children and prepare them for learning.
	<ul> <li>identify what the children already know about patterns, by asking them to find and identify patterns in the classroom</li> </ul>
	do come clapping patterns with the children
	show the necklace and use the word pattern to identify the way the beads are arranged
	talk about the resources they will use to make a pattern of beads
	begin with a pattern of 2 colours of beads. Ask children one at a time to come and choose the correct colour of beads that follow the pattern. Call out the colours each time - red, blue, red, blue
	challenge children to create a pattern this week somewhere in the classroom.
Application:	Ensure that there are materials at many centres that can be used to make the patterns. Consider adding materials to the centres such as the following:

Home Centre	Mathematics Centre	Arts & Crafts Centre
adult clothing for children to dress up in that have different patterns so that they can identify them	various items that have common characteristics that can be used to make a pattern such as coloured blocks, different shaped shells, stones, seeds	<ul> <li>different coloured strips of paper to weave into a little mat</li> <li>create bead or shell necklaces that follow a pattern</li> </ul>
Hair Salon	Market Centre	Classroom Routines
<ul> <li>patterns that children may follow to braid hair</li> <li>empty hair care containers that can be organized in patterns</li> </ul>	products they will sort and display in a pattern and then pretend to sell	line up in a pattern such as boy, girl, boy girl, or boy, boy, girl, girl and identify the pattern

# APPENDIX - Observations

Learning Area: Mathematics		Strand: Number Sub-strands: Whole Numbers, Operations, Fractions	Whole Numbers, Operat	tions, Fractions
NAME	NAME	NAME	NAME	NAME
DATE	DATE	DATE	DATE	DATE
NAME	NAME	NAME	NAME	NAME
DATE	DATE		DATE	DATE
NAME	NAME	NAME	NAME	NAME
DATE	DATE		DATE	DATE
NAME	NAME	NAME	NAME	NAME
DATE	DATE		DATE	DATE
NAME	NAME	NAME	NAME	NAME
DATE	DATE	DATE	DATE	DATE

Learning Area: Mathematics		Strand: Measurement Sub-strand	Sub-strands: Length, Weight, Capacity, Time, Money	acity, Time, Money
NAME	NAME	NAME DATE	NAME DATE	NAME DATE
NAME	NAME	NAME	NAME DATE	NAME DATE
NAME DATE	NAME DATE	NAME DATE	NAME DATE	NAME DATE
NAME DATE	NAME DATE	NAME DATE	NAME DATE	NAME DATE
NAME DATE	NAME	NAME	NAME DATE	NAME DATE

Learning Area: Mathematics		Strand: Geometry Sub-strands: Shapes and Angles, Position and Space	: Shapes and Angles, Pos	sition and Space
NAME DATE	NAME	NAME	NAME DATE	NAME
NAME DATE	NAME DATE	NAME	NAME DATE	NAME
NAME DATE	NAME DATE	NAME	NAME DATE	NAME
NAME DATE	NAME DATE	NAME	NAME DATE	NAME
NAME DATE	NAME DATE	NAME DATE	NAME DATE	NAME

٦	Learning Area: Mathematics	atics Strand: Patterns	Sub-strands: Patterns	S
NAME	NAME	NAME	NAME	NAME
DATE	DATE	DATE		DATE
NAME	NAME	NAME	NAME	NAME
DATE	DATE	DATE	DATE	DATE
NAME	NAME	NAME	NAME	NAME
DATE	DATE	DATE	DATE	DATE
NAME	NAME	NAME	NAME	NAME
DATE	DATE	DATE	DATE	DATE
NAME	NAME	NAME	NAME	NAME
DATE	DATE	DATE		DATE

Learning Area: Mathemati	CS	Strand: Probability and Data	Sub-strands: Probability, Data Handling	', Data Handling
NAME	NAME	NAME	NAME	NAME
7	, , , , , , , , , , , , , , , , , , ,	, ,	7	7
NAME	NAME	NAME	NAME	NAME
DATE	DATE	DATE	DATE	DATE
NAME	NAME	NAME	NAME	NAME
DATE	DATE	DATE	DATE	DATE
NAME	NAME	NAME	NAME	NAME
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## APPENDIX - Strand Observations

		Geometry		
Mathematics		Measurement	Probability and Data	
	Observations for _	Numbers	Patterns	

# Syllabus 3

Science

### Introduction

The *Vanuatu Science Syllabus* for Kindergarten identifies the knowledge, skills, attitudes and values that children achieve by the end of Kindergarten. In this syllabus these achievements are expressed as outcomes and indicators. Teachers use the syllabus to develop the teaching and learning programmes for Science that is appropriate to the specific needs of young children. The activities are child centered which means they are directed toward active involvement by the child and less directed by the teacher.

Science in the Kindergarten classroom is focused on children's observation of their natural environment and their development of a curiosity about these surroundings. This curiosity encourages children to be problem solvers and critical thinkers and also serves to provide a strong foundation for skills and strategies that will develop in the primary division. The syllabus aligns with the Syllabus for Years 1 to 3 of primary school and it provides a foundation upon which to build the skills required in that curriculum.

### Rationale

An understanding of science is a critical skill for all young children to develop. We live in a global society in which science and technology is moving forward at a great pace. Scientific education is designed to help children understand how science can be used to enhance their lives and way of life. Ethics is an essential understanding that children must develop as societies struggle with the implications of scientific advances. As young children learn how to think like a scientist to solve problems, experiment, question, hypothesize, and make logical predictions, they must also consider the consequences of their inventions and advances on their friends or on the environment.

Through Science, children learn to care for and respect their environment and learn that decisions they make now, as global citizens or as farmers of the future, all have an effect on the environment. They learn, at an early age, that the proper care of plants and animals is vital to the natural balance of their surroundings and how a lack of care can destroy that balance. By learning about pollution, composting, effects of global warming, and the ethical problems surrounding the use of items such as plastic bags or bottles of water, children become protectors of the natural environment rather than abusers.

Young science learners explore the four strands of the science curriculum - Living Things and the Environment; Interactions of Matter; Energy and Everyday Life; and Our Earth and Space. Through hands- on explorations children become critical thinkers, problem solvers and inquisitive learners as they engage in activities related to each of these strands or apply the learning from these areas to their daily lives.

### **Aims**

The aims of the science curriculum are to ensure that children:

- become observers
- become curious/inquisitive
- become problem solvers and critical thinkers
- think like a scientist
- apply ethical standards to decision making
- distinguish between the probable and improbable using scientific knowledge
- predict outcomes using logical thinking
- · respect safety rules when working with scientific equipment
- understand and use scientific language

- develop an interest in, and maintain a sense of wonder and curiosity about the natural and technological world
- learn to consider a question or problem and develop a plan to answer that question

### Content Overview

The Science Leaning Area includes the skills, knowledge and attitudes needed to communicate and think scientifically. The content of this syllabus is organized as follows:

- · learning area outcome
- strands
- sub-strands
- prior knowledge that relates to the outcome
- · indicators that the learning outcomes have been achieved, by strand
- activities associated with the learning outcomes and indicators
- ways to assess the learning

## Learning Area Outcome

Within the *Vanuatu National Curriculum* Mathematics and Science are included in the same Learning Area. The following Learning Area outcome describes what students should know in Mathematics and Science by the time they complete Year 10. By understanding the connection between the Kindergarten outcomes and the exit outcomes of Grade 10, the teacher understands the importance of the Kindergarten curriculum in establishing the basic skills for science learning. This method of planning is known as Outcomes Based Planning or Backwards Mapping.

The Mathematics and Science Learning Area Outcome requires children to:

Describe, interpret and analyse social, natural and physical systems and apply mathematical and scientific concepts and processes to develop an understanding and appreciation of the physical and natural world and make reliable judgments.

This syllabus contains learning outcomes, indicators and activities for Science.

#### Strands

The learning area of Science is broken down into specific strands. These strands define major units of learning within the subject, in this case:

Strand	Living Things and the Environment	Interactions of Matter	Energy and Everyday Life	Our Earth and Space
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#### Sub-strands

Each strand or unit of learning is subdivided into sub-strands. The sub-strands define specific aspects of learning within the strands.

Strand	Living Things and the Environment	Interactions of Matter	Energy and Everyday Life	Our Earth and Space
Sub-strand	<ul> <li>Living Together</li> <li>Structure and Life Processes</li> <li>Biodiversity, Relationships and Sustainability</li> </ul>	<ul><li>Materials</li><li>Forms and Cycles of Matter</li></ul>	• Forces	Our Solar System     Our Changing     Earth

## Learning Outcomes and Indicators

The content of the Strands and Sub-strands are expressed as learning outcomes and indicators. A learning outcome is a specific statement that identifies what children should know, and the skills, attitudes and values all children should achieve or demonstrate by the end of the learning period. Learning outcomes are student centred and written in terms that enable them to be demonstrated by the child and assessed or measured by the teacher.

Each learning outcome is accompanied by a set of indicators. Indicators are examples of what children can do, know and understand when they have achieved the learning outcomes. Teachers use the indicators as the basis for the development of the science program. The indicators presented are examples that can be built upon by the teacher. Teachers employ these indicators as a guide to the types of activities that are considered child-centered and open-ended, allowing children to work at their own level of understanding. Science is generally taught as a hands-on subject with many opportunities to experiment and try out new ideas. Research on young children has shown that they learn best by being active and involved learners.

#### **Activities**

Some sample teaching and learning activities have been included to provide teachers with examples of ways to develop learning programs that allow all children to achieve the outcomes. The activities have been carefully selected to represent activities that are appropriate to the specific learning needs of young children as they engage in a play-based program. Teachers routinely expand on the list of activities, limiting time spent on paper

and pencil tasks and monitoring time spent on scientific thought and communication in the classroom.

### **Prior Learning**

Accompanying each learning outcome, specific to this syllabus for Kindergarten, is a set of situations where children may have developed related skills prior to school learning. These situations serve to offer suggestions to help families and community members provide scientific learning at home. The home is where the child's first learning occurs and parents must be assured that they do not have to provide structured lessons in order to teach their children. They just need to be aware of what the child can learn from everyday household activities. By talking about science related topics that occur in their own lives, children naturally become scientific thinkers.

## Description of the Science Strands

The five strands of Science are described in some detail below.

## Living Things and our Environment

Children are encouraged to learn more about the plants and animals that live in their environment. They use their skills of observation and critical thinking to identify and compare plants; to identify living and non-living things; and to care for their environment. By learning to care for living things children become aware of the interdependence of our environment.

#### Interaction of Matter

Children in Kindergarten are introduced to the idea that their environment is made up of a wide variety of materials that are both man-made and natural. Children learn to identify some of these materials; learn to appreciate and conserve natural resources and to consider ethical issues related to some man-made materials. They learn that materials can undergo change and identify some of the factors that bring about this change such as heat and cold.

## **Energy and Everyday Life**

Children in Kindergarten are not exposed to all of the sub-strands of Energy and Everyday Life that they will address in the primary grades. However, children will begin to explore such topics as force and how objects move from one place to another. Through exploration and inquiry they have the opportunity to move objects by pushing, pulling, or using ramps and wheels...

## Our Earth and Space

Children in Kindergarten will become aware of the day and the night sky and how these phenomena direct their daily lives. They recognize natural and regular occurrences such as how the position of the sun changes throughout the day, or how the moon has various phases. They recognize the sun as the source of light in the daytime and the moon as the largest object in the night sky. They also become aware of the various weather patterns that affect how the people of Vanuatu live their lives.

#### Assessment

Assessment is the ongoing process of identifying, gathering and interpreting information about children's achievement of the learning outcomes described in the subject syllabus. In kindergarten the teacher gathers much of this data for science as they engage in discussions with children about scientific subjects and record what they hear the children saying. They observe children as they engage in scientific investigations and explore new ideas. Assessment based on completing a worksheet fails to confirm a child's understanding of the concepts being assessed; whether they know more than what is covered on the worksheet, or whether they are having some difficulty.

Teachers use criteria derived from the learning outcomes and the indicators to assess children's work. The criteria are explained clearly to the children so they know what needs to be done to succeed. Assessment criteria help teachers to make consistent and fair judgments about children's achievements. Teachers record their observations so that they have evidence of children's knowledge and skills.

## Gathering Information

The document entitled *Observing and assessing young children*, 2013<sup>3</sup> advises teachers on how to observe and document the learning. It states:

The key to systematic observation is that conclusions or interpretations are based on observations of the child over time in a variety of situations, rather than a one-time assessment of a child's skills and abilities that is limited by a single task.

<sup>&</sup>lt;sup>3</sup> Ministry of Education. Vanuatu. Early Childhood Care and Education. *Observing and assessing children's learning*. 2013. pg. 2.

Successful observations over time allow teachers to capture and record meaningful details while children are engaged in a variety of activities.

The checklists found in that document assist teachers in developing a holistic view of children's learning and how they interact with their peers in the learning situation. The following chart provides a way of gathering and documenting information specific to the learning area of Science. This method is in keeping with the learning outcomes and indicators that are appropriate for Kindergarten.

The following are useful and suitable methods of gathering information on children's achievements at this level of schooling.

Examples of What to Assess Using Different Assessment Methods

Stands	Observe	Conference	Application
Living Things and the Environment	Observe children as they explore living things in the environment and record your findings	Engage children in conversations about their thinking. Record the conversations	Listen to children as they apply their knowledge to new applications through their play
Interactions of Matter	Observe and listen to children as they interact with matter in their environment	Discuss with the class how matter changes under certain conditions. Ask them to provide examples such as how oil does not mix well with water or how sand and water blend together to make mud	Listen to children's thinking as they combine matter such as how the sand changes at the sand table when water is added. Do they understand how these materials interact?
Energy and Everyday Life	Observe children as they experiment with ways to move objects from one place to another	Engage children in conversations about their thinking as they try to move objects in different ways	Place specific items in a science learning area that children can use to move other items. For example add ramps, wheels, tubes, etc. and ask children to experiment with ease of motion
Our Earth and Space	<ul> <li>Listen to conversations children naturally have that involve the sky at night or day</li> <li>Initiate conversations that will encourage children to express their understandings</li> </ul>	<ul> <li>Engage children in discussions about the differences between the day and night skies</li> <li>Make charts or booklets with the children to record their learning</li> </ul>	•

#### Conference

In order to learn what children are thinking and the strategies they are using or considering when at play, it is important to encourage children to discuss and explain their thinking.

#### Conferencing Questions or Discussion Starters

- Tell me about what you know.
- How did you decide what to do?
- What else could you have done? What would we need to add to the centre?
- What did you like about this activity?

### Sharing My Learning

#### Ask a child to share:

- his thinking and plans for the activity
- how he would change the activity next time
- what he learned about himself as a learner
- what helped her to complete this activity

#### Document

When observing children in a variety of situations, a great deal of information can be learned about the child and how that child learns. These observations are recorded to ensure that, over time, data has been collected in all learning areas, strands and substrands. The date the observations were made, the learning centre or situation in which the child was engaged, and exactly what was said or done by the child in relation to the strand or sub-strand must all be recorded. Teachers must also record *who* (child's name), *when* (date the activity occurred), *where* (the experience in which the child was engaged), and *what* (exactly what was heard and seen related to the learning) using charts such as those found in APPENDIX - Observations (page 95). A recording sheet for the class is used to ensure that data is collected on all children and that their learning is documented. This is particularly important for those children who are quiet and who may not be obvious learners. Additionally, teachers must track individual children and their scientific learning in all science strands using a chart such as APPENDIX – Strand Observations (page 101).

## Learning Outcomes and Indicators and Relevant Activities

## Overview of all Strand and Sub-strand Learning Outcomes

The outcome for the Mathematics and Science learning area stated below describes the endpoint of Mathematics and Science learning by the end of Year 10. The table describes the strand learning outcomes for each of the four strands in Science for Years 1-10.

### Learning Area Outcome

Describe, interpret and analyse social, natural and physical systems and apply mathematical and scientific concepts and processes to develop an understanding and appreciation of our physical and natural world and make reliable judgments.

#### **Strands**

The specific Science syllabus is organized into four Strands: *Living Things and Our Environment; Interactions of Matter; Energy and Everyday Life*; and *Our Earth and Space*.

The related Learning Outcomes for Years 1 to 10 are as follows:

Strand	Living Things and	Interactions of	Energy and	Our Earth and
	Our Environment	Matter	Everyday Life	Space
Learning Outcomes	Recognise the characteristics and functions of organisms, their diversity and inter-dependence	Describe and explain the structure of materials, their uses and properties and how these can be changed	Demonstrate the concepts of energy and explain its importance	Demonstrate, recognize and explain the changing relationship between the earth its solar system and the universe

#### Sub-strands

Advanced learning outcomes have been reorganized by grade to ensure that children gradually and systematically build the skills from Kindergarten to Grade 10. Each of these strands is organized into sub-strands for the Kindergarten syllabus as shown in the following table.

Strand	Living things and	Interactions of	Energy and	Our Earth and
	Our Environment	Matter	Everyday Life	Space
Sub-strands	<ul> <li>Living Together</li> <li>Structure and Life Processes</li> <li>Biodiversity, Relationships and Sustainability</li> </ul>	<ul> <li>Recognise that matter is all around us</li> <li>Explore aspects of recycling and composting</li> </ul>	<ul> <li>Energy Sources, Use and Conservation</li> <li>Energy Transfers and Trans- formations</li> <li>Forces</li> </ul>	<ul> <li>Demonstrate         awareness of the         differences in the         day and night         skies</li> <li>Demonstrate         awareness of         weather events         and how we         adapt to these         changes in         weather</li> </ul>

Each of these sub-strands has explicit learning outcomes that identify what a child at this level must be able to do in order to achieve these outcomes. A list of indicators for each sub-strand outcome is provided to assist the teacher. Indicators highlight the grade level outcome a child must demonstrate at each level of schooling. Please note that indicators are **examples** of what children need to do to achieve the outcome. **They are not to be used as a checklist to be systematically ticked off.** Teachers need to use these indicators to help make judgments about children's achievements. Teachers can also develop their own indicators for the learning outcomes using these as a guide.

The process skills of problem solving, reasoning and communicating scientific ideas are additional skills that are learned and assessed within all of the strands of Living Things and our Environment; Interactions of Matter; Energy and Everyday Life; and Our Earth and Space.

## **Science Indicators**

## Living Things and Our Environment

Recognise the characteristics and functions of organisms, their diversity and interdependence.

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Living Together	<ul> <li>Identify plants and animals that live locally and discuss their differences and similarities</li> </ul>	Talk about plants and animals that live locally	Identify and record the different characteristics of common plants and animals
Structure and Life Processes	Observe the life cycle of plants and animals		Explore the major external parts of green plants
Biodiversity, Relationships and Sustainability	Demonstrate an awareness of various plants living in a specific environment		Be aware that living things inhabit various places and have different forms and ways of life

### Interactions of Matter

Describe and explain the properties and structure of materials, their uses and how these can be changed.

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Materials	Recognise that matter is all around us	Recognise that matter is all around us	Use the five senses to explore the characteristics of matter from their local environment
Forms and Cycles of Matter	Explore aspects of recycling and composting		
Reactions			

## Energy and Everyday Life

Demonstrate concepts of energy and explain their importance.

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Energy Sources, Use and Conservation			Investigate and identify energy as a part of daily life
Energy Transfers and Transformations			
Forces	Experiment with how objects move		

## Our Earth and Space

Demonstrate, recognize and explain the changing relationship between the earth, its solar system and the universe.

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Our Solar System	Demonstrate     awareness of the     differences in the day     and night skies		Show curiosity and recognize differences in the day and night sky
Our Changing Earth	Demonstrate     awareness of weather     events and how we     adapt to these changes     in weather	Investigate and identify positive and negative ways in which changing weather patterns affect living things	Investigate and record observable natural events and changes that occur in the environment

## Living Things in Our Environment

## Living Together

Prior L	earning Skills		garten Sub-strand me and Indicators	Kinder	garten Activities
	bserved various plants imals in their nment.	live lo	y plants and animals that cally and discuss their nces and similarities.	enviror	to be observers of their nment and the plants and s that live there.
	en may have been d to:  Plants growing in their gardens or close to their homes  Opportunities to learn how to identify some of these plants and learn their name  Animals living in their yards or close to their homes	This wichild: a. b.	ill be evident when the  identifies differences between living and non- living things recognizes and names common animals in their local environment recognizes and names common plants in their local environment recognizes and names different sea life		en, for example:  walk in the school neighbourhood to look for local plants that they can identify and name  walk in the school neighbourhood to look for local animals that they can identify and name  visit the sea to look for and identify water plants, shells, sea life grow plants in the classroom or plant a garden in the school yard or an adjoining space and learn how to care for the plants
				f.	read books (could be teacher and/or class created) that discussed how plants and animals interact

## Structure and Life Processes

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Have knowledge of plants and animals in their local environment and able to identify aspects of their life cycle	Label features and observe the life cycle of plants and animals	Identify plants and animals in their environment and recognize their life cycle
Children may have been exposed to:  a. a variety of plants in the local environment and their names  b. a variety of animals or other wild life in the local environment and their names  c. the life cycle of family pets and animals as they give birth, age and die  d. the life cycle of plants as they are planted, grow, and harvested  e. the vocabulary associated with the life cycle as used by family and community members	This will be evident when the child, for example:  a. uses correct labels for parts of a plant e.g., leaves, roots, flower, stem  b. uses correct labels for parts of animals e.g., snout, fin, leg, mouth, gill, beak, hoof  c. uses correct terms for the various stages of plant and animal life e.g., calf, sow, seed, bud	Children, for example:  a. draw pictures of local plants and animals and label the important features with the help of the teacher  b. collect leaves of different plants and compare their properties  c. discuss the parts of the plant that are used for food and what is discarded  d. create charts with the teacher of the life cycle of a specific plant or animal with labels

## Biodiversity, Relationships and Sustainability

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Awareness of different plants and animals that inhabit specific environments within their community	Demonstrate an awareness of various plants living in a specific environment	Demonstrate awareness of how natural plants and animals vary according to the specific environment
Children may have been exposed to:  a. a range of different ecosystems within their local community  b. names of some plants and animals in their local ecosystems  c. identification of specific plants and animals because of distinguishing features  d. processes of growing plants from seeds or shoots	This will be evident when the child:  a. identifies various ecosystems within their local environment e.g., lagoon, farm, forest  b. identifies specific plants and animals within each of the ecosystems e.g., starfish in the lagoon, coconut tree in the forest	Children could, for example:  a. walk through various local environmental ecosystems to identify what lives there  b. develop charts that they illustrate of the various ecosystems and the life they found there  c. draw or paint pictures of their favourite places and include appropriate plant and animal life

## Interactions of Matter

## Materials

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Have engaged in discussions about materials in their environment that are both natural and man-made	Recognise that matter is all around us	Engage in activities that help develop vocabulary and an understanding of features of matter
Children may have been exposed to:  a. a variety of natural materials such as soil for growing plants, air to breathe and water to nourish ourselves  b. a variety of items that are manmade such as paper, metal, plastic  c. vocabulary associated with natural matter such as rough, smooth,	This will be evident when the child:  a. demonstrates an understanding of natural matter and how it is found around us e.g., air, soil, water, wood  b. demonstrates an understanding of manmade material and how it has been brought into our environment e.g., plastic bottles, plastic bags, metal  c. begins to understand the interdependence of matter and life forms e.g., fish require water, animals require air  d. demonstrates an early understanding of the properties of specific materials  e. explore the properties of sand and water  f. distinguishes between material that is man-made and that is natural	Children, for example:  a. make a collection of natural matter in the school ground for use at the creative art centre  b. make a collection of manufactured materials found in the local environment for use at the creative centre  c. learn vocabulary associated with features of matter e.g., wet, rough, salty, smooth  d. engage daily in activities at both a sand and a water table as they explore properties of water and sand

## Forms and Cycles of Matter

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Explored aspects of recycling and composting	Explore aspects of recycling and composting	Practice recycling/reusing and composting
Children may have been exposed to:  a. recycling and reusing items at home  b. knowing specific items that should be recycled  c. recycling and reusing items in their community  d. composting at home  e. knowing specific foods that should be composted	This will be evident when the child:  a. be aware of how plants rely on plant and animal waste for fertilization  b. learn how and why to recycle at school  c. apply their understanding of recycling to the home  d. compost at school	a. create a list of items that they should recycle/reuse such as plastic bottles, paper, cardboard  b. set up a recycling area in the classroom to collect items that can be recycled so that they are not thrown throughout the community  c. create a list of items that can be composted  d. set up a composter in the school yard and use it regularly to discard their left over snack or lunches

## Energy and Everyday Life

## Forces

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Awareness of how items are moved in their home or in their community	Experiment with how objects move	Experiment with force and how this helps items to move
Children may have been exposed to:  a. an awareness of how items in the local environment move e.g., bicycles, cars, carts  b. a vocabulary of terms that describe how objects move  c. playing with moving items using wheels, ramps, etc.  d. knowledge of various ways that objects can be moved e.g., wind, force, gravity, magnets	This will be evident when the child:  a. experiments with various ways to move objects at play centres  b. uses specialized vocabulary to describe the process of moving objects  c. recognizes various sources of energy needed to move objects	Children, for example:  a. develop and record vocabulary related to movement such as rolling, sliding, pushing, lifting  b. experiment with moving objects using various energy sources such as wind, force (one item pushing another); gravity (movement down a ramp); kinesthetic (pushing or pulling with your body), wheels, magnets  c. set up a science centre that contains items that need to be moved and items that will help move them e.g., ramps, lightweight balls, beads,

## Our Earth and Space

## Our Solar System

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Awareness of differences in the day and night skies	Demonstrate an awareness of the differences in the day and night skies	Discuss the differences in the day and night skies
Children may have been exposed to:  a. objects in the sky and the terms used to describe them  b. the various phases of the moon and perhaps simple vocabulary associated with this e.g. full moon, crescent moon  c. the apparent movement of the sun and moon across the sky  d. activities associated with sunrise and sunset	This will be evident when the child:  a. identifies objects in the sky e.g., sun, moon, stars  b. recognizes that the moon has phases that look different in the night sky  c. recognizes that the sun and the moon appear to travel across the sky e.g. the position of the sun is different when it rises to when it sets  d. identifies sunrise and sunset and what it represents	Children, for example:  a. read books about the night sky or about the sun and the moon  b. write non-fiction books as a class about what they are learning in science  c. draw pictures to represent what they are learning about the day and night skies

## Our Changing Earth

Prior L	earning Skills		garten Sub-strand ne and Indicators	Kinder	garten Activities
related experie at hom	d simple vocabulary I to the weather and enced the consequences e and in their local unity of strong weather	weathe	strate awareness of er events and how we to these changes in er	demon typical	pate in activities that strate an awareness of weather events and how dapt to them
Childre expose	en may have been d to:	This wi	II be evident when the		en, for example: record the weather on a
a.	a variety of weather events and recognize	a.	identifies and names simple weather events		daily chart
	how these events affect local residents		e.g., rain, wind, heat wave	b.	discuss how weather changes our lives e.g., sunny days versus rainy
b.	vocabulary associated with the weather events	b.	identifies effects of some weather events		days
C.			e.g. floods, drought, tsunami	C.	identify seasonal weather patterns
	cyclone or droughts	C.	discusses dressing appropriately for the weather	d.	learn appropriate weather related vocabulary
		d.	knows what to do in times of weather	e.	sing songs or tell stories related to the weather
			emergencies	f.	practice emergency measures for severe weather events

## A Sample Lesson

Strand:	Interactions of Matter
Sub-strand:	Forms and Cycles of Matter
Indicator:	Explore aspects of recycling and composting
Materials:	<ul> <li>items that they assume will not compost easily such as: <ul> <li>pop can</li> <li>glass bottle</li> <li>battery</li> <li>chicken bones</li> </ul> </li> <li>items that they assume will compost easily such as <ul> <li>fruit peel and fruit pits</li> <li>leaves</li> <li>paper</li> <li>eggshells</li> </ul> </li> </ul>
Lesson:	<ul> <li>talk to children about how some things that we throw away will disappear into the soil and some will not</li> <li>when garbage disappears into the soil it means that there will not be piles of left over garbage in the environment</li> <li>conduct an experiment on what garbage will disappear over time</li> <li>decide on which items you will conduct the experiment and create a list of the items</li> <li>put soil in the bottom of a large bucket</li> <li>place items chosen for burial over the soil and then cover with more soil</li> <li>water the soil regularly to simulate the effects of rain</li> <li>leave items buried for about a month or two</li> <li>referring to the list of items buried, spread the contents of the bucket out and try to find the items on the list</li> <li>talk about what can be easily composed and what cannot</li> <li>redo the experiment with different items</li> <li>keep an account of what items are not easily composted and those items that do not compost</li> <li>set up a composter in the classroom so children can care for their local environment</li> </ul>

## **APPENDIX** - Observations

Learning Area: Scienc	e Strand: Living Thing Life Processes; Biod	Learning Area: Science Strand: Living Things and Our Environment Sub-strands: Living Together; Structure and Life Processes; Biodiversity, Relationships and Sustainability	Sub-strands: Living To and Sustainability	gether; Structure and
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Learning Area: Sc	ience Strand: Our Eartl	h and Space Sub-stranc	Learning Area: Science Strand: Our Earth and Space Sub-strands: Our Solar System; Our Changing Earth	ur Changing Earth
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## APPENDIX - Strand Observations

Science		Interactions of Matter	Our Earth and Space	
	Observations for	Living things and our Environment	Energy and Everyday Life	

# Syllabus 4

## Living In Our Community

### Introduction

This syllabus identifies the knowledge, skills, attitudes, and values that children will achieve by the end of Kindergarten as they develop foundational skills for *Living In Our Community*. These skills provide the basis for the development of teaching and learning programmes appropriate to the developmental needs of young children. The content of each programme is expressed as outcomes and indicators.

Living In Our Community is a learning area that integrates material from the following three learning areas: Personal Development; Custom, Culture and Environment; Spiritual and Character Development. These learning strands focus on the concepts of learning to be healthy, learning to live together and learning about culture.

#### Rationale

Through the learning area *Living In Our Community*, children develop their physical, emotional, social, mental and spiritual wellbeing in ways appropriate for Kindergarten. This learning enables them to participate in physical education and in physical games during their free time, and learn to act responsibly and independently. Healthy habits and appropriate emotional and social behaviour developed at this stage lays a strong foundation for lifelong self-discipline and the development of strong relationships at home, at school and in the community. Research in brain development indicates that children who do not learn self-discipline by the age of five or six will experience difficulty in this area

throughout life. Self-discipline is something that can and should be taught both at home and at school.

It is important for young children in kindergarten to realize that they must become responsible for their actions, and to practice appropriate social behaviour. They learn to be independent and assume appropriate responsibilities as individuals and as members of their home and school communities. The development of values, knowledge, attitudes and social behavior; lay the foundation for effective and constructive participation in their communities; help them to understand that they have individual rights; and show them how avoid interpersonal conflicts. Through play-based program children; learn why it is important to have the social rules of life including a common view of what is right or wrong; show self-respect and respect for others; know basic safety rules; understand and follow school rules; play cooperatively with others; and listen to and communicate with their classmates. They also show respect for and learn to follow safety rules at home, at school, in their local neighbourhood and the broader community.

Concepts, skills and attitudes about culture and community, enable children to become aware of their rich cultural heritage as they participate in the arts of Vanuatu. Through knowledge of their country's heritage, they develop a sense of membership and belonging. An understanding of the arts is developed through participation in a variety of art forms, allowing children to express themselves effectively and share their ideas.

### Aims

The aims of the *Living In Our Community* syllabus for Kindergarten are as follows. Children will:

- develop healthy exercise and eating habits
- identify edible fruits and vegetables
- · develop coordination and motor skills
- · participate in physical activities
- follow the rules and structure of organized games
- cooperate with friends in a play atmosphere
- show respect and empathy for differently-able peers
- remember and follow basic safety rules
- develop an interest in the arts
- respect, understand and preserve the cultural tradition of Vanuatu through the arts

- use a range of materials and techniques independently and in group situations through the arts
- think creatively and imaginatively in order to ask questions, solve problems, experiment, and create
- sing with expression
- · make and play musical instruments
- listen to and identify different styles of music
- perform freely a variety of cultural and modern dances
- respect school and classroom rules
- communicate and work cooperatively, which means taking turns, respecting the learning abilities of others, respecting the rights of others, being empathetic to the learning needs of others
- recognize and name emotions
- show respect for themselves and others

#### Content Overview

Living In Our Community develops the skills, knowledge, and attitudes needed to communicate socially, artistically, and physically at home, at school and in the community. The content of this syllabus is organized under the following categories:

- learning area outcome
- strands
- sub-strands
- prior knowledge that relates to the outcome
- · indicators that learning outcomes have been achieved, by strand
- activities associated with the learning outcomes and indicators
- · ways to assess the learning

## Learning Area Outcome

Living In Our Community is an integrated learning area taken from the subjects of Healthy Living, Living Together, and Ways of Living. It aligns with the Learning Areas of Personal Development, Culture and Community, Spiritual and Character Development in the Years 1 to 3 Primary Syllabus.

The learning outcomes, indicators and activities in the Living In Our Community syllabus are appropriate to the developmental needs of children in Kindergarten.

## Description of Strands and Sub-strands

#### Strands

The learning area of *Living In Our Community* is broken down into specific strands. These strands define major units of learning within the subject, in this case:

Strand	Healthy Living	Living Together	Ways of Living
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#### Sub-strands

Each strand or learning unit is subdivided into sub-strands. The sub-strands define specific aspects of learning within the strands.

Strand	Healthy Living	Living Together	Ways of Living
Sub-strand	Healthy Individuals and Communities	Civic and Community     Relationships	Our Cultural Heritage and Identity
	<ul><li>Movement and Games</li><li>Safety</li></ul>	<ul><li>Caring for Our Environment</li><li>Spiritual and Character Development</li></ul>	<ul><li>Visual Arts</li><li>Performing Arts</li></ul>

## **Learning Outcomes and Indicators**

The content of the Strands and Sub-strands are expressed as specific learning outcomes and indicators at each grade level. A learning outcome is a specific statement that identifies what children know, and the skills, attitudes and values all children acquire by the end of the learning period that is in this document, by the end of Kindergarten. Learning outcomes are student centered and written in terms that require them to be demonstrated by the child and assessed by the teacher.

Each learning outcome is accompanied by a set of indicators. Indicators are identifiable benchmarks of what children do, know and understand when they have achieved the learning outcomes. Teachers use these indicators as the basis for developing their program in any of the areas covered such as physical education, music, or art. The indicators also provide guidance as to what should be taught to children concerning health and safety and in the area of social development. The indicators presented are examples and the teacher may add additional benchmarks. Teachers should use the indicators as guides to planning activities that are child-centered and open-ended. Their use will allow children to work at

their own level of understanding. Indicators are also used to develop and provide evidence of learning.

#### **Activities**

Some teaching and learning activities have been included to provide teachers with examples of ways to develop learning programs that support all children in achieving the outcomes. These activities have been carefully selected to represent activities appropriate to the specific learning needs of young children as they engage in a play-based program. Teachers are expected to expand the list of activities, limiting the time spent 'on one size fits all" tasks. Instead, time is spent on observing children talking and thinking socially and artistically in the classroom as they play with materials and find authentic applications of their knowledge.

### **Prior Learning**

Specific to this syllabus for Kindergarten, and accompanying each learning outcome, are descriptors of situations in which the child has developed skills prior to coming to school. A child's first learning occurs in the home and the community in which they live. It is important, therefore, that parents understand that children can learn many skills and attitudes from household activities and that they provide a variety of rich and stimulating learning experiences for their child in the context of everyday life.

## Healthy Living

The Healthy Living strand addresses the knowledge, skills, and attitudes that assist children in continuing to develop physically and mentally at school and in their home life.

Healthy Living is divided into 3 Sub-strands: Healthy Individuals and Communities; Movement and Games; and Safety.

Children are introduced to basic knowledge, skills and attitudes of hygiene, nutrition, and the ability to control their own emotions and behaviour in order to live a mentally and physically healthy life style. Children in Kindergarten learn about and practice skills that develop the strength, co-ordination and balance needed to manipulate their bodies in different ways and to develop a positive attitude towards physical exercise. They are also taught the safe use of tools (e.g., scissors,) fire and road safety and safety procedures in the case of emergencies such as an earthquake or cyclone.

## Living Together

In this strand, Kindergarten children explore the values and beliefs that are a part of their community. They learn to control their own behaviour as they function more independently of their families. They learn to listen as they take part in conversations with

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the teacher and their classmates and they share and take turns as they play with their friends. They learn how to develop friendships, to live and work as a part of a group, and interact cooperatively with others.

"Living Together" is divided into three Sub-strands: Civics and Community Relationships; Caring for the Environment: and Spiritual and Character Development.

Children explore how their roles change according to the expected behavior of the community in which they are interacting (such as home and school). Children learn to share and take turns, and they learn to respect the ideas and the feelings of others as they work and play together. They learn about their role as a citizen of Vanuatu by exploring the common customs and religious beliefs of their society and how these contribute to a clear understanding of right from wrong and concepts such as friendship, empathy, sharing and joy. Children learn to take responsibility for the environment around them, at home, at school, and in their local community, and to appreciate that all citizens are responsible for its wellbeing.

### Ways of Living

"Ways of Living" encompasses an understanding of the culture and artifacts of Vanuatu by engaging in some of the customs and traditions of the culture; learning about the traditional arts, and celebrating the diversity of this land and its people. Children in Kindergarten explore their own identity through this study. By exploring the traditional songs, dances and drama of their community, children learn to express their own ideas and imagination in a variety of ways. It also introduces them to the performing arts of other communities and cultures within Vanuatu.

#### Assessment

Assessment is the ongoing process of gathering and interpreting information about children's achievement. In this document, assessment data is based on the learning outcomes described in the "Ways of Living" syllabus and is determined by individual schools and teachers i.e. 'school based" Teachers use assessment criteria derived from the learning outcomes and their indicators to make consistent and fair judgments about children's achievements. The criteria are clearly explained to the children so they know what they have to do to be successful.

In Kindergarten, the teacher gathers data by observing children at play as they apply what they understand and have learned. Teachers record their observations so that they have evidence of children's application of knowledge and skills. When children are offered a variety of related material to explore and manipulate, e.g., tires, ropes, balls, beanbags, baskets or bowls in the playground, they are given the opportunity to explore how the

items can be used alone or in combination to develop a game. They use clear communication skills to negotiate the activity and then their physical skills to play the game. This provides a multi-dimensional assessment opportunity for the teacher to understand the social and physical skills that are being demonstrated. The use of culturally typical craft material to create his/her owns versions of art forms also provide an excellent assessment opportunity. Because copied art looks the same for every student, assessment can only be applied to the skills and not to the outcome or deeper understanding of the art form and the creativity involved in the completion of the product.

Use of the document *Observing and assessing children's learning*, 2013, helps teachers to understand what and how to observe children at play and to document that learning as a form of assessment.

One way teachers can understand children's development, interests, and needs within the context of the early years classroom is through observation and documentation of those observations. Through systematic observation over time teachers can come to better understand what the children know and how their students learn best. For example, a teacher might observe that a child does not engage in singing or participate in group activities and might reflect on what this means for that child and how to make that child more comfortable about expressing himself. Another child might be observed sorting shells by size during a free play activity, without being instructed to do this. This same child might not have the vocabulary to identify the sizes so in certain tasks set up by the teacher, it may appear that knowledge of size is lacking. The key to systematic observation is that conclusions or interpretations are based on observations of the child over time in a variety of situations, rather than a one-time assessment of a child's skills and abilities that is limited by a single task. 4

### **Gathering Information**

The table below provides suggestions for the assessment of the "Living In Our Community" area of learning. These suggestions reflect the assessment methods described above. The documentation of that learning may take the form of written notes that describe a conversation or notes on how a child engaged in an activity. It may be a sample of work that shows what the child knows (for example, a paper where the child has printed the first

<sup>&</sup>lt;sup>4</sup> Ministry of Education Vanuatu. 2013. *Observing and assessing children's learning*. p2.

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and last letter of their name) or it may be a reflection expressed by the child that the teacher records. (*I know how to tidy up all the things now*.)

The following are useful and suitable methods for gathering information on children's achievements at this level of schooling.

### Examples of What to Assess Using Different Assessment Methods

Strands	Observe	Conference	Application
Healthy Living	Observe children engaged in activities related to the healthy living indicators and document those observations	• Interact and talk with children about the activities in which they are engaged to demonstrate their understanding.  Document the conversation.	Consider activities that encourage children to analyse their understanding of healthy living and apply that knowledge to an activity (washing hands using the methods taught by the teacher)
Living Together	Observe children engaged in activities with others and document those observations	<ul> <li>Interact and talk with children about the importance of working together and document the conversation.</li> </ul>	<ul> <li>Provide opportunities for the children to work together in cooperative play activities.</li> </ul>
Ways of Living	Observe children engaged in arts activities and document those observations	Engage students in conversations about their thinking related to their arts activities	Provide opportunities to demonstrate creativity in a variety of art forms

#### Conference

In order to learn what children are thinking when they are playing and the strategies they are using or considering it is important to talk with children and ask them to explain their thinking.

#### Conferencing Questions or Discussion Starters

- Tell me about what you are making/playing.
- How did you decide what to do?
- What does this remind you of?
- What did you like about this activity?

#### Sharing My Learning

#### Ask a child to share:

- what he likes about the activity in which he is engaged
- what she has learned about herself through this activity
- her ideas about how to complete the activity/project
- · his thoughts about what he would do differently next time

#### Document

When observing children in a variety of situations, a great deal of information can be learned about the child and how that child learns. These observations are recorded as a way of ensuring that, over time, data has been collected in all learning areas, strands and sub-strands. The date the observations were made, the learning centre or situation in which the child was engaged, and exactly what was said or done by the child, in relation to the strand or sub-strand, must be recorded. Teachers must also record *who* (child's name), *when* (date the activity occurred), *where* (the experience in which the child was engaged), and *what* (exactly what was heard and seen related to the learning) using charts such as those found in APPENDIX - Observations(page 128). A recording sheet for the class is used to ensure that data is collected on all children and that their learning is documented. This is particularly important for those children who are quiet and who may not be obvious learners. Additionally, teachers must track individual children and their learning in all strands of Living in the Community using a chart such as APPENDIX – Strand Observations (page 131).

### Learning Outcomes, Indicators and Relevant Activities

#### Living In Our Community

The learning area outcome for Life and Living that appears below describes the endpoint of learning for Year 10. The table describes the strand learning outcomes for each of the three strands for Life and Living that are appropriate for Kindergarten.

#### Learning Area Outcome

Develop healthy attitudes, behaviour, practices and appropriate values and beliefs based on knowledge of Vanuatu, its diversity, culture and environmental heritage.

Strand	Healthy Living	Living Together	Way of Living
Learning Outcomes	Apply knowledge, skills and attitudes to develop healthy behaviour and attitudes and prevent unhealthy behaviours	Use the skills necessary to live and work in harmony with other people at home, at school, and in the community	Use their cultural and artistic knowledge, skills and appreciation

These advanced learning outcomes have been modified by grade to ensure that children gradually and systematically build the skills from Kindergarten to Grade 10. Each of these strands is organized into sub-strands for the Kindergarten syllabus as shown in the following table.

Strand	Healthy Living	Living Together	Way of Living
Sub-strand	<ul><li>Healthy Individuals and Communities</li><li>Movement and Games</li><li>Safety</li></ul>	<ul> <li>Civic and Community Relationship</li> <li>Caring for our Community</li> <li>Spiritual and Character Development</li> </ul>	<ul><li>Our Cultural Heritage and Identity</li><li>Visual Arts</li><li>Performing Arts</li></ul>

#### **Indicators**

Each of these sub-strands has explicit learning outcomes that identify what a child at this level must do in order to achieve these outcomes. To assist the teacher, for each sub-strand outcome, a list of indicators is included. Indicators highlight what a child must demonstrate at each particular level of schooling, in order to achieve the grade level outcome. Please note that indicators are the benchmarks of what children should demonstrate to achieve the outcome. They are not to be used as a checklist to be systematically ticked off. Teachers need to use the indicators to help make judgments about children's achievements. Teachers can also develop their own indicators for the learning outcomes using these as guideposts. By observing children as they participate, in both lessons and independent

application of their learning, the teacher learns how each child is able to represent their learning and understanding of Vanuatu values and culture and how the child explains their thinking to others.

### Activities for Living In Our Community in a Play-Based Classroom

Play is the way young children learn. They love to explore, experiment, create, demonstrate, repeat activities that were successful and learn from challenges in a safe, interactive and co-operative environment. The teacher, in a play-based classroom, facilitates and guides learning, observes children at play, and is a co-learner and collaborator. The teacher spends some time teaching a new concept and skill but then provides many different play-based learning opportunities for the children to apply those skills.

Children come to school with a wide range of experiences and skills and ability to learn at different paces. Open-ended independent activities allow children to both work at their own level and demonstrate to the teacher what they know and understand about a particular skill. As teachers observe children at play they identify what children know, are ready to learn next or where there are gaps in their knowledge.

The activities in this document are examples of authentic activities that help children to practice and apply skills to this learning area.

### **Healthy Living**

Apply knowledge skills and attitudes to develop healthy lifestyle practices and attitudes and prevent unhealthy practices.

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Healthy Individuals and Communities	Apply simple rules of hygiene and demonstrate an awareness of healthy and safe choices	Follow simple rules of hygiene and explore how to stay healthy and safe	Demonstrate healthy practices of hygiene, nutrition and self-care
Movement and Games	Learn to coordinate and balance their bodies to move in a variety of ways	Use their bodies in different ways	Adapt their movements according to different environments and situations
Safety	Act in ways that are safe in school and demonstrate an understanding of safety rules outside the school setting	Apply elementary rules to prevent risk of domestic accidents	Apply elementary safety rules to prevent risk and reporting to domestic accidents

### Living Together

Use the skills necessary for living and working in harmony with other people at home, at school, and in the community.

Sub-strand	Kindergarten	Beginning Year 1	Year 1
Civic and Community Relationship	<ul> <li>Recognise and talk about their roles within the family and the school community</li> <li>Identify family members and identify their roles within the family</li> </ul>	<ul> <li>Recognise and talk about their roles in their family life</li> <li>Recognise who is in their immediate family and identify their origins</li> </ul>	<ul> <li>Identify the roles and responsibilities they have in their family</li> <li>Identify their relationships with family members</li> </ul>
Caring for Our Environment	Identify some features of their local environment	Talk about some features of their local environment	Take action to protect the local environment in which they live
Spiritual and Character Development	Begin to recognize some of the values and beliefs of the community in which they live	Recall the values and beliefs of the community in which they live	Recognise some common religious and custom beliefs and values in their community

## Ways of Living

### Use their cultural and artistic knowledge, skills and appreciation

Sub-strand	Kindergarten	Beginning Grade 1	Year 1
Our Cultural Heritage and Identity	Participate in a variety of cultural activities common in the family and community	Recall a variety of custom activities common in their family	Identify and demonstrate knowledge and skills of customary activities in their community
Visual Arts	Explore a variety of art materials and processes	Use their senses to explore a variety of art materials and processes	Apply their natural creativity ability and display simple techniques and processes
Performing Arts	Participate in and express enjoyment of dance, drama, and music	Participate in and express enjoyment of dance, drama and music	Display their creative ability and skills in dance, drama and music

# Healthy Living

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## Healthy Individuals and Communities

Prior Learning Skills		Kinder	garten	Kir	ndergarten Activities	
Exposed to hygienic habits at home and are aware of some healthy and safe choices		Apply simple rules of hygiene and demonstrate an awareness of healthy and safe choices		dei	Have opportunities to learn and demonstrate hygienic habits and healthy and safe choices.	
Children may have been exposed to:		This will be evident when children:		Ch a.	Children, for example:  a. initiate hand washing when	
a.	hygiene habits such as hand washing	a.	learn to apply simple rules of hygiene when instructed		appropriate and discuss situations where hand washing is necessary	
D.	some independence in following hygiene rules at home	b.	begin to initiate hygienic habits	b.	brush their teeth correctly after meals or snacks at	
C.	identification of unsafe foods in their	C.	begin to identify foods that are safe to eat		school and independently wash their hands when necessary	
	community and safe food handling habits at home	d.	understand the importance of safe food handling	C.	create classroom posters with the teacher that demonstrate hygiene rules	
d.	feelings of others through expressions and body language	e.	recognize emotions of happiness, sadness, fear, and surprise in self and others	d.	participate in conversations with the teacher on which foods, especially fruits are safe to eat	
e.	open expression of their feelings and explanation of why they feel as they do	f. g.	recognize and express feelings openly begin to control their	e.	participate appropriately in preparation of snacks, washing food carefully for	
f.	independent opportunities to control their behaviour and not being dependent on	h.	own behaviour (self- regulates) demonstrate self- confidence through play	f.	example identifies the feelings of characters in stories or in role-play situations	
	always being told what to do		and interaction with others	g.	participate with confidence in play-based learning centres	
				h.	play well with others	
				i.	learn to control their behaviour and emotions in the classroom and school playground	

### Movement and Games

Prior Learning Skills	Kindergarten	Kindergarten Activities
Had opportunities to play and move in safe ways in their environment.	Learn to co-ordinate and balance their bodies to move in a variety of ways.	Engage in daily physical activity in ways that are organized and also in free play.
Children may have been exposed to:  a. free play with other children  b. rough and tumble play with other children or adults	This will be evident when children, for example:  a. become an active participant in activities that involve movement  b. move different parts of their body in play	Children, for example:  a. play freely outside  b. follow the movements suggested by the teacher in directed activities  c. demonstrate ability to
c. activities directed by family members that involve movement and balance such as climbing, rolling, balancing, running, or hopping  d. playing with a ball or equivalent to develop eye-hand coordination	<ul> <li>c. move and balance their body during a variety of movement activities</li> <li>d. follow the instructions of simple movement games</li> <li>e. indicate an awareness of the need for rules to avoid a problem</li> <li>f. coordinate their bodies while making simple movements</li> <li>g. participate in various eye-hand coordination activities</li> </ul>	demonstrate ability to balance when walking, running, or climbing  d. participate in games specifically chosen to teach balance and coordination  e. play simple, organized games with friends

## Safety

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities
Learned about safety rules they should follow at home and in their neighbourhood.	Act in ways that are safe in school and demonstrate an understanding of safety rules outside the school setting.	Engage in activities that help them to learn about safe habits.
Children may have been exposed to:  a. the safe use of kitchen tools or utensils such as knives or scissors  b. safety issues when someone is cooking  c. safe ways to cross a road or a river  d. safety hazards in their local neighbourhood and how to avoid them i.e., mosquito breeding sites, stinging plants	This will be evident when children, for example:  a. use household tools safely e.g., scissors, knives  b. recognizes behaviours that keep us safe  c. recognize areas in the community that are unsafe  d. recognize dangers in the community	a. learn through demonstrations how to safely use and work with scissors  b. use gardening tools appropriately to work in a school garden  c. create safety posters with the teacher for use in the classroom  d. demonstrate a growing awareness of safety rules as they work and play independently in the classroom (i.e., children know not to run in the classroom, know how to carry scissors safely)  e. discuss why certain areas of the community are dangerous as they go on an outing  f. keep the classroom clean and tidy to avoid accidents  g. identify safe drinking water and water that should be avoided

# Living Together

## Civic and Community Relationships (A)

Prior Learning Skills	Kindergarten Sub-strand Outcome and Indicators	Kindergarten Activities	
Experienced the routines and interactions of their family members.	Recognise and talk about various roles within the family and the school community.	Have opportunities to role-play and share their thoughts on how families live together co- operatively.	
Children may have been exposed to:  a. love and comfort of family members  b. positive models of various family members playing different roles within the family  c. positive models of how children behave within the family to strengthen the family unit  d. ways by which parents cope with disappointment, frustration, excitement	This would be evident when children, for example:  a. identify how they help with the routines at home  b. demonstrate an understanding of some roles and responsibilities of their parents  c. demonstrate an understanding of some roles and responsibilities of children in the family  d. develop friendships with classmates  e. demonstrate an understanding of how to solve problems in their play with other children  f. share and take turns  g. control their own behavior	children, for example:  a. role play family life while playing at the Home Centre  b. draw pictures that represent their families and the activities in which they are engaged  c. play and demonstrate an understanding of the roles and responsibilities of their parents while playing at the Home Centre  d. play the role of a child in the Home Centre and demonstrate awareness of the appropriate behavior of children at home and how parents cope with children's behaviours  e. play and work in cooperative ways with classmates  f. regulate their own behaviour in the classroom i.e., learns how to deal with conflict, balance their emotions, show excitement and joy in learning	

## Civic and Community Relationship (B)

Prior Learning Skills	Kindergarten Sub-strand Outcome	Kindergarten Activities
Realize they are a vital part of the community and have been exposed to activities and events with members of the community outside of their own family.	Identify their roles within the community.	Learn how a community works and explore their role within the community.
Children may have been exposed to:  a. the variety of people who work in and contribute to the community  a. opportunities to help others  b. ways by which individuals show respect for others in the community	This will be evident when children, for example:  a. discuss some roles and responsibilities within the community  b. show respect for others, for property and places  c. recognize ways to help others  d. participate in class discussions on how individuals within the community contribute to the life of the community  e. recognize ways to be a good neighbour  f. show willingness to help others	Children, for example:  a. work with the teacher to develop various learning centres in the classroom that represent aspects of their community i.e., market, medical clinic, place of worship  b. role- play the work of members of the community at the centres  c. create books with the teacher about various members of the community  d. develop projects with the teacher that aid needy members of their community i.e., cleaning up the yard of an elderly or sick neighbour  e. play cooperatively with others

## Caring For Our Environment

Prior Learning Skills	Kindergarten Sub-strand Outcome	Kindergarten Activities
Aware of their local community and the features of their local environment.	Identify some features of their local environment.	Have opportunities to explore the local environment and talk about the features.
	This will be evident when children, for example:  a. cooperate with peers to maintain the classroom environment  b. identify features of the school environment and the local environment such as trees, insects, plants, animals  c. demonstrate an awareness of factors that pollute the local environment	
		the community g. care for classroom pets and plants, including a school garden

## Spiritual and Character Development

Have taken part in or observed various religious or cultural events within their family and their community.  Children may have been exposed to:  a. religious or community celebrations in which they participate  b. conversations about the significance or the history of the rituals that are a part of the celebration  C. religious practices in their home and community  d. how to be a participant in these practices  e. the various roles associated with celebrations or rituals  f. demonstrate the values of their religion by for example; sassociated with celebrations or rituals  f. demonstrate the values of their religion by, for example; someone who is sick e.g., collect wood for the elderly  g. show respect for others h. demonstrate empathy for others (comforts others, explains why their behaviour is bothering others)  i. listen to and follow instructions of adults  Have opportunities to replicate religious and cultural religious and cultural religious and cultural religious and cultural services and beliefs they present.  Children, for example:  a. dramatize religious events; e.g., Easter, Christmas  b. participate in devotions, singing of a song  c. consider ways to help someone who is sick e.g., collect wood for the elderly  d. discuss special events and how they are celebrated  d. discuss special events and how they are celebrated  e. participate in religious events  f. demonstrate the values of their religion by, for example; someone who is sick e.g., collect wood for the elderly  d. discuss special events and how they are celebrated  e. listen to a variety of stories about religious beliefs  f. help prepare for a feast g. reconcillation, baptism. communion, presentation of children in church  h. dramatize a bible story  i. work and play with others in ways that are respectful  j. work and play	Prior Learning Skills	Kindergarten Sub-strand Outcome	Kindergarten Activities
exposed to:  a. religious or community celebrations in which they participate  b. conversations about the significance or the history of the rituals that are a part of the celebration  c. religious practices in their home and community  d. how to be a participant in these practices  e. the various roles associated with celebrations or rituals  d. how to be a participant in these practices  e. the various roles associated with celebrations or rituals  f. demonstrate the values of their religion by, for example, showing love and unity or by playing cooperatively  g. show respect for others  h. demonstrate empathy for others (comforts others, explains why their behaviour is bothering others)  i. listen to a variety of religious events or consider ways to help someone who is sick e.g., collect wood for the elderly  d. discuss special events and how they are celebrated  e. listen to a variety of stories about religious beliefs  f. help prepare for a feast reconcillation, baptism, communion, presentation of children in church  h. dramatize a bible story  i. work and play with others in ways that are respectful  j. work and play	various religious or cultural events within their family and	and beliefs of the community in	religious and cultural events through play and demonstrate an understanding of the values
cooperatively with others	exposed to:  a. religious or community celebrations in which they participate  b. conversations about the significance or the history of the rituals that are a part of the celebration  c. religious practices in their home and community  d. how to be a participant in these practices  e. the various roles associated with	children, for example:  a. take part in the celebration of special events in their religion  b. participate in religious or community customs  c. listen to a variety of religious stories  d. participate in cultural or religious practices such as saying grace or singing associated songs  e. participate in religious events  f. demonstrate the values of their religion by, for example, showing love and unity or by playing cooperatively  g. show respect for others  h. demonstrate empathy for others (comforts others, explains why their behaviour is bothering others)  i. listen to and follow	Children, for example:  a. dramatize religious events, e.g., Easter, Christmas  b. participate in devotions, singing of a song  c. consider ways to help someone who is sick e.g., collect wood for the elderly  d. discuss special events and how they are celebrated  e. listen to a variety of stories about religious beliefs  f. help prepare for a feast  g. reenact various ceremonies through their play e.g., reconciliation, baptism, communion, presentation of children in church  h. dramatize a bible story  i. work and play with others in ways that are respectful  j. work and play cooperatively with

# Ways of Living

## Our Cultural Heritage and Identity

Prior L	earning Skills	Kindergarten Sub-strand Outcome	Kindergarten Activities
join the cor	ad many opportunities to eir families in the ation of cultural events in mmunity and practiced in wn home	Participate in a variety of cultural activities common in the family and community	Have opportunities to participate in or role play cultural activities that are an important part of their community, both with the guidance of the teacher and independently through play.
childre expose a. b. c. d. e. f.		This will be evident with children, for example:  a. use traditional instruments to make sounds and move to the sound  b. listen and act out traditional stories  c. tell traditional stories  d. recognize and talk about some traditional dishes  e. participate in local food preparation  f. participate in cultural ceremonies with their classmates  g. recognize and discuss the various ceremonies	Children, for example:  a. dress in traditional clothing (donated clothing that might be worn or frayed but still usable by the children) in the Home Centre  b. use traditional cooking utensils to pretend to prepare food for festivals as they play in the Home Centre  c. go to the class Market Centre to buy food for the special meals they are making in the Home Centre  d. experiment with traditional instruments: drums, shakers, bamboo both as part of an
		h. demonstrate respect for others and their cultures	activity with the teacher and independently at a special Music Centre  e. attend cultural ceremonies in the community with their teacher and classmates  f. listen to stories being told by elders who are invited to share traditional custom stories  g. learn simple custom dances and have opportunities to create their own interpretations

# Visual Arts

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Prior Learning Skills	Kindergarten Sub-strand Outcome	Kindergarten Activities
Have been exposed to visual artwork in their community and have been made aware of the importance of the art form and some of the techniques for production.	Explore a variety of art materials and processes	Have many opportunities to create their own works of art, using known techniques as well as in creative and exploratory ways.
Children may have been exposed to:  a. the importance of visual art forms to the culture  b. some of the techniques for creating the art  c. the creation of visual arts through drawing or painting  d. artists working at their craft in the community	This will be evident when children, for example:  a. explore the use of art materials  b. show pride in their art  c. talk about what they have created and how they created it  d. draw to express an idea or a story  e. explore how art tools work  f. explore the use of art techniques  g. use art materials sparingly, relying on quality and not quantity of material  h. respect the work of others	Children, for example:  a. explore art freely using a variety of simple art materials provided by the teacher  b. observe some techniques of art and then apply those techniques independently  c. create class books and use their own art as the illustrations  d. observe local artists brought to the school to demonstrate various art forms  e. use natural art resources to create or embellish their art (shells, leaves, natural dyes, sap)  f. choose to play at a visual art centre  g. admire and respect the work of their friends  h. create a class art gallery for others to enjoy and admire

# Performing Arts

Prior Learning Skills	Kindergarten Sub-strand Outcome	Kindergarten Activities
Have been exposed to the music, drama and dance in their homes and through cultural events.	Participate in and express enjoyment of dance, drama, and music	Have opportunities to participate in dance, drama and music
Children may have been exposed to:  a. music in their homes, either through singing or with musical instruments  b. music in their places of worship  c. music at cultural events within the community  d. dance, through cultural events in the community  e. dance within the home either in structured ways or informally as family members move to music  f. dramatizations through cultural or religious events	This will be evident when children, for example:  a. participate in simple dances  b. move to a variety of musical styles  c. move appropriately to the rhythm or beat of the music  d. dance in a cooperative way with others  e. demonstrate confidence in their musical abilities  f. perform rhymes, songs, and finger plays  g. enjoy singing  h. listen attentively to songs sung by others  i. listen to, and reproduces simple rhythms and beats  j. distinguish the sounds of different musical instruments  k. dramatize a song or story to express the meaning of the piece	Children, for example:  a. participate in singing songs  b. participate in custom dances  c. dance or move to the rhythm of tam-tam, drums, bamboo or other musical instruments  d. begin to create a rhythm or beat with simple instruments  e. dramatize songs as they sing  f. listen to various kinds of music  g. create dance steps independently and with a partner  h. sing the national anthem  i. perform for their classmates and/or parents  j. listen to the sounds made by various musical instruments and begin to distinguish between them  k. use props provided by the teacher or by classmates, to retell and dramatize a favourite story or familiar song at a drama centre

# A Sample Lesson

Strand:	Civic and Community Relationships
Sub-strand:	Recognise and talk about various roles within the family and the school community.
Materials:	<ul> <li>chalk board and chalk</li> <li>large sheets of paper</li> <li>markers</li> <li>stapler</li> </ul>
Lesson:	<ul> <li>begin by discussing with the children what they can do at school to be a good friend. They might consider helping their friend put on their shoes, sharing their toys (materials), using kind words.</li> <li>record some of the ideas of the children on the chalkboard</li> <li>contribute some ideas that the children did not consider</li> <li>depending on the class and your goal, print some of the ideas on the large sheets of paper, one idea on each page</li> <li>review the words with the children so they know what each paper says</li> <li>choose children to illustrate each of the sentences</li> <li>put the pages together to create a big book for the class to read</li> <li>challenge children to consider new ideas as they work with their friends at the centres during the week</li> </ul>
Application:	ensure that there are purposeful opportunities for sharing at many centres.  Remind the children to consider the needs of others as they work and play together.

Home	Centre	Mathematics Centre	Arts & Crafts Centre
to Ho	sk children to work ogether as a family in the ome Centre and to onsider the various family olles as they play	<ul> <li>Ensure that a small group of children are working together and sharing a limited amount of material</li> <li>Provide overlapping circles into which children sort items that have either no similarities or some similarities. (items that are red or blue and a few items that have both colours)         They can work as a group to complete the activity.     </li> </ul>	<ul> <li>Ask children to share the limited amount of material at the centre</li> <li>Explain that they will have to work cooperatively in order to share the available materials</li> <li>Remind children how to carry on a kind conversation with friends while they work.</li> </ul>

Playground	Market Centre	Classroom Routines
<ul> <li>Provide children with a variety of opportunities to work and play together in the playground.</li> <li>Add some interesting material with which to play in cooperative ways such as hoops, ropes, balls, small bean/rice bags</li> </ul>	Provide children with an opportunity to role-play positive interactions between the buyer and the seller	Establish and review routines that emphasize taking turns, leading versus following, or taking care of the needs of others

APPENDIX - Observations

Area: L	iving In Our Community. Communiti	Learning Area: Living In Our Community Strand: Healthy Living Sub-strands: Healthy Individuals and Communities; Movement and Games; Safety	g Sub-strands: Healthy es; Safety	Individuals and
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Learning Area: Living	In Our Community Strar Caring For Our Enviro	Learning Area: Living In Our Community Strand: Living Together Sub-strands: Civic and Community Relationship; Caring For Our Environment, Spiritual and Character Development	o-strands: Civic and Com aracter Development	munity Relationship;
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Learning Area: Living	In Our Community Stra	Learning Area: Living In Our Community Strand: Ways of Living Sub-strands: Our Cultural Heritage and Identity; Visual Arts; Performing Arts	o-strands: Our Cultural F ts	Heritage and Identity;
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## **APPENDIX - Strand Observations**

	Living in the Community	
Observations for _		
Healthy Living	Living Together	Ways of Living

# Glossary

**Assessment** The ongoing process of identifying, gathering, and interpreting

information about children's achievement.

**Biodiversity** Terms we use to describe the variety of life on earth, that is, the

number of distinct species of plant and animal. The word comes

from a combination of two words: biology and diversity.

**Conservation** Caring for and making sure that the variety of organisms and

resources of the environment continue to live on.

**Compost** Mixture of decayed plants and other organic matter used by

gardeners for enriching the soil.

**Data** Item of information.

**Difference** Result of subtracting one number from another.

**Domestic Animal** Animal belonging to someone who has tamed or bred it for a specific

purpose such as keeping as a pet, taking hunting or using as food,

e.g., cat, parrot, dog, pig, chicken.

**Drought** Long periods of extremely dry weather when there is not enough

rain for the successful growing of crops or the restocking of water

supplies.

**Edible** Suitable for eating by human beings.

**Environment** The living and non-living surroundings in which people, animals,

and plants live.

**Energy** The capacity for doing work. Children identify different forms of

energy in their daily lives.

**Ethics** A code of moral principles.

**Force** Strength, power or energy that somebody or something

demonstrates by a push, a pull or a twist.

**Forecast** Calculation and prediction of weather conditions on the basis of

observations.

**Habitat** The natural home of a plant of animal.

**Interdependence** Animals, plants or people needing each other's help and thus

depending on each other.

**Investigate** To examine and study very carefully.

**Life cycle** The time it takes for an organism to be born, grow, reproduce and

die.

Mammal Warm-blooded vertebrate animal that feeds its young on milk.Matter The substance or stuff of which all physical things are composed.

**Media Text** 

**Ordinal Number** Number denoting relative position in a sequence, first, second, third.

**Phoneme** The sounds of our language that combine to form words.

**Phonics** The matching of letters to sounds in our language that helps us to

record words.

**Probability** The study of chance.

**Properties** Qualities belonging to or unique to things such as matter.

**Recycle** Save a resource and use it again.

**Role-play** Take on the role of another and act as they would act, say what you

think that person would say.

**Shared Reading** A teaching strategy whereby the teacher chooses a text that all of the

children can see and they read the text together. They read the text many times until it becomes familiar and the teacher's voice begins

to drop until the children are doing the reading.

**Shared Writing** A teaching strategy whereby the children negotiate what the text is

to say and the teacher does most of the writing, asking children to

participate by printing a single letter or a simple word.

**Solar System** The Sun and everything that moves around it including the eight

planets and their moons, asteroids and comets.

**Structure** The way something is made up.

**Substance** Kind of matter or material.

**Subtraction** An operation in mathematics when the difference of two numbers is

found.

**Sustainability** Maintaining the ecological balance.

**Ordinal Number** Number denoting relative position in a sequence.

**Probability** The study of chance.

**Subtraction** An operation in mathematics when the difference of two numbers is

found.