



REPUBLIC OF KENYA

Property of the
Government of Kenya

NOT FOR SALE

COMPETENCY BASED CURRICULUM

TEACHER'S HANDBOOK

FOUNDATION LEVEL

FOR LEARNERS WITH SPECIAL NEEDS

LEARNING AREA

PRE-NUMERACY ACTIVITIES



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

FOUNDATION LEVEL

**COMPETENCY BASED CURRICULUM FOR LEARNERS
WITH SPECIAL NEEDS**

PRE-NUMERACY ACTIVITIES

EDUCATION TEACHER'S HANDBOOK

APRIL 2019

ISO 9001:2015 QMS, CERT NO. KEBS/QMS/RF/088 Rev. 00



Property of the
Government of Kenya

© KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

All rights reserved. No part of this handbook may be reproduced, stored in a retrieval system or transcribed in any form by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the publisher.

First Published 2019

© Kenya Institute of Curriculum Development

ISBN NO: 978-9966-31-847-3

Published and printed by
Kenya Institute of Curriculum Development

P. O. Box 30231-00100

NAIROBI-KENYA

Telephone: (020) 3749900-9, 3747994

Fax: 254 (020) 3639130

E-mail: info@kie.ac.ke

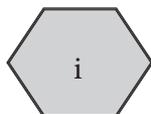


TABLE OF CONTENTS

FOREWORD	iii
ACKNOWLEDGEMENT.....	iv
THE NATIONAL GOALS OF EDUCATION	v
INTRODUCTION	1
2.0 COMPONENTS OF THE CURRICULUM DESIGNS.....	3
3.0 PROFESSIONAL DOCUMENTS.....	21
4.0 LEARNING APPROACHES FOR SPECIFIC STRANDS.....	24
APPENDIX ONE.....	58
APPENDIX TWO	61
APPENDIX THREE	63
APPENDIX FOUR.....	65
APPENDIX FIVE.....	67



FOREWORD

Kenya Institute of Curriculum Development in its endeavour to ensure that schools capture the essence of the curriculum reform has developed a Foundation Level teacher's handbook. This Handbook is based on the Competency-Based Curriculum Designs for learners with special needs at the foundation level. The handbook is expected to equip the teacher with the necessary skills to interpret the curriculum designs and develop exciting and stimulating learning experiences appropriate for the level to ensure that the potential of every learner is nurtured.

The handbook will greatly assist the teachers at Foundation Level to interpret the Curriculum Designs, develop schemes of work and lesson plans and select suitable learning experiences. It will also guide the teacher on how to assist the learner to acquire the necessary competencies as envisaged in the curriculum reforms.

Prof. George A. O. Magoha, MBS, EBS, CBS

CABINET SECRETARY

MINISTRY OF EDUCATION

ACKNOWLEDGEMENT

Kenya Institute of Curriculum Development is deeply indebted to the following individuals who participated in the development of this teacher's handbook in the various learning areas.

1. Hannah N. Njenga Kenya Institute of Curriculum Development
2. Dr. Mary C. Sambu Moi University, Eldoret
3. Joshua K. Kandagor Kabarnet School for Deafblind Children
4. Margaret N. Mugweru Ngurumo Special Unit
5. Christine W. Kisombe Pwani Special School for Mentally Challenged
6. Teresia M. Macharia Parklands Cerebral Palsy Unit

I am particularly grateful to Madam Jacqueline Onyango (SDD CRS), Grace Ngugi Maina (DD SP), and Beth Kahuthia (SAD SNE) who worked tirelessly to oversee, coordinate and steer the development of the foundation Level Teachers' Handbook.

I would also like to appreciate Jane Sirogo (KICD) and Esther Mukuria (KICD) for the typing services to the writing team which greatly contributed to the success of this work. I cannot also forget Licandah Ngunyi (KICD) & Onesmus Kakungi (KICD) for the Design & layout of the handbook.

I sincerely appreciate all those who made contribution to the development of this handbook who I may not have mentioned above.

JULIUS JWAN PhD, MBS
DIRECTOR/CHIEF EXECUTIVE OFFICER
KENYA INSTITUTE OF CURRICULUM DEVELOPMENT



THE NATIONAL GOALS OF EDUCATION

Education in Kenya should:

1. Foster nationalism, patriotism, and promote national unity

Kenya's people belong to different communities, races and religions and should be able to live and interact as one people. Education should enable the learner acquire a sense of nationhood and patriotism. It should also promote peace and harmonious co-existence.

2. Promote social, economic, technological and industrial needs for national development

Education should prepare the learner to play an effective and productive role in the nation.

a) Social Needs

Education should instill social and adaptive skills in the learner for effective participation in the family, community, national, regional and international development.

b) Economic Needs

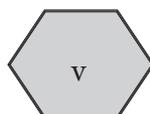
Education should prepare a learner with requisite competences that support a modern and independent growing economy. This should translate into high standards of living for every individual.

c) Technological and Industrial Needs

Education should develop in the learner necessary competences for technological and industrial development for the nation in tandem with global trends.

3. Promote individual development and self-fulfillment

Education should provide opportunities for the learner to develop to the fullest potential. This includes development of one's interests, talents and character for positive contribution to the society.



4. Promote sound moral and religious values

Education should promote acquisition of national values as enshrined in the Kenya Constitution. It should be geared towards developing a self-disciplined and ethical citizen with sound moral and religious values.

5. Promote social equity and responsibility

Education should promote social equity and responsibility. It should provide inclusive and equitable access to quality and differentiated education; including for learners with special educational needs and disabilities. Education should also provide the learner with opportunities to develop and practice shared responsibility and accountability through community service learning.

6. Promote respect for and development of Kenya’s rich and varied cultures

Education should instill in the learner appreciation of Kenya’s rich and diverse cultural heritage. The learner should value own and respect other people’s culture as well as embrace positive cultural practices in a dynamic society.

7. Promote international consciousness and foster positive attitudes towards other nations

Kenya is part of the interdependent network of diverse peoples and nations. Education should empower the learner to respect, appreciate and participate in the opportunities within the international community. Education should also enable the learner to operate within the international community with full knowledge of the obligations, responsibilities, rights and benefits that this membership entails.

8. Promote positive attitudes towards good health and environmental protection

Education should inculcate in the learner the value of physical and psycho-social well-being for self and others. It should promote environmental preservation and conservation, including animal welfare, for sustainable development.



1.0 INTRODUCTION

1.1 The Competency Based Curriculum

Curriculum can be defined as all the learning experiences learners have under the guidance of a school. A competence is the ability to apply appropriate knowledge, skills and values to successfully and efficiently perform a specified task. The Competency Based Curriculum (CBC) focuses on acquisition of the desired knowledge, skills, values and attitudes to enable the learner to cope with life challenges. It also focuses on the achievement of learning outcomes in terms of the desired behavioral change.

Competency based learning requires a participatory approach that is learner centered, where the learners are motivated and engaged in their own learning. It should be envisioned in terms of outcomes where the learners can take an initiative to create, innovate, co-exist and learn together. In CBC learners should also endeavor to develop their talents and values.

The pedagogical approaches advocated by CBC ensure that the learner is able to exhibit the desired level of competence. CBC focuses on competencies, is learner centered and is flexible with opportunities for specialization. It emphasizes on formative assessment and lifelong learning. The vision of CBC is to have an ethical, engaged and empowered citizen, while its mission is to nurture every learner's potential.

1.2 Overview of foundation level curriculum for learners with special needs

Kenya recognizes the right of learners with special needs to access appropriate education which is geared towards actualizing every learner's potential. Consequently, Kenya Institute of Curriculum Development has endeavored to provide a differentiated curriculum that is responsive to the needs of all learners by making special provision through adaptation of the regular curriculum for learners with special needs who may follow the regular curriculum with

modifications. However, some learners with special needs may not follow the regular curriculum even with adaptation due to severity of their impairments. They therefore, require specialized skills which are offered by the Foundation Level curriculum. Learners in this category include those with severe intellectual disability, deafblindness, severe autism, severe cerebral palsy, multiple impairments and those with profound disabilities.

This teacher's handbook has been developed to enable the teacher to interpret the competence based curriculum and facilitate learning as envisaged in the curriculum designs.

1.3 Foundation level Learning Areas

1. Communication, Social and Pre-Literacy Skills
2. Activities of Daily Living Skills and Religious Education
3. Orientation and Mobility
4. Sensory Motor and Creative Activities
5. Pre-numeracy Activities



2.0 COMPONENTS OF THE CURRICULUM DESIGNS

2.1 What are curriculum designs?

A curriculum design is the systematic organization of curriculum components. It outlines what is to be learned in a given learning area. The curriculum design spells out how learning outcomes will be actualized through suggested learning experiences, key inquiry question(s) and resources. It provides the teacher with suggested criterion referenced assessment rubric for every strand.

2.2 Components of the curriculum design

- National Goals of Education
- Level learning outcomes
- Essence statements of the learning areas
- Strands and sub strands
- Specific learning outcomes
- Suggested learning experiences
- Key Inquiry Question(s)
- Core competences to be developed
- Pertinent and Contemporary Issues to be addressed
- Link to values
- Link to other learning areas
- Community Service Learning
- Assessment rubrics
- Non-formal activities to support learning
- Suggested learning resources
- Suggested assessment methods

All components of a curriculum design are interrelated and are aimed at achieving the learning outcomes.

2.2.1 National Goals of Education

National Goals of education give direction on what is to be taught. They are a reflection of the aspirations and needs of the Kenya society. Their attainment is envisaged to translate to social and economic development of the country. Consequently, all the learning outcomes, that is, the level learning outcomes, general learning outcomes and specific learning

outcomes, work progressively towards the attainment of the National Goals.

2.2.2 Learning Outcomes

Learning outcomes indicate the expected observable behavioural changes in the learner after a learning experience. Outcomes are usually expressed through the application of knowledge, skills and attitudes. Specific learning outcome should have:

- The action verb
- The object
- The context

The curriculum designs both the level learning outcomes and general learning outcomes.

2.2.3 Level Learning Outcomes

Every educational cycle has its learning outcomes, referred to as level learning outcomes. For example, Early Years education, Middle School Education, Senior school and TIVET all have their level learning outcomes. Level Learning Outcomes are stated in general form and are therefore not specific.

The following are the level learning outcomes for the Foundation Level;

By the end of foundation level, the learner should be able to:

- a) demonstrate basic literacy and numeracy skills for learning;
- b) communicate appropriately using verbal and/or non-verbal modes in varied contexts;
- c) demonstrate appropriate etiquette in social relations;
- d) apply basic creativity and critical thinking skills in problem solving;
- e) explore the immediate environment for learning and enjoyment;
- f) practice hygiene, nutrition, sanitation to promote health and wellbeing;
- g) demonstrate the acquisition of emotional, physical, spiritual, aesthetic and moral development for balanced living;
- h) demonstrate appreciation of the country's rich and diverse cultural heritage for harmonious co-existence;



- i) apply digital literacy skills for learning and enjoyment.

2.2.4 General Learning Outcomes

General Learning Outcomes for various learning areas are derived from Level Learning Outcomes.

The following are general learning outcomes for Pre - numeracy Activities

By the end of the foundation level, the learners should be able to:

- a) use gross and fine motor skills for functioning in the immediate environment
- b) apply simple mathematical concepts in carrying out daily activities.
- c) use number concept in readiness for numeracy activities.
- d) apply measuring skills using arbitrary units to determine quantities in learning and problem solving.

2.2.5 Essence statement

The essence statement provides a brief explanation of the importance of the learning area. It also provides a general overview of the learning area.

Essence Statement for Sensory Pre- Numeracy Activities

Pre-numeracy refers to early development of numeracy concept to learners. It helps in developing a positive attitude about numeracy at an early age. Learner with special educational needs require numeracy skills for day to day functioning and problem solving. Pre- numeracy skills shall provide learners with basic numeracy concept as pre-requisite to acquisition of functional arithmetic skills and problem solving.

2.2.6 Strands and sub-strands

Strands and sub-strands indicate the specific content area to be covered and provide the scope of coverage as guided by the learning outcomes.

2.2.7 Specific learning outcomes

Specific learning outcomes are written from the learners' perspective. They should be SMART i.e. Specific, Measurable, Attainable, Realistic and Time bound. They link to, and are aligned with General Learning Outcomes

2.2.8 Learning experiences

Learning experiences comprise of activities that the learner is engaged in during the lesson. The activities may be carried out by an individual learner or as a group work activity. The learning experiences could be formal, classroom activities, non-formal programmes such as in clubs and societies or informal events in school and at home. Learners should be to exposed relevant and appropriate learning experiences for realization of desired learning outcomes.

Learning experiences enable the learner to:

- Acquire knowledge, skills and attitudes
- Acquire the intended core competences
- Share knowledge
- Evaluate self
- Manipulate learning resources and draw conclusions.
- Reflect on the learning process
- Interact with others during the learning process.

The curriculum designs have *suggested* learning experiences which are expected to guide the learner in acquiring the right knowledge, skills, attitudes and values. Learning experiences may be adjusted depending on the local environment, individual differences, availability of resources, teachers experience, weather among other factors.

Learning Experiences and Methodologies

In Competence Based Curriculum (CBC), different methods are suggested to facilitate learning. Some methods are more appropriate in some learning areas than others depending on the intended learning outcomes.



These methods include:

- Role play
- Story telling
- Question and answer
- Group discussions
- Singing
- Inquiry
- Discovery
- Role Modeling
- Reciting
- Demonstration
- Field work
- Problem solving
- Experimental
- Reflection
- Practical activities
- E-Learning

In CBC the role of the teacher is to facilitate learning. The teacher should guide learning and not take the center stage. He or she should allow learners to take responsibility for their learning. The learning should be learner centered not teacher centered.

Differentiated Learning

Differentiated learning is based on the principle of diversity in learning styles and multiple intelligences. It ensures that the instructional approaches and methods are appropriate for the varied learners in a given class. It provides space for teachers to adapt teaching methods to suit individual learners. Differentiated learning does not demand that every learner must learn in the same way, in the same number of hours and at the same time.

Differentiated learning is an effective instructional strategy that is responsive to learner's readiness, interest and learning preferences. It enables learners to build new learning through preferred ways of learning. The learning preferences refer to different ways in which the

learner is naturally inclined to acquire, process and use the information.

Every learner learns differently. Technically, individual learners have preferential ways in which they absorb, process, comprehend and retain information. It is therefore important for teachers to understand the differences in their learner's preferential way of learning, in order to implement the best practices and strategies in their daily teaching activities.

Learning preferences are influenced by gender, age, culture, disability, classroom environment, learning styles and multiple intelligences. The teacher is required to use a range of instructional and assessment strategies to meet the needs of individual learners. Learners are assessed before, during and after learning in order to inform the next step for both the teacher and the learner.

All differentiated instruction activities should equally engage and should take approximately the same amount of time. Differentiated learning allows for flexibility in creating and altering instructional plans in response to learner's specific needs. It involves expanding instructional routines and skills where learning experiences are introduced to learners in different ways of learning.

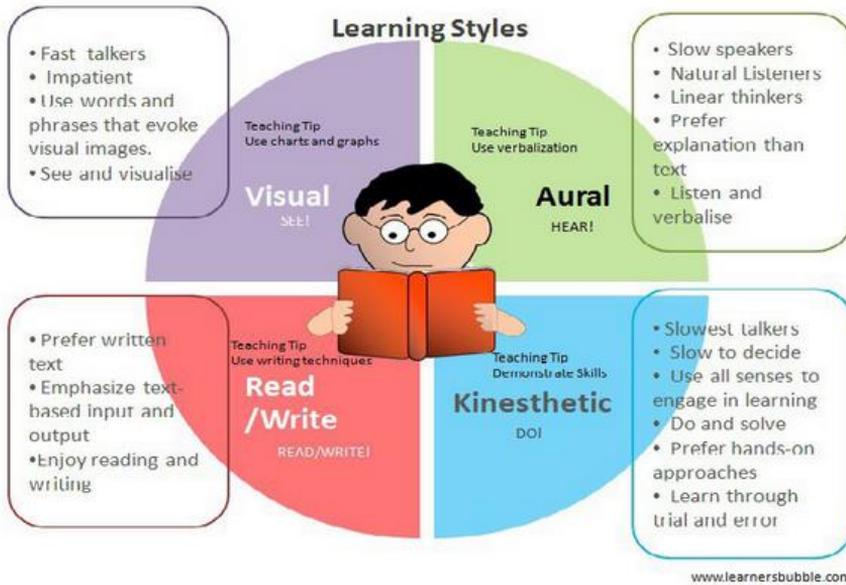
Kenya policy on inclusive education requires that learners with special needs and disabilities be taught together with the regular learners. Use of differentiated learning assists these learners as most of them learn in different ways depending on their special needs and disability.

Learning Styles

Four broad learning styles have been identified. Learners have a natural tendency to employ one or more of the styles relative to others in the learning process. These are Visual, Aural, Kinesthetic and Reading and Writing. Some learners tend to learn best through one of the four, but supported by the other three. (See Figure) The teacher needs to ensure that all learners are catered for in each lesson by

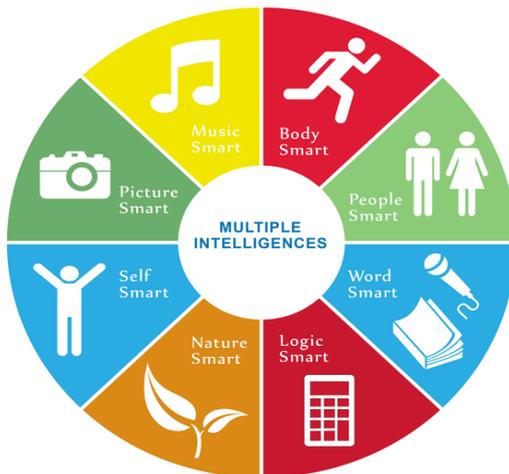


providing varied experiences: Visual (Seeing), Aural (Hearing), Kinesthetic (Doing) and Reading and Writing.



Multiple Intelligences

The theory of multiple intelligences proposes that people have varied natural capacities of approaching life challenges. This is shown in the Figure below.



Learners therefore have different strengths as follows:

- Musical-rhythmic (sensitivity to sounds, rhythms, tones, and music)
- Bodily-kinesthetic (control of one's bodily motions and the capacity to handle objects skillfully)
- Interpersonal (sensitivity to others' moods, feelings, temperaments, motivations)
- Verbal-linguistic (facility with words and languages)
- Logical-mathematical (logic, abstractions, reasoning, numbers and critical thinking)
- Naturalistic (able to recognize flora and fauna)
- Intrapersonal (introspective and self-reflective capacities)
- Visual-spatial (spatial judgment and the ability to visualize with the mind's eye)

The teacher needs to appreciate the varied intelligences among learners in order to accord them appropriate opportunities and guidance.

Summary

Differentiated learning recognizes that all children learn differently and benefit from differentiated learning techniques in the classroom. It shifts focus from the “one-size-fits-all” approach to learning. The teacher therefore employs varied learning experiences to cater for the different learning styles. This leads to improved learning outcomes among all learners.

2.2.9 Key Inquiry Question(s)

These are questions that the teacher poses and models to help the learner focus on the learning. Key inquiry questions are important to the lesson since they are used to probe for deeper meaning through questioning that fosters critical thinking and problem solving skills.



Writing Key Inquiry Questions

In writing the key inquiry questions, the teacher should utilize the typical question words: Who? What? Where? When? Why? Which? and How?

It is important that the teacher starts asking simple key inquiry questions before moving on to complex ones.

A key inquiry question should:

- be clear, relevant and suitable for the level;
- focus on the specific learning outcomes as given in the curriculum design;
- examine the theme or concept that is being addressed;
- enable the learner to think critically.

Characteristics of Key Inquiry Questions

Key Inquiry Questions should:

- be open ended, non-judgmental, meaningful and purposeful with an aim to allow the learner to explore ideas.
- be used to explore the environment
- be used to help learners construct knowledge by themselves
- encourage collaboration amongst learners
- integrate technology to support the learning process
- be thought provoking and intellectually engaging, often sparking discussion and debate among learners.
- call for higher-order thinking, such as analysis, inference, evaluation, prediction and critique.
- point towards important, transferable ideas within and across learning areas.
- raise additional questions and spark further inquiry.
- support and justify an idea, not just giving an answer.
- address an authentic problem or issue.
- stimulate ongoing thinking.
- raise additional questions, debate, and discussion

A key enquiry question is not:

- A question that can be answered with a “yes” or a “no”
- A question that can be answered without support.
- Blurry (undefined/unclear)

Use of Key Inquiry Questions in learning

Once a key inquiry question has been identified, the next step will be to formulate a list of related questions that will assist the learner in answering the key question.

Key Inquiry Questions (KIQ) is an approach where the teacher uses question to prod learners thinking to allow them to create information using their own words and understanding. They:

- help to focus the learning
- probe for deeper meaning and set the stage for further questioning.
- foster the development of critical thinking skills and higher order capabilities such as problem solving.
- allow learners to explore ideas in an open-ended, non-judgmental, meaningful and purposeful way.
- encourage collaboration amongst learners, teachers, and the community and integrates technology to support the learning process.

2.2.10 Core Competencies

Competency is conceptualized as the ability to apply appropriate knowledge and skills to successfully perform a function. Seven core Competences have been identified in Basic Education Curriculum Framework. They include:

- **Learning to learn**

The individual develops skills for self- development through exploration, collaboration and interaction with peers and the immediate environment, at their operational levels and pace.

- **Communication and collaboration**

An individual who responds to sensory stimuli appropriately and expresses self verbally and / or non-verbally in varied contexts.

The individual interacts with peers and significant others in



solving intra and inter personal problems within the immediate environment

- **Imagination and creativity**

An individual who engages in imaginative and creative activities for self-reliance

- **Digital literacy**

An individual who uses technology safely and legally for enjoyment, entertainment and socialization to enhance learning

- **Self-efficacy**

An individual who spontaneously construct self-confidence leading to internal motivation capable of performing tasks and manage situations in the environment

- **Citizenship**

An individual who is continuously mentored to be ethical and responsible to respect diversity for adaptation in the environment

- **Critical thinking and problem solving**

An individual who attempts to apply reasoning to solve problems at their own and immediate environments

2.2.11 Pertinent and Contemporary Issues

Holistic, meaningful and learner centered education does not only focus on the subject content but also on the competencies the learner requires to effectively address the issues and challenges of everyday life thereby leading a fulfilled life and becoming a productive member of the society. Issues that have been identified as salient and therefore mainstreamed in the designs are referred to as Pertinent and contemporary issues (PCIs).

Mainstreaming is the process of identifying suitable opportunity in the learning area or subject where PCI can be incorporated appropriately and taught alongside the subject matter. PCIs should be included in the schemes of work and in the lesson plans.

Pertinent and Contemporary Issues are categorized as follows:

- **Health Related Issues:** HIV and AIDS, alcohol and drug abuse prevention, life style diseases, personal hygiene, common communicable and non-communicable diseases and chronic diseases.
- **Life Skills Issues:** skills of knowing and living with self, knowing and living with others, critical thinking and problem solving, etiquette, moral education and human sexuality.
- **Social Economic Issues:** environmental issues, disaster risk reduction, safety and security, financial literacy, poverty eradication, terrorism, violence and radicalization, gender issues and animal welfare.

PCIs are supposed to not only be integrated in the lesson but in other programmes and activities in the school, home and in the community. Acquisition of knowledge, values and skills in various PCIs will enable the learner to translate what they have learnt to real life situation both in and outside school.

2.2.12 Link to values

Values are standards that guide people on how to respond or behave in each situation. They influence how someone feels, acts and makes choices in life. The responsibility for **nurturing values** rests with parents, school and the community. Everybody in the school has a role to play in helping the learner to nurture values. This approach is referred to as 'The whole school approach to value based education'. The overall goal of values-based education is 'To nurture values in learners to become empowered, engaged and ethical citizens for positive and holistic transformation of society'. The teacher therefore has an important role to play in nurturing values through teaching.

Core Values

According to the Competency-Based Curriculum there are eight core values to be nurtured in the learner namely:



- **Love**

Love is generally defined as strong feelings and expressions of affection towards a person or a thing. Love enables the learner to possess and exhibit virtues such as compassion, self- sacrifice, generosity, selflessness and empathy.
- **Responsibility**

Responsibility refers to recognition of one's role and function. Responsibility involves caring for personal property, engaging in assigned roles and duties at home, school and in the wider community. A responsible person exhibits qualities such as accountability, hard work, resilience, diligence, self-drive, persistence, determination, excellence and doing their best always.
- **Respect**

Respect is having positive regard towards self, others and property without bias. This value is nurtured through humility, patience, acceptance, open mindedness, etiquette and delayed gratification.
- **Unity**

Unity is the ability to live together harmoniously regardless of social, cultural, racial, religious, economic and political differences. This value can be nurtured through cooperation, respect, equity, equality, non-discrimination, fairness, inclusion and responsibility.
- **Peace**

Peace is a state of tranquillity and harmony with oneself and among people. One can model peace by creating an atmosphere of love, respect, tolerance, justice and solidarity. Peace enhances virtues such as compassion, care, responsibility, love and empathy.
- **Patriotism**

Patriotism refers to loyalty, love and devotion to one's country or nation. Patriotism calls for readiness to defend one's country, obey its laws, respect fellow citizens and speak well of it.

- **Social Justice**

Social justice refers to fair treatment of each other and promotion of equity. Social justice promotes other virtues such as human dignity, equity, solidarity and elimination of inequalities.

- **Integrity**

Integrity refers to the ability of a person to demonstrate acceptable behaviour. A person of integrity exhibits commitment, courage, honesty and ethical conduct. Thus, integrity is wholeness of character, uprightness of one's actions, speech and their totality of life.

2.2.13 Link to other learning areas

Some of the competencies that are developed in one learning area can be reinforced through other learning areas for example when you teach the concept of the flag in environmental activities, it could be enhanced in the learning area of movement and creative activities where learners are expected to draw and color the national flag.

2.2.14 Community Service Learning

Community Service Learning (CSL) is an experiential learning strategy that integrates classroom learning to learning from the community to enable learners reflect, experience and learn from the community. Community Service Learning will create opportunities for learners to apply the knowledge and skills acquired through the formal dimension in their community while at the same time learning from the community. This will develop in the learner not only employability skills but also promote personal growth by strong and productive relationships with the community. Learners will utilize the acquired knowledge, skills, values and attitudes to improve the welfare of the community.

2.2.15 Parental Empowerment and Engagement

Children start learning before they go to school. Parents, other family members and care-givers are a child's first and most important educator. They can be a positive influence and help child do well at



school. Parents therefore require empowerment and opportunity to get involved throughout their children's schooling.

As soon as children enroll for formal learning, teachers have a responsibility to create awareness and provide an enabling environment for parents to engage in their child's learning. Involving parents can have very positive impact on education outcomes. The following are suggested ways teachers can employ to empower and engage parents.

Parents can be sensitized on:

- Parental roles and responsibilities with regard to education according to the constitution and other national and school policies.
- The need to ensure the child is given proper care and protection to experience normal patterns of growth and development.
- The importance of providing basic care, nutrition, clothing, shelter and access to good health.
- Importance of early identification of disability and prompt referral for early intervention to mitigate the disability in order to avoid further delay or distorted development.
- The need to have a safe and conducive environment to enable a child to be creative and innovative.
- Importance of creating a family culture where values taught in school are reinforced at home.
- The need to equip children with basic self-help skills e.g. toilet training, eating and table manners/etiquette and dressing up.
- The fact that children need to develop fine motor skills so they can do activities such as scribbling, painting, clothing and opening buttons.
- The importance of providing resources e.g. school uniform, toys and other items required by the teacher in various learning areas and subjects.
- The importance of carrying out roles and tasks assigned by the teacher for instance reinforcing a skill, value or provision of extra information on an issue.
- Reading and narrating to children stories.
- Importance of seeking information from the school head and

teachers about the formal, informal and the non-formal aspects of the child's potential at school.

Parents play a very important role in determining the success of a child's education.

Teachers in liaison with the head teacher should from time to time have forums to discuss strategies they can employ to empower and engage parents in their school activities.

2.2.16 Non-formal activity to support learning

Non-formal activities are structured learning activities that are geared towards development of affective and psychomotor dimensions of learning. Some of the non-formal activities may include: singing, dancing, reciting poems, club activities, games and debates.

2.2.17 Learning resources

Learning resources are any materials that help to facilitate the learning process. Such materials include charts, realia, models and the immediate environment. Learning resources prompts the learners' reasoning and facilitates the development of competences such as critical thinking and problem solving, creativity and imagination, collaboration, self-efficacy among others.

2.2.18 Assessment methods

It involves gathering data during the learning process, and provides feedback to both the learner and the teacher to help improve learning. For formative assessment the teacher may use the following modes of assessment:

Observation: Observational assessments enable measurement of learner's behaviour, skills, and abilities.

Questioning (verbal or Non-verbal): Questions captures the expectations of the learning outcomes in question form in order to determine the level of mastery.

Checklists: assist the teacher to determine areas of focus to enable the learner to develop relevant knowledge and skills



Rating Scales: Use of descriptive words, such as always, usually, sometimes and never

Project Method: a set of activities implemented within a set timeframe
Learners identify a need in their community where they can provide services based on what they have learned.

Journaling: the learner keeps a record of their personal feelings, thoughts and experiences daily.

Portfolio: a purposeful collection of work samples, self-assessments and goal statements that reflect a learner's progress.

2.2.19 Assessment rubrics

A rubric is a teacher generated tool that maps the specific learning outcomes which specify the performance, levels of success and mastery of the outcomes. Rubrics are meant to help the teacher in measuring the *product, process and progress* of learning. In addition, the rubric will involve the learner in creating and understanding the evaluation criteria which allows them to participate fully in the process needed to achieve the objective.

2.2.20 Interrelationship between the Various Components of Curriculum Designs

The components of the curriculum designed are interrelated as illustrated below.

National Goal of Education ↓	9. Promote social, economic, technological and industrial needs for national development ↓
Level Learning Outcome ↓	demonstrate basic literacy and numeracy skills for learning; ↓
Learning Area ↓	Pre-Numeracy Activities ↓
General Learning Outcome ↓	1) apply simple mathematical concepts in carrying out daily activities. ↓
Strand ↓	Classification ↓
Sub-strand ↓	Matching and sequencing ↓
Specific Learning Outcome ↓	match objects according to size, shape, texture and or colour for day to day living; ↓
Key inquiry question ↓	1. Which objects are similar? 2. Which objects are different? ↓
Learning experiences ↓	Learners could be guided and prompted to match objects according to size, shape, texture and or colour safely in groups/pairs and individually; ↓
Assessment	Use observation to assess learner's ability to match objects according to size, shape, texture and or colour



3.0 PROFESSIONAL DOCUMENTS

3.1 Individualized Educational Plan

An Individualized Educational plan (IEP) describes what the teacher and other professionals will do to meet the special needs of the learner. An IEP focuses on individual learners needs and allows each learner to acquire knowledge and skills at his/her own pace

Note: An IEP is a mandatory document in the education of learners with special needs.

3.1.1 Components of an IEP:

- **The learner's present level of performance.**

The current level of performance of the learner is assessed to identify skills in which the learner has strengths and those that he/she has challenges. This can be done through observation, tests and interviews. For learning purposes, assessment should take place before instructions. Assessment results may then be used in deciding what to teach and how to teach it.

- **Long term and short term outcomes**

After collecting information on the learner's strengths and weaknesses, a statement describing what is expected in each area of special learning needs is made. This statement is referred to as a long term outcome. This is the overall aim of the IEP. Long term outcomes give direction for an IEP. It states what is expected to be achieved within a specified period of time, for example one month. The long term outcome is then broken into short term outcomes. These are competencies that should be mastered to achieve the long term outcomes

- **Initiation and termination dates**

The implementation of the IEP should be commenced after assessment has been done to determine the present level of performance. The duration of implementation will depend on the achievement of the stated outcomes. Reviews should be carried out regularly during the term and at the end of the term.

- **Assessment procedure and criteria**

This step describes how progress will be measured and specifies how well the learner is expected to perform. Evaluation criteria must define the standards that are to be used to measure progress or success. It is necessary to evaluate progress after a specific content has been covered.

- **Related specialized services**

The IEP must be clear in listing related specialized services required by the learner. The services identified may be addressed by the relevant service providers. This should be specified as to who, when and where these may be provided. These services may include physiotherapy, occupational therapy, speech and language therapy, guidance and counseling among others.

3.2.1 Progress records

After evaluation, the learner’s progress record should be kept as shown in the table below:

Pre-Numeracy Activities

Date	Skill area assessed	Result	Remarks	Recommendations
25 th march 2019	Matching objects according to size, shape, texture and or colour	match objects according to size, shape,	The learner has mastered matching of objects according to size, shape,	The learner needs more practice in matching objects according to texture and/or colour

3.3 Lesson Plan

Lesson plans are developed from the IEP. They describe the actual teaching and learning experiences that the teacher will facilitate during the lesson. It provides clear instructions on how the class will be organized, the resources that will be used, and the activities that will take place within the time allocated. It also shows how values, PCIs and competencies shall be mainstreamed in the lesson. Lesson plans



are usually propositions made by the teacher on how the lesson shall run, however, the way in which the lesson may run could change spontaneously during the lesson. Lesson plans should be developed by the teacher who will facilitate the lesson as he or she understands her learners better, the resources available to them and the context in which the learning shall take place. A sample lesson plan for a competency based curriculum is provided in the appendix of this book.

After facilitating a lesson, the teacher should indicate what was covered in the lesson and how well the learners achieved the learning outcomes envisaged. This document is called the record of work book. The record of work book is important as it indicates what the learners have achieved within a given time. It also enables the school management to track what is happening in the classes in their schools. In case the teacher is absent or leaves the school, the record of work book enables the replacing teacher to pick up from where they left and effectively continue implementing the curriculum.

Record of work books should be signed by the teachers and also regularly signed by the school management.

In order to track learner's performance, the teacher should also have an assessment record book. The book will track the achievement of learning outcomes and competencies acquired by the learners. It will guide the teacher on which learner needs special attention to acquire the skills and competencies stated in the curriculum designs.

The information will also be used when reporting learner's progress to their parents. A sample of an assessment report is also provided in the appendix of this book.

4.0 LEARNING APPROACHES FOR SPECIFIC STRANDS

4.1 STRAND: CLASSIFICATION

Classification is a process of grouping or putting together objects into a category in a systematic order. It is a fundamental pre-number learning concept that children learn about the world around them.

4.1.1 Sub-strand: Matching and sequencing

Matching is a simple form of sorting. It is finding objects that are the same or alike. Matching may include finding objects with the same specific characteristics

Sequencing is simply a pattern of numbers

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- a) identify various objects in terms of size, shape, texture and or colour;
- b) match objects according to size, shape, texture and or colour for day to day living;
- c) sequence objects according to size;
- d) appreciate differences in objects for day to day activities.

Key inquiry questions

The learner could be asked the following questions to elicit responses on different attributes of objects.

1. Which objects are similar?
2. Which objects are different?

Learning Experiences

For learners to achieve matching and sequencing skills, they will be guided and prompted to:

- observe, manipulate and identify an assortment of objects according to size (small, big);
- observe, manipulate and identify an assortment of objects in terms of shape (circle, square, rectangle and triangle);
- observe, manipulate and identify an assortment of objects in terms of texture (rough and smooth, hard and soft);



- observe, manipulate and identify an assortment of objects in terms of colour (red, green, blue, yellow);
- match objects according to size, shape, texture and or colour safely in groups/pairs and individually;
- sequence objects according to size shape, texture and or colour safely in groups/pairs and individually;
- display objects in different places within the classroom for reference;
- play games such as drag and drop using digital devices to enhance matching and sequencing according to size, shape, texture and or colour.

Core Competencies

- **Critical thinking and problem solving:** This will be developed as the learners engage in matching and sequencing activities as well as drag and drop games on computer.
- **Digital Literacy:** This will be developed as learners manipulate digital devices and play matching and sequencing computer games.

Link to Pertinent and Contemporary Issues (PCIs)

- **Disaster Risk Reduction (DRR);** Safety Skills will be enhanced as learners carefully handle object

Links to Values

Respect for others will be developed as learners work in pairs and in groups.

Unity will be nurtured as learners work harmoniously in pairs and in groups.

Links to other learning areas

This sub-strand will be linked to Communication, social and pre-literacy skills, and activities of daily living

Suggested Resources

- Assorted sets of objects will be used to perform matching and sequencing activities.
- Digital devices will be used to play matching and sequencing computer games.

Suggested Non-Formal Activities to Support Learning:

Learners will be engaged in matching and sequencing assorted objects in the school environment.

Suggested Assessment Modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement

Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The Learner consistently: -matches and sequences objects in varied social context with ease.	The learner is able to match and sequence most of the objects independently .	The learner attempts to match some objects with assistance.	The learner has difficulties matching objects even with assistance.



4.1.2 Sub-strand: Grouping

Grouping is dividing things into equal groups or sets. It is creating smaller groups from a larger group of items.

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- a) identify various objects in respect of size, shape, texture and / or colour;
- b) group objects according to size, shape, texture and or colour;
- c) appreciate differences in objects in day to day activities.

Key inquiry question

The learner could be asked the following question to elicit responses on parts of the body.

1. Which objects look the alike?
2. Which objects look different?

Suggested Learning Experiences

For the learner to achieve grouping skills, they will be guided and prompted to:

- observe, identify and manipulate an assortment of objects in terms of size (small, big);
- observe, identify and manipulate a variety of objects in terms of shape (circle, square, rectangle, and triangle);
- observe, identify and manipulate an assortment of objects in terms of texture (soft and hard, rough and smooth);
- observe, identify and manipulate a variety of objects in terms of colour (red, green, blue and yellow);
- group varied objects according to size, shape, texture and colour in groups/pairs and individually through games and rhymes;
- display objects according to size, shape, texture and colour in different places within the classroom for reference;
- play games involving grouping of objects using digital devices.

Core Competencies

- **Self-efficacy:** This will be developed as learners identify and group objects according to their attributes appropriately.
- **Critical thinking and problem solving:** It will be realized when learners group assorted objects in terms of size, texture, shape and colour.
- **Digital literacy** will be enhanced as learners play drag and drop computer games

Links to Pertinent and Contemporary Issues (PCIs)

Disaster Risk Reduction: Safety awareness will be developed as the learners handle objects with care.

Links to Values

Sharing, respect and unity will be developed as learners work in groups and play computer games

Links to other learning areas

This sub-strand can be linked to Communication, Social and Literacy skills, and activities of daily living (ADLs)

Suggested Non-Formal activities to support learning

Learners to be engaged in activities of grouping objects in school.

Suggested Learning Resources

- Assortment of objects will be used in grouping activities.
- Digital devices will be used to play computer games.

Suggested Assessment Modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.



Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement

Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner consistently groups all objects presented according to size shape, texture and or colour	The learner is able to group most objects according to size, texture and all colour	The learner attempts to group some objects according to size, shape texture and or colour with assistance.	The learner has difficulties in grouping some objects according to size, shape texture and or colour with assistance.

4.2 STRAND: PRE- NUMBER ACTIVITIES

Pre-number activities are activities that are considered to be essential before the learner formally engage in basic number work.

Pre-number activities are basic mathematical skills which include learning; how to count numbers, the proper sequencing of numbers, determining which shapes are bigger or smaller, counting objects and correct pronunciation of numbers .

4.2.1 Sub-strand: Rote counting (1-5)

Rote counting is the simplest number concepts that children can develop and it merely consists of counting numbers sequentially. Counting by rote is a skill that comes quite naturally to most children as it does not require direct instruction in the skill needed to count. This may not be the case for learners with special needs in this category, and hence the need to learn this skill formally.

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- a) rote count numbers 1-5 in readiness for number writing
- b) engage in singing games involving rote counting 1 to 5
- c) appreciate value of numbers for day to day activities

Key inquiry question

The learner could be asked the following question to elicit responses on numbers.

1. How many fingers do you have in one hand?
2. How many eyes do you have?
3. How many legs do you have?

Learning Experiences

For learners to achieve rote counting skills, they will be guided and prompted to:

- rote count numbers 1-5 using appropriate communication modes;
- practice rote counting numbers 1-5 in pairs/groups and individually;
- rote count numbers 1-5 in turns;
- sing songs and games involving rote counting numbers 1 to 5;
- watch/play games involving rote counting numbers on digital devices.

Core Competencies to be developed:

- **Self-efficacy** will be developed as the learner is able to rote count 1 to 5 sequentially.
- **Digital literacy** will be enhanced as learners play drag and drop computer games.

Links to Pertinent and Contemporary Issues (PCIs)

Social cohesion: Social interaction could be enhanced as learners engage in singing games.



Links to Values

Harmony, unity and respect will be developed as learners engage in singing games on rote counting in pairs or in groups.

Links to other learning areas

This sub-strand can be linked to Communication, social skills, and Pre-literacy activities and Activities of Daily Living.

Suggested Resources

Counters will be used on activities on rote counting

Suggested Non-Formal activities to support learning:

Learners could be guided to play number games with peers in school.

Suggested Assessment Modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement

Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The Learner can consistently rote count 1 – 5	The learner is able to rote count numbers 1-5 independently	The learner attempts to rote count 1 – 5 with assistance.	The learner has difficulties in rote counting 1-5.

4.2.2 Sub-strand: Counting rhythms

Counting rhythms is counting a regular beat to emphasis a number sequence or pattern. The rhythms are commonly counted out aloud with each number representing a beat.

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- a) identify different rhythms in counting number 1 to 5 for sequencing;
- b) apply rhythms in counting numbers 1 to 5 for enjoyment;
- c) appreciate counting in day to day life.

Key inquiry questions

The learner could be asked the following question to elicit responses on counting rhythms.

1. How do we clap?
2. How do you nod?
3. How do you stamp?

Learning Experiences

For the learners to achieve counting rhythms skills, they will be guided and prompted to:

- count numbers 1-5 using rhythms such as clapping, stamping feet, nodding. Other rhythms may be made using objects such as dry sticks, metal rods, shakers. jingles, drum.
- practice counting numbers 1-5 using different rhythms in pairs.
- count numbers 1-5 using different rhythms as a whole class and individually;
- sing songs involving counting rhythms of numbers 1-5 using musical instruments such as shakers;
- play games involving counting rhythms of numbers 1-5 in turns.



Core- competence to be developed

- **Communication and collaboration** will be enhanced through singing games in groups and whole class.

Links to Pertinent and Contemporary Issues (PCIs)

Life skills: Self-esteem will be achieved as learners succeed in counting rhythmically.

Links to Values

Harmony, respect and unity will be developed as learners engage in singing games in groups and interact harmoniously when performing various activities.

Links to other learning areas

This sub-strand can be linked to Communication, social and Pre-literacy activities and Activities of Daily Living (ADLs).

Suggested Non-Formal Activities to Support Learning:

Learners will be guided to practice counting rhythms during games.

Suggested Learning Resources

Musical instruments such as shakers, drums and flutes will be used to produce rhythms rhythms.

Suggested Assessment Modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement.

Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learners consistently count numbers rhythms in varied context with ease.	The learner is able to count numbers through given rhythms.	The learner attempts to count numbers through rhythms with assistance.	The learner has difficulties in counting numbers through rhythms.

4.2.3 Sub-strand: Singing number songs

Singing number songs involves the act of using the voice to produce musical sounds. It is used by children to enhance pre-number skills leading to counting and number recognition.

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- sing familiar number songs for enjoyment
- sing number songs in readiness for numeracy skills
- appreciate numbers for day to day activities

Key inquiry questions

The learner could be asked the following question to elicit responses on number songs.

- Which songs do you sing in school?
- Which songs do you sing at home?
- Which songs do you sing in the church?

Suggested Learning Experiences

For learners to achieve singing number songs skills, they will be guided and prompted to:

- sign familiar number songs;



- sing number songs involving numbers 1-5 in small groups using musical instruments;
- practice singing number songs of numbers 1-5 as a whole class and individually;
- sing recorded number songs in turns for enjoyment. Learners who are deaf blind may perform the songs.

Core- competence to be developed

- **Communication and collaboration:** This will be developed as learners engage in singing together.
- **Digital literacy:** This will be enhanced as learners sing/perform along recorded number songs.

Pertinent and contemporary issues (PCIs)

Financial literacy is given a base as learners get insight on numbering

Links to Values

Sharing, unity and respect will be realized as learners engage in singing together in harmony.

Links to other learning areas

This sub-strand could be linked to Sensory integration, psychomotor and creative activities

Suggested Non-Formal Activities to Support Learning

Practice playing traditional number games with others children in school during leisure time.

Suggested Learning Resources

Digital devices, Musical instruments such as drums, flutes and shakers could be used to accompany number songs.

Suggested Assessment Modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should

develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner’s achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement.

Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The Learner consistently sings number songs in given and own adapted tunes.	The learner is able to sing number songs in given tunes.	The learner attempts to sing number songs with assistance.	The learner has difficulties in singing number songs.

4.2.4 Sub-strand: Playing number games

Number games are played in everyday activities to help the learner build early numeracy. This enhances counting skills and number recognition.

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- a) play number games in readiness for numeracy skills acquisition
- b) appreciate numbers for day to day living

Key inquiry question

The learner could be asked the following question to elicit responses on numbers.

1. Which numbers do you know?
2. Which number games do you play?
3. What materials do we use to play number games?



Suggested Learning Experiences

For the learners to achieve play number game skills, they will be guided and prompted to:

- play familiar number games;
- observe a video on number games.
- practise playing number games involving numbers 1 to 5 in pairs in turns safely;
- play number games of numbers 1-5 as a class and individually;
- play number games of numbers 1 – 5 using safe objects;
- play number games involving numbers 1-5 using digital devices.

Core- competence to be developed

- **Communication and collaboration:** This will be developed as learners play number games together harmoniously.
- **Digital literacy:** As learners play computer games on numbers, digital literacy is enhanced.

Links to Pertinent and Contemporary Issues (PCIs)

- Financial literacy is given a base as learners get insight on numbering.
- Safety and care skills will be developed as learners handle materials

Links to Values

Responsibility is enhanced as learners are sensitized through careful handling of ICT devices.

Links to other learning areas

This sub-strand will be linked to learning areas such as; communication, social skills and literacy, sensory motor and creative activities

Suggested Non-Formal activities to support learning

Learners could be encouraged to play number games in school with other children.

Suggested Resources

Digital devices such as computer, tables, mobile phones could be used to play number games.

- Number cards such as number cut outs could be displayed for the learner to observe and play the number games.
- Realia such as blocks, stones, bottle tops could be used to play number games while in groups or pairs.

Suggested Assessment methods

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement

Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The Learner consistently play a variety of number games with own initiated creativity.	The learner is able to play simple number games as presented.	The learner attempts to play some number games with assistance.	The learner has difficulties in playing any number games.



4.2.5 Sub-strand: Modelling numbers

Modelling is the art of forming simple shapes out of clay or plasticine to create representation of something. It helps the learner to develop eye-hand coordination, strengthens his/her gross and fine motor skills.

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- a) identify materials used to model in readiness for number writing;
- b) model numbers in readiness for number writing. 1-5;
- c) appreciate number modelling for day to day activities.

Key inquiry questions

The learner could be asked the following question to elicit responses on forming numerals by modelling.

1. What materials do you use for modelling?
2. Which numbers can you model?
3. What can you model using clay or plasticine?

Learning Experiences

For the learners to achieve modelling skills, they will be guided and prompted to:

- observe, identify and manipulate materials used for modelling such as clay, plasticine;
- practise modelling numbers 1-5 in pairs safely taking turns;
- model number shapes 1-5 as a class and individually;
- observe activities involving modelling of numbers from digital devices;
- display the modelled number shapes in different places within the classroom for reference.

Core- competence to be developed

- **Self-efficacy:** This will be developed as learners acquire proficiency in manipulating clay for modelling.

Links to Pertinent and Contemporary Issues (PCIs):

- **Life skills:** Craftsman skills will find a base in learners as they model numerals.

Links to Values

Personal responsibility may be enhanced as learners take care of modelling materials.

Links to other learning areas

This sub-strand will be linked to communication, social skills and pre-literacy activities.

Suggested Non-Formal activities to support learning

Learners will be given opportunities to manipulate modelling materials in school.

Suggested ResourcesClay/plasticine; can be used to model numbers.

- Number moulds templates will be used to fix numbers on boards.
- Digital devices will be used to observe number modelling techniques

Suggested Assessment Modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement



Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The Learner consistently models number shapes 1-5 with ease and further model self-initiated shapes.	The learner is able to model number shapes 1-5 as presented	The learner attempts to model number shapes 1-5 with assistance	The learner has difficulties in modeling number shapes 1-5.

4.2.6 Sub-strand: Scribbling freely on open surfaces

Scribbling is a manipulative skill and it involves the ability to use one's hand and finger dexterity. It is the first step in learning to write and it is a child's ways of writing/expressing his/her thoughts.

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- a) demonstrate scribbling skills on given surfaces in readiness for writing numbers for day to day activities;
- b) enjoy manipulation of writing materials for acquaintance towards writing;
- c) appreciate number modelling for day to day activities

Key inquiry questions

The learner could be asked the following question to elicit responses on scribbling.

1. Which surfaces do you use for scribbling?
2. What materials do we use when scribbling?

Suggested Learning Experiences

For the learners to achieve scribbling skills they will be guided and prompted to:

- observe, identify and manipulate materials used for scribbling using appropriate sensory modes;
- scribble freely on open surface safely for enjoyment;
- practise scribbling freely using assorted materials in pairs as a class and individually;
- display scribbled work in different places within the classroom for reference.

Core- competence to be developed

- **Self-efficacy** will be developed as learners handle scribbling materials effectively.

Links to Pertinent and Contemporary Issues (PCIs)

- **Education for Sustainable Development (ESD);** Learners will develop a good foundation for writing.
- **Disaster Risk Reduction;** Safety skills will be realized as learners handle materials with care.

Links to Values

Responsibility will be enhanced as learners take care of scribbling materials

Links to other learning areas

This sub-strand is linked to sensory integration, psychomotor and creative activities

Suggested Non-Formal activities to support learning:

Learners could practice scribbling with other children during break.

Suggested Resources

Realia such as chalk, crayons, pencils, paper will be used in scribbling activities.



Suggested Assessment Modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement

Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner consistently scribble freely for enjoyment and further colour within patterns created.	The learner is able to scribble freely and within given surface	Learner attempts to scribble but requires prompting and assistance	The learner has difficulties in scribbling.

4.2.7 Sub-strand: Shading number shapes

Shading is a technique used in visual arts. It is an activity that involves darkening or colouring an illustration, diagram or a number with lines or blocks of colour to make it look beautiful or colourful.

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- a) sort and match number shapes for recognition of numbers
- b) shade number shapes in readiness for number writing
- c) enjoy number shapes shading for self –esteem building

Key inquiry questions

The learner could be asked the following question to elicit responses on shading numbers.

1. Which shape looks like this one?
2. Which number shapes look alike?
3. Which number shapes look different?

Suggested Learning Experiences

For the learner to achieve shading skills he or she could be guided and prompted to:

- observe, identify and manipulate sets of number shapes 1-5 using appropriate communication modes;
- sort and match number shapes 1-5 individually, in pairs/groups and as a class;
- practise shading number shapes 1-5 in pairs and individually;
- observe, identify and manipulate shaded/embossed shapes of numbers;
- display shaded/embossed number shapes in the classroom for reference

Core- competence to be developed

- **Communication and collaboration:** This will be developed as learners work in small groups.
- **Self-efficacy:** This will be enhanced as learners manipulate shapes and shading materials effectively.
- **Learning to learn:** Learners will acquire a good foundation for writing as they handle materials effectively.



Links to Values

Respect will be developed as learners engage in groups observing turn taking.

Links to other learning areas

This sub-strand will link to communication, social skills and literacy activities.

Suggested Non-Formal activities to support learning

- Practice shading shapes of numbers with other children in school.
- Sensory-motor and creative activities.

Suggested Resources

Sets of number shapes 1-5 cut-outs, crayons, colour pencils, block number writings on paper will be used to scribble number shapes individually and in groups.

Suggested Assessment Modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement

Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner consistently shades number shapes in perfect precision and shows creativity.	The learner is able to shade number shapes with satisfactory precision	Learner attempts to shade number shapes with assistance	The learner has difficulties in shading shapes.

4.2.8 Sub-strand: Tracing number shapes

Tracing is the act of trailing onto a shape or drawing along the outlines of shapes and figures.

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- trace shapes of numbers 1-5 along embossed outline using finger, as prerequisite activity for writing
- trace number 1-5 along dotted lines with pencil in readiness for number writing
- trace number shape cut-outs using chalk/pencil.
- appreciate tracing number shapes for counting in day to day life.

Key inquiry questions

The learner could be asked the following question to elicit responses on tracing numbers..

- How do you draw number shapes?
- What do we use when tracing number shapes?
- Which number shapes can you trace?



Suggested Learning Experiences

For learners to achieve tracing skills, they will be guided and prompted to:

- observe, identify and manipulate materials used for tracing;
- place tracing materials in place;
- track the shapes of numbers 1-5 along dotted/embossed outline using fingers;
- trace cut-outs of numbers 1-5 using appropriate mode of sensory mode individually, in pairs/groups;
- interact with digital devices on activities involving tracing number shapes 1-5.
- display traced number shapes in the classroom for reference

Core- competence to be developed:

- **Self-efficacy:** This will be achieved as learners acquire ability to trace shapes efficiently.
- **Communication and Collaboration:** This is enhanced as learners work together in tracing exercise in groups.

Links to Pertinent and Contemporary Issues (PCIs):

- **Education for Sustainable Development:**
- **Learning to learn;** Learners will develop number tracing concepts for numeracy skills.

Links to Values:

Sharing as well as team work will be enhanced as learners trace shapes in pairs.

Links to other learning areas

Areas linked to this sub-strand include; communication, social skills and pre-literacy activities.

Suggested Non-Formal activities to support learning:

Learners to be encouraged to practice tracing number shapes with other children in school during free time.

Suggested Resources

Number shapes cut-outs; embossed number plates 1-5 will be utilized while tracing number.

Suggested Assessment Modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement

Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner consistently trace number shapes accurately	The learner is able to trace number shapes	The learner attempts to trace few number shapes	The learner has difficulties in tracing number shapes.

4.2.9 Sub-strand: Completing dotted numbers

Completing dotted numbers involves joining the dots to complete the number shape. This is an effective way to strengthen hand and finger muscles in preparation for writing. Learners improve the finger dexterity by gripping on the pencils and strengthen their hand muscles when joining dots.



Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- a) identify materials used to complete dotted numbers in readiness for number writing;
- b) join dotted numbers in readiness for number writing;
- c) appreciate dotted numbers for writing numbers.

Key inquiry questions

The learner could be asked the following question to elicit responses on number tracing.

- What materials do we use when to tracing numbers?
- Which dotted numbers can you complete?

Learning Experiences

For learners to achieve skills on completing dotted numbers, they will be guided and prompted to:

- observe, identify and manipulate materials used in joining number dots;
- join dots 1-5 to form numbers in pairs, groups and as a whole class;
- display work on joining dots in the classroom for reference.
- practise joining dots provided on digital devices

Core- competence to be developed

- **Communication and collaboration:** This will be achieved as learners work in pairs and in groups.
- **Digital literacy:** This will be enhanced through activities of joining dots on digital devices.

Links to Pertinent and Contemporary Issues (PCIs)

Foundation for **financial literacy** may be well laid as learner gains proficiency in handling writing materials and digital devices.

Links to Values

- **Responsibility** will be enhanced as learners take good care of the materials.

Links to learning areas

This sub-strand will be well linked to sensory motor, psycho-motor and creative activities.

Suggested Non-Formal activities to support learning:

Learners will be encouraged to practice completing dotted numbers during leisure time.

Suggested Resources

Number shapes cut-outs; embossed number plates 1-5 will be used in joining dotted numbers activities.

Suggested Assessment modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement

Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner consistently joins number dots freely.	The learner is able to join number dots with minimal assistance.	Learner attempts to join number dots with assistance	The learner has difficulties in joining number dots.



4.2.10 Sub-strand: Finger dexterity activities

Finger dexterity activities evaluate the capacity of the muscles in the hand as well as the learner's fine motor skills for the purpose of performing tasks that involves placing, turning and picking up of objects.

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- a) identify different types of boards and pegs;
- b) use pegs to fix on boards in readiness for number writing;
- c) appreciate fixing pegs on boards writing readiness.

Key inquiry questions

The learner could be asked the following question to elicit responses on number writing.

1. What can you observe or manipulate?
2. Which objects can you identify or manipulate?
3. What part of the body do we use to fix pegs?

Learning Experiences

For learners to achieve finger dexterity skills, they will be guided and prompted to:

- observe, identify and manipulate materials used for finger dexterity activities such as boards and pegs, clay, assorted objects of different shapes, texture and size;
- perform activities involving finger dexterity such as fixing pegs on boards, modelling individually;
- practise finger dexterity activities using relevant materials in pairs observing safety precautions;
- play finger dexterity games on digital devices.

Core- competence to be developed

Self-efficacy: This will be enhanced as learner fix pegs on boards successfully.

Digital literacy will be achieved as learners manipulate the digital devices to play games.

Links to Pertinent and Contemporary Issues (PCIs):

Disaster Risk Reduction: This will be realized as learners practice safety while handling materials.

Links to Values

Sharing, unity, respect and responsibility will be enhanced as learners practice finger dexterity activities.

Links to other learning areas

Communication, social skills and literacy activities.

Suggested Non-Formal activities to support learning

Learners could practice fixing pegs on boards with other children during games.

Suggested Resources

Pegs and peg boards will be used in pegging activities.

Suggested Assessment Modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement



Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner consistently fixes pegs on boards safely with ease	The learner is able to fix pegs on boards	Learner attempts to fix pegs on boards.	The learner has difficulties in fixing pegs on boards.

4.3 STRAND: MEASUREMENT

Measurement is the determination or estimation of quantities. It is a number that shows the size or amount of something in reference to some standard measurement.

4.3.1 Sub-strand: Measuring length

Length describes how long something. It is usually measured using standard units. In pre-numeracy activities, arbitrary units which are capable of public comparison are used. They are used in all sorts of measurement for simplicity sake.

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- a) identify arbitrary units in the context of measuring length
- b) use arbitrary units in measuring length for life skills
- c) appreciate use of arbitrary units in measurement in day to day life

Key inquiry questions

The learner could be asked the following question to elicit responses on measurement of length.

1. Which materials do we use to measure lengths of objects?
2. Which parts of the body can we use to measure length?
3. What objects can we use to measure length?

Suggested Learning Experiences

For learners to achieve skills in measuring length, they will be guided and prompted to:

- observe, identify and manipulate arbitrary units (strings, sticks, straws) used for measuring length.
- measure length of objects using sticks, strings, palm of the hand, feet, as the standard units in pairs or in groups.
- watch videos on measurement of length using arbitrary units;
- collect and store measuring materials in the appropriate place in the classroom for reference

Core- competence to be developed

Communication and collaboration: This will be achieved as learner is able to practice measurement lengths in pairs or in groups.

Links to Pertinent and Contemporary Issues (PCIs)

Education for Sustainable Development (ESD): Safety will be developed as learners handle materials in their working area with care.

Links to Values

Sharing, unity, and respect will be enhanced as learners measure in pairs or groups using arbitrary units.

Links to other learning areas

This sub-strand can be linked to activities of daily living.

Suggested Non-Formal activities to support learning:

Learners will be encouraged to practice measuring lengths using arbitrary units in their school environment

Suggested Resources

Sticks, strings, straws, parts of the body will be used as arbitrary units to measure lengths of objects.



Suggested Assessment Modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement

Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The Learner consistently measures lengths of objects using arbitrary units correctly and with ease.	The learner is able to measure length of the objects given correctly using arbitrary units	The learner attempts to measure length of few given objects using arbitrary units.	The learner has difficulties in measuring length of given objects using arbitrary units.

4.3.2 Sub-strand: Width

Width describes how wide an object is. In pre-number activities, it is measured using arbitrary units such as strings, sticks, straws and body parts such foot, hand, arm.

Specific Learning Outcomes

By the end of the sub-strand, the learner should be able to:

- a) identify arbitrary units in the context of measuring width.
- b) use arbitrary units in measuring width for life skills
- c) appreciate use of measurement in day to day living

Key inquiry questions

The learner could be asked the following question to elicit responses on measuring width.

1. Which materials do we use to measure widths of objects?
2. Which parts of the body can we use to measure width?
3. What objects can we use to measure width?

Learning Experiences

For the learner to achieve skills on measuring width, they will be guided and prompted to:

- observe, identify and manipulate arbitrary units (strings, sticks, straws) used for measuring width;
- measure width of objects using arbitrary units such as strings, sticks, straws and body parts in pairs or groups safely;
- watch videos on measurement of width using arbitrary units on digital devices;
- collect and store measuring materials in the appropriate place in the classroom for reference

Core- competence to be developed

- **Self-efficacy:** This will be realised as learners correctly measure width of different objects.
- **Communication and collaboration:** This will be developed as learners practice measuring width using arbitrary units in pairs, small groups and as a whole class.
- **Digital Literacy:** As learners watch videos and manipulate digital devices, they will develop digital literacy.

Links to Pertinent and Contemporary Issues (PCIs)

Disaster Risk Reduction: Safety will be enhanced as learners carefully handle materials at working area.

Links to Values

Sharing and respect will be achieved as learners practice measuring width in groups and share materials.



Links to other learning areas

This sub-strand will link to communication, social skills and pre-literary activities

Suggested Non-Formal activities to support learning

Learner can be encouraged to measure width of different objects using arbitrary units during leisure time.

Suggested Resources

Strings, sticks, ropes, parts of the body will be used to measure widths of various objects.

Suggested Assessment Modes

The teacher should ask simple questions and give clear instructions through most effective communication modes. The teacher should develop a checklist of all the skill areas that the learner is expected to master indicating the levels of mastery. Through observation, Questioning and checklists, the teacher is able to keep records of the learner's achievements.

Suggested Assessment Rubric

The learner should be assessed against the following levels of achievement

Suggested Formative Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner consistently measures length of objects correctly using arbitrary units with ease	The learner is able to measure length of objects correctly using arbitrary units	Learner attempts to measure length of few given objects using arbitrary units.	The learner has difficulties in measuring length of given objects using arbitrary units.

APPENDIX ONE

INDIVIDUALIZED EDUCATIONAL PLAN (IEP)

Background information

Learner's name: _____

Date of birth _____

Age _____

Gender _____

Father _____

Phone _____

Mother _____

Phone _____

guardian's name _____

Phone _____

Date of Assessment _____

Date of IEP _____

Term _____

Year _____

Learning area _____

Assessment tools used :(teacher based assessment to determine current performance level)

Present level of performance (based on assessment report)

Learner's Strengths	Learner's Educational Needs	Challenges requiring specialized services



Learning Outcomes, Learning Experiences and Resources Matrix

<p>Long Term Learning Outcome (This is what the learner is expected to achieve within a term)</p>	<p>Short Term Learning Outcomes: (This is what a learner is expected to achieve within a short period of time depending on specific tasks)</p>	<p>Learning Experiences(These are the activities the learner will perform in the process of learning guided by the teacher)</p>	<p>Resources (These are materials, equipment and human service providers that support learning)</p>
---	--	---	---

Related specialized services

1. Specialized services required

2. Who is to provide the services

3. Where the services will be provided_____

ASSESSMENT

Assessment can be done through observation, questions and portfolios. The recording of performance can be on a rubric (refer to the curriculum designs)

Suggested Formative Assessment Rubric

Exceeding expectations	Meeting expectations	Approaching expectations	Below expectations

Remarks

Recommendations

Date of review

Teacher's

Name: _____

Signature _____

Head teacher's

Name: _____

Signature: _____

Date: _____



APPENDIX TWO

LESSON PLAN TEMPLATE

SCHOOL	CLASS	DATE	TIME	ROLL
XX	YY	XX/YY/ZZ	XX.YYam	XY

Strand.....

Sub-strand.....

Specific Learning Outcomes (should cover skills, knowledge and attitude)

By the end of the lesson, the learner should be able to:

- a. (Knowledge).....
- b. (Skill).....
- c. (Attitude)

Learning Resources

.....
.....

Organization of learning

.....
.....

Introduction

.....
.....

Lesson development (ensure development of core competences, values and PCIs)

Step1

.....

Step2.....

Step3.....

Summary

.....
.....
.....

Conclusion

.....
.....
.....

Reflection on the lesson

.....
.....
.....



APPENDIX THREE

SCHOOL ASSESSMENT REPORT CARD

School.....

Grade.....

Term.....

Name of Learner.....

Learning Area	Criteria <i>(Based on Expected Outcomes in area curriculum design)</i>	Narrative Comments by Learning Area teacher (Based on Rubrics)
Pre-numeracy activities	Identify various objects in terms of size, shape, texture and colour; group objects according to size, shape, texture and /or colour for day to day living;	James correctly Identifies and groups various objects in terms of size, shape, texture and colour;
Activities of daily living skills and religious education		
Communication, social and pre-literacy skills		
Sensory-motor and creative Activities		
Orientation and mobility		

CORE COMPETENCES (The teacher to make comments on observations during the term on the learners abilities in the following areas)	
Communication and collaboration Digital literacy	
Critical thinking and problem solving	
Creativity and imagination	
Citizenship	
Any other Comments from other teachers	
Comments by School Head Teacher (To feature Strengths and Targets)	
Comments by Parent/Guardian	



APPENDIX FOUR

SCHOOL ASSESSMENT REPORT CARD

School.....

Grade.....

Term.....

Name of Learner.....

Learning Area	Criteria <i>(Based on Expected Outcomes in area curriculum design)</i>	Narrative Comments by Learning Area teacher (Based on Rubrics)
Numeracy activities	a) Identify various objects in terms of size, shape, texture and colour; b) group objects according to size, shape, texture and /or colour for day to day living;	a) James correctly Identifies and groups various objects in terms of size, shape, texture and colour;
Activities of daily living skills and religious education		
Communication, social and literacy skills		
Sensory-motor Integration		
Psychomotor		

Creative Activities

CORE COMPETENCES (The teacher to make comments on observations during the term on the learners abilities in the following areas)	
Communication and collaboration Digital literacy	
Critical thinking and problem solving	
Creativity and Imagination	
Citizenship	
Any other Comments from other teachers	
Comments by School Head Teacher (To feature Strengths and Targets)	
Comments by Parent/Guardian	



APPENDIX FIVE

ESSENTIAL SERVICES FOR SPECIAL NEEDS LEARNERS

There are a number of people involved in the management of the lives and needs of special needs learners. They include and not limited to:

Occupational therapists

These help learners fully engage in daily life skills which include but not limited to dressing, eating cooking and driving. Treatment focuses helping people with physical, sensory or cognitive disabilities to be as independent as possible.

Physiotherapy services providers

These help the children reach their full potential through provision of physical intervention, advice and support.

Teacher Aides

These assist the teachers in providing academic, emotional/behavioral and physical needs of learners

Social workers

They develop a healthy, safe and caring environment for learners by advancing understanding on the needs of learners and role of family and community. They also organize activities/ events that bring together all those interested in and involved with children with special needs.

Counsellors

They help the learners achieve their full potential and encourage family involvement in the drafting of IEP and its use.

House parents

These are residential child caregivers whose role include personal care, housing, meals among others. They play the role of parent, advocate, life skills, teacher and role model for learners with special needs

Medical personnel

There are a number of medics involved in attending special needs children include; pediatrics, nurses, dentists, child psychologist, Orthopedic specialists among others.

Note

Early intervention services are crucial and also called 'zero to three,' starts at birth until the child turns three years. This will be of great benefit to both the child and family. This will address the delays and difficulties.





REPUBLIC OF KENYA
Property of the
Government of Kenya
NOT FOR SALE



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

Desai Road, Off Thika Rd.,
P.O. Box 30231 - 00100 Nairobi, Kenya.
Telephone : +254 (020) 374 9900 - 9, 374 8204, 374 7994
Fax : +254 (020) 363 9130.
Email : info@kicd.ac.ke, Website : www.kicd.ac.ke