



**KENYA INSTITUTE OF CURRICULUM DEVELOPMENT**

**CURRICULUM DESIGN**

**MATHEMATICS ACTIVITIES**

**GRADE 1, 2 AND 3**

**FOR LEARNERS WITH HEARING IMPAIRMENT**

**MAY 2017**

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## **FOREWORD**

The Basic Education Curriculum Framework (BECF) outlines the vision and mission for the curriculum reforms. The Vision of the curriculum reforms is to develop “an engaged, an empowered and ethical citizen “while the mission is to “to nurture the potential of every learner”.

The framework adopts a Competency Based Curriculum and has identified seven core competences, namely; communication and collaboration, critical thinking and problem solving, creativity and imagination, citizenship, digital literacy, learning to learn, and self-efficacy. It provides a variety of opportunities for identification and nurturing of learner’s potentials and talents in preparation for life and the world of work. It is geared towards making learning enjoyable.

The curriculum designs are developed to enable implementation of the Basic Education Curriculum Framework. The design contains the National Goals of Education, outlines the Early Years Education (EYE), subject general and specific learning outcomes. It also suggests a variety of learning experiences, assessment, resources and links the topics to values, Pertinent and Contemporary Issues (PCI) and to other subjects.

It is my hope that all educators in Early Years Education level will anchor their delivery of Basic and Teacher education on these Curriculum Designs.

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## **National Goals of Education**

The Framework will be anchored on 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 instil 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-fulfilment**

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 instil 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.

## Core Competencies for Basic Education

Sessional Paper No. 2 of 2015 on ‘Reforming Education and Training in Kenya’ recommends a reformed curriculum that adopts a competency based approach. This is also recommended by the EAC Curriculum Harmonization Structures and Framework. A competency based approach enables meaningful connections within and between subject areas through a focus on competencies. Subjects and Subjects will continue to be taught and will be the vehicles through which the core competencies are developed over time. In view of the different interpretations of the meaning of a competency based curriculum, and specifically for basic education, the Framework provides clarity on the concept itself and also how the curriculum will be designed, implemented and assessed.

In the context of the Kenyan Competency Based Curriculum (KCBC), competency will be understood as ‘the ability to apply appropriate knowledge and skills to successfully perform a function’. Within this context, the curriculum will be designed to emphasize the importance of not only developing skills and knowledge but also applying these to real life situations. The integration of **pertinent and contemporary issues** and **service learning** into the framework will provide the opportunity for learners to develop and apply their skills and knowledge, or in other words, their competencies.

Based on the Needs Assessment Study carried out by KICD, and the vision and mission of the BECF, the seven core competencies to be achieved by every learner in basic education are:

1. Communication and Collaboration
2. Self-efficacy
3. Critical Thinking and Problem Solving
4. Creativity and Imagination
5. Citizenship
6. Digital Literacy
7. Learning to Learn

The Framework seeks to develop these competencies so that all Kenyans can thrive in the 21<sup>st</sup> century.

### ***Communication and Collaboration***

**Communication** is the act of transferring information from one place to another, whether vocally, visually, or non-verbally. The discipline of communication focuses on how people use messages to generate meanings within and across various contexts, cultures, channels, and media. The discipline promotes the effective and ethical practice of human communication.

Spitzberg (1988) defines communication competence as the ability to interact well with others in terms of accuracy, clarity, comprehensibility, coherence, expertise, effectiveness and appropriateness. On the other hand Friedrich (1994) suggests that

communication competence is best understood as "a situational ability to set realistic and appropriate goals and to maximize their achievement by using knowledge of self, other, context, and communication theory to generate adaptive communication performances."

In this respect, it can be argued that being able to communicate effectively as intended is the most important of all life skills. How well information can be transmitted and received is a measure of how good our communication skills are. Developing communication skills helps in all aspects of an individual's life.

Parks (1985) maintains that communicative competence can effectively be measured by determining if, and to what degree, the goals of interaction are achieved. He emphasizes three interdependent themes: control, responsibility, and foresight; and argues that to be competent, learners must not only 'know' and 'know how,' but rather they must also 'do' and 'know that we did'. He defines communicative competence as the degree to which individuals perceive they have satisfied their goals in a given social context without jeopardizing their ability or opportunity to pursue their other subjectively more important goals.

A useful framework for understanding communication competence was designed by Spitzberg and Cupach (1984). They propose a model that can be used to understand communication referred to as the component model of competence. The model asserts that communication competence is mutually defined by the interdependency of the cognitive component (concerned with knowledge and understanding), the behavioural component (concerned with behavioural skills), and the affective component (concerned with attitudes and feelings about the knowledge and behaviours) by interactions in an interpersonal encounter within a specific context.

This then implies that education at each level should endeavour to enhance the learner's acquisition of effective communication skills through which they can interact and express themselves during the learning process. In this respect, it would be prudent to be cautious when deciding on the language to be used as a medium of instruction at the early year's education level. It is also important to take cognizance of appropriate modes of communication for learners with special educational needs.

**Collaboration** is the process of two or more people or organizations working together to realize shared goals. Collaboration may require leadership, although this can be social within decentralized or egalitarian groups or teams that work collaboratively in relation to gaining greater resources, recognition and motivation. Strategies for effective communication enhance the attainment of greater collaboration among groups that ultimately increase the success of teams as they engage in collaborative problem solving. Collaboration is also present in opposing goals exhibiting the notion of adversarial collaboration, though this is not a common case for using the word. Collaborative learning is a system in which two or more people co-operate in a learning experience to share and contribute to each member's understanding of a topic and to complete a given task. Collaborative learning is designed to help learners learn from each other and can be an important aspect of the school curriculum. Lesson plans for collaborative learning may vary greatly. Sometimes teachers will build a lesson designed specifically to teach collaborative learning and teamwork. There are many team building games and activities that can

be done in a classroom that force learners to work together to complete a task. Other collaborative learning exercises are designed around a particular school subject. For instance, in a speech class, a teacher might put learners up into teams and have them work together to make a presentation on a subject together. In this scenario, learners can learn just as much as if they were developing a presentation on their own, but they get the added benefit of learning how to collaborate.

### ***Self-efficacy***

Self-efficacy is a person's belief about his or her capabilities to perform tasks or assignments that can change and transform his or her life. It determines how the person feels, thinks, behaves and motivates themselves. Self-efficacy has the potential to determine four major processes namely cognitive, motivational, affective and selection processes.

A strong sense of self-efficacy enhances a learner's accomplishment and personal well-being in many ways. Learners with high assurance in their capabilities approach difficult tasks as challenges to be mastered, rather than as threats to be avoided. Self-efficacy fosters intrinsic interest and deep engrossment in activities. Learners set themselves challenging goals and maintain a strong commitment to them.

Self-efficacy as a competence will enable learners to develop and nurture intra-personal skills and values such as self-awareness, self-esteem, confidence and personal integrity. These competencies will enhance the learner's ability to heighten and sustain efforts in the face of failure and effectively manage stressful situations. A learner with a strong sense of self-efficacy will be courageous and bold enough to set and pursue personal educational, family, community, entrepreneurial, professional, and career goals in all forms of employment that will lead to personal accomplishment (British Council, 2016). An efficacious learner will be aware of the resources at their disposal and will take personal responsibility for the use, care, management, protection and preservation of these resources.

A learner with strong self-efficacy will be internally motivated to establish and maintain healthy interpersonal relationships. They will demonstrate interpersonal relationship skills such as assertiveness, empathy, effective communication, negotiation skills, non-violent conflict resolution skills and peer pressure resistance skills. Creative and critical thinking that leads to effective decision making and problem solving is based on a strong sense of self-efficacy (British Council, 2016). Capacity building of teachers and parental engagement are two crucial factors that would determine acquisition of self-efficacy. The school will be expected to provide opportunities for parents to be empowered and engaged in the affairs and welfare of their children's education.

### ***Critical Thinking and Problem Solving***

An important outcome of quality education is teaching learners how to think critically. The British Council (2015) identifies three types of thinking: reasoning, making judgements, and problem solving. It is possible for learners to reason in an uncritical way. When learners are empowered with critical thinking, they avoid being subjective, and use logic and evidence to arrive at conclusions. Critical thinking



also facilitates exploring new ways of doing things and learner autonomy. Learners learn that for every issue there are multiple perspectives that they can explore, rather than a rigid recall and regurgitation of information.

Critical thinking is important for lifelong learning. It helps learners to have an open mind and be ready to listen and appreciate information and opinions that may sometimes conflict with their earlier held beliefs and positions. Critical thinking and problem solving are useful for learners of all ages and in all the subjects and disciplines offered in the basic education curriculum. For example, in the sciences learners need to think critically about observations and patterns to develop ideas on how to solve problems. These competencies are also important for solving problems in their lives and communities, and will ultimately help them to fulfil their potential, which is the vision for the basic education curriculum. This will contribute to addressing the unemployment challenge in Kenya.

Critical thinking and problem solving will be developed through age appropriate activities and programmes in the school curriculum. For example, at pre-primary school level learners can be asked to come up with the best ways of using and keeping their books, stationery and other personal items safe. At the other end of the basic education spectrum, learners can be asked to come up with the best ways of addressing the challenge of scarce resources such as water in the school and community.

### ***Creativity and Imagination***

Creativity and imagination refers to the ability to form new images and sensations in the mind, and to turn them into reality (British Council, 2016). It is the ability to imagine things that are not real, to form pictures in the mind of things that one has not seen or experienced, and turn those pictures into real things. It also refers to the act or power of forming mental images of things that are not present to the senses, or that are never wholly perceived in reality, and creating physical representations of those images. Imagination only exists or happens in the mind, and it remains in the mind. Creativity and imagination on the other hand, is characterized by the ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions. It is a phenomenon whereby something new and valuable is formed.

In educational terms, creativity and imagination refers to the ability of learners and their teachers to form images and ideas in their minds, and turn them into real, visible creations. Learners who are imaginative and creative are able to make life interesting for themselves and others around them. They are able to use the knowledge, skills and values acquired in the learning process to create new ideas that result in products that add value to their lives and to the lives of others around them. The competence based curriculum recognizes this hidden ability in learners. It will therefore, inspire learners' imagination by presenting knowledge in ways that encourage learners to think as individuals. It will create scenarios that help learners to engage in imagination and encourage them to develop creations steered by the imagination. Their ability to imagine will be stretched through exposure to challenging situations that help to expand their thinking and creativity skills. The curriculum will also create room for innovative ways of teaching as well as creating an

environment conducive to learning that offers all learners opportunities to explore their full potential in and through creativity and imagination.

### ***Citizenship***

Historically, human beings have always formed communities based on a shared identity. Such identities are forged in response to a variety of human needs, which might be economic, political, religious or social. As group identities grow stronger, those who hold them in commonality with others organize themselves into communities, articulate their shared values, and build governance structures to support their beliefs. The individuals in these communities identify themselves as citizens.

Citizenship is the state of being vested with the rights, privileges, and duties of a citizen. It creates a sense of belonging and attachment to one's nation. A sense of citizenship helps to equip young people to deal with situations of conflict and controversy knowledgeably and tolerantly. They are able to understand the consequences of their actions, and those of the adults around them.

Global citizenship is a way of living which recognizes that our world is an increasingly complex web of connections and interdependencies. One in which our choices and actions may have repercussions for people and communities locally, nationally or internationally. It nurtures personal respect and respect for others, wherever they live. It encourages individuals to think deeply and critically about what is equitable and just, and what will minimize harm to our planet.

### ***Digital Literacy***

Digital literacy can be described as having the knowledge, skills and behaviours which are necessary to effectively and safely use a wide range of digital content and devices. Such devices include mobile phones, smartphones, tablets, laptops and desktops among others. All these fall within the category of network enabled devices. Digital literacy focuses mainly on network enabled devices and should not be confused with computer literacy skills. However, traditional forms of literacy and computer literacy are enhancers in the acquisition of digital literacy skills.

Individuals are presumed to be digitally literate if they possess a broad range of digital skills and knowledge, and have a basic understanding of the potential uses of computing devices. Digital literacy skills also include being able to use computer communication networks, being able to engage in online communication and social networks, being aware of and adhering to ethical behaviour protocols, being aware of societal issues raised through digital media, and being able to search, evaluate and use information channelled through digital platforms. Furthermore, the digital literate individual should also have the ability to safely and securely use technology while being able to assess the nature of the information acquired in order to support and enhance the environment (British Council, 2015). Digital literacy as a competence therefore encompasses knowledge and skills concerning the appropriate application of a variety of

hardware platforms such as computers, tablets and mobile devices, and their software including but not limited to web search or internet application software. Digital literacy is a dynamic competence due to the fast-changing world of information communication technology and the ongoing development of technological devices as well as their related software. This is an area in which there is constant innovation and development as the industry attempts to keep up with a globally increasing demand for efficient and effective communication technologies. Currently, digital literacy is considered as one of the main core competencies for learning and life in the 21<sup>st</sup> century. It challenges existing thinking and practice while leading to a more innovative, creative and often transformational learning.

### ***Learning to Learn***

Learning is a continuous process that begins at birth and continues until death; it is the process through which we use our experience to deal with new situations and to develop relationships. As a concept, it involves far more than thinking as it incorporates the whole personality – senses, feelings, intuition, beliefs, values and will. If we do not have the will to learn, we will not learn and if we have learned, we are actually changed in some way. If the learning makes no difference it can have very little significance beyond being random ideas that float through our consciousness.

Learning to learn is the ability to pursue and persist in learning, to organise one's own learning by the effective management of time and information, both individually and in groups. This competence includes awareness of one's learning process and needs, identifying available opportunities, and the ability to overcome obstacles in order to learn successfully. This competence means gaining, processing and assimilating new knowledge and skills as well as seeking and making use of guidance. Learning to learn helps learners to build on prior learning and life experiences in order to use and apply knowledge and skills in a variety of contexts. There are four pillars of learning: Learning to know, learning to do, learning to be and learning to live to live together.

## **Learning Outcomes for Early Years Education**

By the end of early years' education, the learner should be able to:

1. Demonstrate basic literacy and numeracy skills for learning.
2. Communicate appropriately using verbal and/or non-verbal modes in a variety of contexts.
3. Demonstrate appropriate etiquette in social relationships.
4. Apply creativity and critical thinking skills in problem solving.
5. Explore the immediate environment for learning and enjoyment.
6. Practice hygiene, nutrition, sanitation, safety skills to promote health and wellbeing.
7. Demonstrate the acquisition of emotional, physical, spiritual, aesthetic and moral development for balanced living.
8. Demonstrate appreciation of the country's rich and diverse cultural heritage for harmonious co-existence.
9. Apply digital literacy skills for learning and enjoyment.

## GRADE 1

Strand	Sub-Strand	Specific Learning Outcomes knowledge, skills (KSA)	Suggested Learning Experiences (Align to the level of competency descriptors)	Key Inquiry Questions
<b>1.0 Numbers</b>	1.1 Number concept  Lessons:10 of 35 min.	By the end of the sub strand the learners could be able to: <ol style="list-style-type: none"> <li>1) Sort and group objects in the school compound to enable them identify the differences in objects for example according to colour, size</li> <li>2) Learners to pair and match objects in the classroom(S)</li> <li>3) Learners to Order and sequence objects to enable them rank the objects ascendingly and descendingly</li> <li>4) Learners to form number Patterns using objects to enable them recognise digits(S)</li> </ol>	<ol style="list-style-type: none"> <li>a) Learners could be guided to go outside the classroom and collect various types of objects. The teacher should guide on the <b>safety</b> of the objects and determine the range of movement.</li> <li>b) Learners could be guided to sort and group objects with similar attributes together</li> <li>c) Learners could be guided to pair objects into groups (to establish equal, more than, bigger than and less than, smaller than) through modelling. Learners could be guided to order objects according to size from smallest to biggest or vice versa</li> <li>d) Learners could practice forming number patterns and matching with digits</li> <li>e) Learners individually, in pairs or in groups to recite</li> </ol>	<ol style="list-style-type: none"> <li>1. How can you group different objects?</li> <li>2. How can we find out which group has more objects than another?</li> <li>3. How can we arrange objects of different sizes?</li> </ol>

		<p>5) Sign number names up to 10 enable them communicate outside school environment for example while shopping(S)</p> <p>6) Learners to represent numbers 1- 40 using concrete objects(S)</p> <p>7) Learner to demonstrate that a group has only one discrete count(S)</p> <p>8) Learners to appreciate the use of numbers in day to day activities (A)</p>	<p>or sign number names up to 10</p> <p>f) Learners could to represent numbers 1-40 using concrete objects as well as their body parts using sign language and verbalisation</p> <p>g) Learners could demonstrate that any given group has only one distinct count through signing or recite.</p> <p>h) Organise learners in groups and discuss type of litter in the school compound. Let the learners collect appropriate environmental objects, sort it and put it in various groups according to an attribute of their choice. Let them explain how they have done It through signing.</p>	
<p><b>Core-Competence to the developed:</b> <b>Learning to learn</b>-learner acquires the knowledge of numeracy, <b>Communication and collaboration</b>-as learners working groups, they learn to interact with each other, <b>Critical thinking and problem solving</b> - as learners do ordering and do pairing various objects, their imagination is enhanced.</p>				
<p><b>Link to PCIs: Life skills:</b> self-awareness when using body parts to count, <b>Education for sustainable development: safety and security education</b>-as learners pick objects from the environment they learn to keep the environment clean. Guide learners on selecting and handling materials which are safe.</p>		<p><b>Link to values;</b> respect and cooperation.</p>	<p><b>Links to other subjects</b> Environmental activities, Religious activities Science activities.</p>	

<b>Suggested Community Service learning:</b> Count trees in their homestead, assist in collecting litter in their locality and observe as its disposed by their counties.	<b>Non-formal activity to support learning through application:</b> Forming play teams and assigning numbers to them.
	<b>Suggested assessment:</b> observation ,grouping in pairs ,writing

**Suggested resources;** counters, realia, models, video, flash cards,

### Assessment Rubrics

Exceeds expectations	Meets expectations	Approaches expectations	Below expectations
Learner is able to sort, group, pair, match, represent numbers using concrete objects and sign number names from 1-10 with ease, accuracy and speed.  In addition, the learner is able to apply sorting and grouping in day to day activities for example buying things from the market.	Learner is able to sort, group, pair, match represent numbers using concrete objects and sign number names accurately.	Learner is able to sort objects  Learner is able to sign number names from 1-10.	Able to sign numbers but has difficulty in sequencing.

TOPIC	SUB-TOPIC	Specific Learning Outcomes (KSA)	Suggested Learning Experiences (Align to the level of competency descriptors)	Key Inquiry Questions
<b>NUMBERS</b>	<b>1.2 Whole Numbers</b>  <b>NO. OF LESSONS:10 (35 min)</b>	By the end of the sub strand the learners could: <ul style="list-style-type: none"> <li>a. Count 1's forward and backward up to 20 sequentially.</li> <li>b. Using a number line or line fragmentation to count on in patterns.</li> <li>c. Learners to count in 2's up to 20 sequentially.</li> <li>d. Learners to count in 5's up to 40 sequentially for number value.</li> <li>e. Learners to count in 10's up to 40 using counters for number value(K)</li> <li>f. Demonstrate understanding of number sequence 1-40 through signing and/or reciting</li> <li>g. Writing numbers 1-40 in figures sequentially</li> </ul>	<ul style="list-style-type: none"> <li>a) Learners to take turns in counting in 1's forward and backward up to 20 reciting or/ and signing</li> <li>b) Learners in groups /pairs to count using a number line</li> <li>c) Learners to take turns in counting in 2's forward up to 20 using body parts or concrete objects through signing and/or reciting.</li> <li>d) Learners to take turns in counting in 5's forward up to 40</li> <li>e) Learners to take turns in counting in 10's forward up to 40 through signing and or reciting Learners in groups play games of representing numbers 1-40 using concrete objects through signing.</li> <li>f) Learners in pairs to sign and /or recite numbers 1-40</li> <li>g) Learners to practice writing 1-40 in figures</li> <li>h) Learners to practice writing numbers 1-40 in words</li> </ul>	<ul style="list-style-type: none"> <li>1. In how many ways can we count from 1-20?</li> <li>1. How do we count on the number line?</li> </ul>



		<p>h. Writing numbers 1-40 in words sequentially</p> <p>i. Working out missing numbers in number patterns up to 40 to enable the learner identify the number value(K)</p> <p>j. Appreciate use of numbers and number patterns in daily activities(A)</p>	<p>i) Learners in pairs to be guided to come up with patterns with missing numbers up to 40 and share with other groups</p> <p>j) Organise learners to play a game where a group comes up with a pattern with missing numbers and other groups compete on which group can get the correct answer Ask learners to role play a cashier in day to day life activities e.g., a cashier counting money in 5 shilling coins.</p>	
<p><b>Core-Competence to the developed;</b> Communication and collaboration-As learners work in pairs and groups they learn the importance of turn taking, Critical thinking and problem solving and problem solving-as learners fill in the blanks, they engage mental thinking to solve the problems correctly, Creative thinking: Learners engage creativity when forming number patterns</p>				
<p><b>Link to PCIs;_Education for sustainable development:</b> financial literacy- role playing as cashiers and counting money enables learners to have the knowledge of use of money, Safety and security education-Guide learners on selecting and handling materials safely</p>		<p><b>Link to Values:</b> <b>Cooperative ,peaceful and tolerant</b> as they work in groups</p>		<p><b>Links to other subject</b></p> <ol style="list-style-type: none"> <li>1. Environmental activities</li> <li>2. Religious activities</li> </ol>
<p>Suggested Community Service learning; Count number of animals at home in 1,'s 2's,etc.</p> <p><b>Non formal activity to support learning:</b> Playing with signs/verbal counting numbers at home.</p>		<p><b>Suggested assessment:</b> Observation, written tasks</p>		

**Suggested resources;** counters, realia, models, chart demonstrating number line, video

## ASSESSMENT RUBRICS

Exceeds expectations	Meets expectations	Approaches expectations	Below expectation
Able to count numbers forward and backward, represent numbers using concrete objects, sign, write 1-40, work out missing numbers in patterns up to 40 and beyond with ease, accuracy and fast speed	Able to count numbers forward and backward, represent numbers using concrete objects, sign, write 1-40, work out missing numbers in patterns up to 40	Able to count numbers forward and backward, represent numbers using concrete objects, sign, write 1-40, work out missing numbers in patterns up to 40 but with guidance.	Able to count numbers forward but difficulty in counting numbers backward, difficulty in using concrete objects to represent numbers and filling out missing numbers

STRAND	SUB-STRAND	Specific Learning Outcomes knowledge (k), skills (s) and attitude (a)	Suggested learning experiences (align them to the level competency descriptors)	Key Inquiry Questions
<b>NUMBERS</b>	1.3 (a) Addition of whole numbers  1.3(b) Recognizing and identifying number patterns involving addition of whole numbers up to 40	By the end of the sub strand the learner should be able to: a) Put objects together and determine the value(k) b) Learner to apply the usage of + as addition operation symbol in writing number addition sentence in classroom(k) c) Learner to Add a single digit number to a single digit number up to a sum of 10 by using concrete objects in the classroom	a) Learners could go out to collect appropriate objects to assist in the activity of putting together. Learners to work in pairs/groups in putting the objects together b) Learners could be guided on the writing of + and = signs in additional sentences c) Learners could be guided on adding 2 single digit-numbers by skipping on a number line	a) How do you get a total of two separated group of objects? b) How do you use a number line in adding numbers? c) How do you add a 3 single digit numbers d) How do you add a 2 digit number to a 1 digit number? e) How can you get a missing number in an addition pattern?

STRAND	SUB-STRAND	Specific Learning Outcomes knowledge (k), skills (s) and attitude (a)	Suggested learning experiences (align them to the level competency descriptors)	Key Inquiry Questions
		<p>d) Learner to add a 2-digit number to a 1-digit number without regrouping horizontally with a sum not exceeding 40 in the classroom</p> <p>e) Learner to add a 2-digit number to a 1-digit number without regrouping vertically with a sum not exceeding 40 in the classroom</p> <p>f) Learner to add 2-digit number to a 2-digit number without regrouping by putting together and counting to enable the learner to conceptualise addition operation</p> <p>g) Learner to add multiples of 5s , 10s up to 40 as addition operation by counting on</p> <p>h) Learner to work out missing numbers in number patterns involving addition of whole numbers up to 40</p>	<p>d) Learners could add 2 single digit numbers by making a sum of up to 40</p> <p>e) Learners could add 2 single digit to 1 digit numbers by counting on</p> <p>f) Learners could add a 2 digit number to a 2 digit without regrouping vertically with a sum not exceeding 40</p> <p>g) Learners could add multiples 5s, 10s up to a 40 vertically</p> <p>h) Learners could make patterns of numbers involving addition up to 40</p>	

<b>Core-competences to be developed: Communication and collaboration-</b> working in pairs/groups, <b>critical thinking and problem solving:</b> in making a 10 and counting and also in making patterns.	
<b>Link to PCIs : education and sustainable development: environmental education</b> in handling objects, <b>citizenship: social cohesion</b> as they work in pairs and groups	<b>Link to values: Innovativeness, patience, tolerance</b> as they work in groups and making number patterns
<b>Community service</b> – counting various items at home and also in school	<b>Suggested non formal activity to support learning:</b> numbering classroom furniture, doors
<b>Suggested assessment:</b> observation, filling in number patterns, writing number names	
<b>Suggested resources;</b> video, realia, flashcards, counters	

## ASSESSMENT RUBRICS

<b>Exceeds expectation</b>	<b>Meets expectations</b>	<b>Approaches expectations</b>	<b>Below expectations</b>
<p>Learner able to use + sign in writing addition sentence</p> <p>Able to add a single digit number up to a sum of 30</p> <p>Able to add 2-digit number to 1-digit number without regrouping vertically with a sum not exceeding 30</p> <p>Able to write numbers without regrouping horizontally</p> <p>Able to work out missing numbers in patterns involving addition of numbers with ease, accuracy and speed</p>	<p>Learner able to use + sign in writing addition sentence</p> <p>Able to add a single digit number up to a sum of 30</p> <p>Able to add 2-digit number to 1-digit number without regrouping vertically with a sum not exceeding 30</p> <p>Difficulty in writing numbers without regrouping horizontally</p> <p>Able to work out missing numbers in patterns involving addition of numbers</p>	<p>Learner able to use + sign in writing addition sentence</p> <p>Able to add a single digit number up to a sum of 30</p> <p>Difficulty in adding 2-digit number to 1-digit number without regrouping vertically with a sum not exceeding 30</p> <p>Difficulty in writing numbers without regrouping horizontally</p>	<p>Learner able to use + sign in writing addition sentence but has difficulty in adding a single digit number up to a sum of 30</p>

<b>STRAND</b>	<b>SUB-STRAND</b>	<b>Specific Learning Outcome</b>	<b>Suggested Learning Outcomes (aligned to the level competency descriptors)</b>	<b>Key Inquiry Questions</b>
<b>1.0Numbers</b>	<b>1.4 Subtraction</b>	a) Learner to Subtract using concrete objects in class to enable them conceptualise the idea of separation and remainder	a) Learners could play games of subtraction using concrete objects	a) what happens when playing a game and someone loses?

		<p>b) Learner to Use – as a subtraction operation symbol sign</p> <p>c) Learner to Subtract single digit numbers by counting backwards to illustrate separation and remainder in a group</p> <p>d) Learner to Subtract single digit number from single digit number using number line to demonstrate subtraction by counting backwards</p> <p>e) Learner to Subtract up to 2 digit numbers based on basic addition facts board/table to demonstrate relationship between addition and subtraction</p> <p>f) Learner to subtract multiples of 10 up to 40 vertically to illustrate place value alignment in subtraction</p>	<p>b) Learners could be guided go out to play a game involving subtraction then back in class teacher uses same to introduce minus sign</p> <p>c) In pairs learners could come up with different modes/ways of subtracting single digit numbers then the teacher harmonizes by introducing subtraction by counting backwards</p> <p>d) Learners could come up with signs on how to skip on number line as a mode of subtraction (relating to previous related addition activity)</p> <p>e) Learners could solve routine and non-routine problems involving subtraction of up to 2 digit numbers based on basic addition facts Learners could formulate questions relating to subtraction within basic addition facts with support of the teacher through signing</p>	<p>b) What activities can we do to demonstrate subtractions?</p> <p>c) How can we workout the following questions?</p> <p>d) How can we skip on number line to demonstrate take away(subtraction)?</p> <p>e) How can we solve the following problems? For example <math>12 - 4 =</math> (non routine) or I have 12 pencils, I give Mary 4 pencils. How many am I left with?(routine)</p> <p>f) Which other mathematical sentences can we develop from for example. <math>11 - 4 = ?</math></p>
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		<p>g) Learner to use number pattern up to 40 by counting backwards to illustrate relationship between addition and subtraction using multiples of 5s and 10s in classroom</p> <p>h) Learner to appreciate the importance of subtraction in day today activities</p>	<p>f) Learners use tablets in or outside class to workout subtraction of multiples of 10 up to 40 outdoor activity – in absence of tablets so that learners can bundle appropriate counters and other resources</p> <p>g) Learners in groups/pairs create meaningful subtraction patterns (using prior knowledge in addition patterns)</p> <p>h) Learners to role play in the classroom model shop on buying and money balance.</p>	<p>h) How can we develop a takeaway pattern (relating to addition done?)</p>
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**Core Competences;** Communication and collaboration-enhanced as they work in groups and during role play and turn taking, Digital literacy-as they manipulate tablets to work out subtraction problems, Creativity and imagination-is enhanced time learners create subtraction patterns, Citizenship –as they assign themselves roles and appreciate the input of one another.

**Links to other subjects:** Environmental Activities, Languages, Religious.

**Link to other values:** collaboration, unity, love.

<b>Links to PCI's: Citizenship;</b> social cohesion-living with one another peacefully and cooperatively, Learner support programmes: as they work in groups peer education also takes place.	
<b>Suggested community service learning;</b> Collect litter from environment, Remove unsafe objects from environment during learning activity.	<b>non formal activity support learning through application:</b> removing broken furniture from classrooms and staffroom
<b>Suggested resources</b> Tablets (computers), realia ,counters ,flash cards.	Suggested assessment: observation,written tasks

### Assessment Rubrics

<b>Exceeds Expectations</b>	<b>Meets Expectations</b>	<b>Approaching Expectations</b>	<b>Below Expectations</b>
Able to correctly Subtract using concrete objects, use subtraction sign (-) to write subtraction sentences, subtract single digit numbers, subtracts of up to two digit numbers based on basic addition facts, relates addition and subtraction involving basis addition facts, subtracts multiples of 10 from up to 40 and number patterns up to 40 and beyond with ease ,accuracy and speed	Able to Correctly, subtracts using concrete objects, subtracts using concrete objects, use subtraction sign (- ) to write subtraction sentences, subtract single digit numbers, subtracts of up to two digit numbers based on basic addition facts, relates addition and subtraction involving basis addition facts, subtracts multiples of 10 from up to 40 and number patterns up to 40	Inconsistently, subtracts using concrete, subtracts using concrete objects, use subtraction sign (-) to write subtraction sentences, subtract single digit numbers, subtracts of up to two digit numbers based on basic addition facts, relates addition and subtraction involving basis addition facts, subtracts multiples of 10 from up to 40 and number patterns up to 40	Major inaccuracies in subtracting using concrete objects, difficulty to use subtraction sign (-) to write subtraction sentences, subtract single digit numbers, subtracts of up to two digit number based on basic addition facts.



<b>STRAND</b>	<b>SUB-STRAND</b>	<b>Specific Learning Outcomes knowledge (k), skills (s) and attitude (a)</b>	<b>Suggested learning experiences (align them to the level competency descriptors)</b>	<b>Key Inquiry Questions</b>
<b>1.0 Measurement</b>	<b>2.1 Length</b>  <b>Suggested number of lessons: 8, 35 min</b>	<ul style="list-style-type: none"> <li>a) By the end of the strand the learner could; compare lengths of objects directly to determine shorter than, longer than, taller than. (k)</li> <li>b) Conserve length through orientation in the classroom(s)</li> <li>c) Measure lengths of various objects using arbitrary units of length for ranking (k)</li> <li>d) Appreciate measurement using arbitrary units in their daily activities.(A)</li> </ul>	<ul style="list-style-type: none"> <li>a) Learners could collect safe objects to be used in direct comparison of length for example books, pencil, sticks and others</li> <li>b) Learners could work in pairs/groups to compare objects directly to identify objects which are longer than, shorter than or taller than, same as through signing</li> <li>c) Learners could be involved in placing objects of equal length in different positions and describe them using words such as same as, equal to through signing</li> <li>d) Learners could measure the chalkboard in pairs/groups using</li> </ul>	<ul style="list-style-type: none"> <li>a) How do you compare the length of two objects?</li> <li>b) Which objects can be used to measure the length of the teacher's table?</li> </ul>

			<p>various objects for example books, pencils, sticks etc. Learners could discuss about the results from various groups through signing</p>	
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<p><b>Core-competencies to be developed:</b></p> <ul style="list-style-type: none"> <li>• <b>Communication and collaboration:</b> is enhanced as they work in pairs or groups</li> <li>• <b>Imagination and creativity</b> – during direct comparison of objects</li> <li>• <b>Critical thinking and problem solving</b>-measuring length of objects using arbitrary units</li> <li>• <b>Self-efficacy</b> -groups work brings self-esteem</li> </ul>	
<p><b>PCI's and Values</b></p> <ul style="list-style-type: none"> <li>• <b>Education for sustainable development</b>-size of safe materials avoid littering the compound after group's activities <ul style="list-style-type: none"> <li>○ reusing materials for example in measuring objects using used objects for example. old</li> </ul> </li> <li>• <b>Citizenship</b>-working in groups creates honesty, cohesion</li> <li>• <b>Life skills</b> -working in groups</li> <li>• <b>Parental engagement and service learning</b> -parental support as they will be planting trees at home</li> </ul>	<p><b>Links to values:</b> creative, reliable and consistent</p>

<b>Links to other subjects:</b> Environmental activities planting of trees in the environment, <b>Language activities</b> (language is used in groups/pairs)	<b>Suggested Community Service Learning activities</b> Planting trees /flowers using a stick to determine the distance between each seedling in religious institutions, dispensaries
<b>Suggested non formal activity to support learning:</b> Collecting tin, packets, bottles for measuring.	<b>Suggested assessment:</b> observation, giving written and practical assignment

### Suggested resources

Realia, sticks ,ruler ,books pencils

### Assessment Rubrics

<b>Exceeds Expectations</b>	<b>Meets Expectations</b>	<b>Approaches Expectations</b>	<b>Below Expectations</b>
Learner able to identify arbitrary units of measurements of lengths, Compare length directly, conserve length and measure length using arbitrary units and beyond	Learner correctly compare length directly, conserve length and measure length using arbitrary units	Learner inconsistently compare length directly, conserve length and measure length using arbitrary units	Learner able to identify arbitrary units of measurements of length but experiences inaccuracies comparing length directly, conserve length and measure length using arbitrary units

STRAND	SUB-STRAND	Specific Learning Outcomes knowledge (k), skills (s) and attitude (a)	Suggested learning experiences (align them to the level competency descriptors)	Key Inquiry Questions
2.0 MEASUREMENT	2.2 Mass  6 Lessons, 35 min	By the end of the sub strand the learner could be able to; a) Directly compare mass to determine lighter than, heavier than and same as b) Conserve mass in classroom c) Measure mass using arbitrary units of weight for comparison d) Appreciate the importance of using mass in our daily activities. (A)	a) Learners could collect appropriate size of safe materials to use in the activity of comparing mass  b) Learners could work in pairs/groups with the materials collected to identify which one are: - Lighter than the other - Same as the other - Heavier than the other  c) Learner could Use two objects of equal mass; the learner changes the form of one of them severally to show that the change of form does not change mass.	a) How can you compare the mass of two or more objects? b) What do you do to show that form does not change mass? c) How can you show one or more objects are heavier than same as, lighter than your math textbook?

STRAND	SUB-STRAND	Specific Learning Outcomes knowledge (k), skills (s) and attitude (a)	Suggested learning experiences (align them to the level competency descriptors)	Key Inquiry Questions
			<p>d) Learners could work in pairs/groups using same materials. Each group select a different material to use for comparing the mass of the others. The teacher would guide pupils on recording differed results.</p>	
<p><b>Core Competencies to be developed:</b></p> <ul style="list-style-type: none"> <li>• Communication and collaboration- as they work in group work</li> <li>• Critical thinking and problem solving-as learners estimate and measure using arbitrary units</li> <li>• Self-efficacy – self-esteem is enhanced as they work individually and in groups.</li> </ul>				
<p><b>Link to PCIs:</b></p> <ul style="list-style-type: none"> <li>• Learner support programmes: there’s peer education as they work in groups and learn from one another</li> <li>• Health education –as they measure each others weight and height, appropriate size of materials</li> <li>• Citizenship – honesty and social cohesion as they work together. respect to teacher.</li> </ul>			<p><b>Link to values:</b> tolerance, imaginative and optimism</p>	

<b>Link to other subjects:</b> <ul style="list-style-type: none"> <li>• Environmental activities</li> <li>• Languages</li> </ul>	<b>Community Service</b> Helping in carrying light items e.g. seeds, water, and manure in community service.
<b>Suggested non formal activities to support learning:</b> learners to measure height and weight of other members of the school.	<b>Suggested assessment:</b> observation, individual and group projects.

### Suggested resources

Realia(small stones, books, seeds, duster), beam balance(modified)

### Assessment Rubrics

Exceeding Expectation	Meeting Expectations	Approaching Expectations	Below Expectations
Able to compare mass directly, conserve mass through manipulation, measure mass using arbitrary units In addition learner is able to apply the use of mass in day to day life.	Able to compare mass directly, conserve mass through manipulation, measure mass using arbitrary units.	Inconsistently compare mass directly and difficulty to measure mass using arbitrary units.	Experiences major inaccuracies in comparing mass directly and difficulty in measuring mass using arbitrary units.

STRAND	SUB-STRAND	Specific Learning Outcomes knowledge (k), skills (s) and attitude (a)	Suggested learning experiences (align them to the level competency descriptors)	Key Inquiry Questions
<b>2.0 MEASUREMENT</b>	<b>2.3 Capacity</b>  <b>Suggested number of lessons: 8, 35 min</b>	By the end of the strand the learners could be able to; <ul style="list-style-type: none"> <li>a) Directly compare capacity to determine more than, equal and less than</li> </ul>	<ul style="list-style-type: none"> <li>a) Learners could collect safe containers to be used in direct comparison of capacity</li> <li>b) Learners could be guided to empty and</li> </ul>	<ul style="list-style-type: none"> <li>d) Which container holds full and which holds half full?</li> <li>e) which container holds the same</li> </ul>

STRAND	SUB-STRAND	Specific Learning Outcomes knowledge (k), skills (s) and attitude (a)	Suggested learning experiences (align them to the level competency descriptors)	Key Inquiry Questions
		<ul style="list-style-type: none"> <li>b) Conserve capacity in the classroom</li> <li>c) Measure capacity using arbitrary units of measuring quantities for comparison</li> <li>d) Appreciate the importance of capacity in day to day activities(A)</li> </ul>	<ul style="list-style-type: none"> <li>fill water in different containers to establish which holds more, which holds less and which holds the same through signing</li> <li>c) Learners could be encouraged to identify and compare containers which holds more, which holds less, which holds same through signing</li> </ul> <p>Learners could be encouraged to fill water in containers of various shapes and sizes and empty into others so as to note that the shape of a container doesn't affect capacity(conservation)</p> <p>Learners could be given same amount of water, a basin and different small containers to fill the basin and asked how</p>	<p>amount of water?</p> <ul style="list-style-type: none"> <li>f) What different containers can we use to measure capacity?</li> </ul>

STRAND	SUB-STRAND	Specific Learning Outcomes knowledge (k), skills (s) and attitude (a)	Suggested learning experiences (align them to the level competency descriptors)	Key Inquiry Questions
			<p>many containers they used to fill the basin</p> <p>d) Learners could role play buying and selling of liquids filled in varied containers of different capacities</p>	

<p><b>Core Competencies to be developed:</b></p> <ul style="list-style-type: none"> <li>• Critical thinking and problem solving – when learners use arbitrary units to measure capacities they engage their minds.</li> <li>• Communication and collaboration as they work in groups</li> <li>• Imagination and creativity as they collect and use different containers</li> <li>• Citizenship as they act ethically and responsibly in their groups</li> <li>• Self-efficacy – learners develop self-esteem as they work in groups</li> </ul>	
<p><b>Link to PCIs</b></p> <ul style="list-style-type: none"> <li>• Health education. as learners collect safe and appropriate containers to measure capacities.</li> <li>• Education for sustainable development: as learners re use containers they used in measuring capacity.</li> <li>• Service learning and parent engagement as learners engage in groups.</li> </ul>	<p><b>Link to values:</b> consistency, honesty and efficiency.</p>
<p><b>Suggested non formal activity to support learning:</b> filling in various containers of varied capacities and shapes with water in class.</p>	<p><b>Link to other subjects:</b> Languages Nutrition and hygiene</p>
<p><b>Suggested Community Service:</b></p>	<p><b>Suggested assessment:</b> Observation, practical and written assignment.</p>



Learners should water trees and flowers around the school, religious institutions, health centres and at home.	
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**Suggested resources;** basin, water, bottles, measuring jars.

**Assessment Rubrics**

<b>Exceeds Expectations</b>	<b>Meets Expectations</b>	<b>Approaches Expectations</b>	<b>Below Expectations</b>
<p>Learners able to directly compare capacity using more than, less than, same as, and conserve capacities using containers of various shapes and sizes.</p> <p>Measure capacity using arbitrary units correctly and beyond.</p> <p>In addition learner applies acquired knowledge in day today life for example buying milk from the shop, carrying water to school with appropriate containers.</p>	<p>Able to directly compare capacity using more, less or same as, conserve capacity using and different shapes and sizes, measure capacity using arbitrary units correctly.</p>	<p>Inconsistently compares capacity using more, less or same as, conserve capacity using different shapes and sizes and inconsistently measure capacity using arbitrary units.</p>	<p>Has major inaccuracies in comparison of capacity using more, less or same as conserving capacity using different shapes and sizes. Measuring capacity using arbitrary units.</p>

STRAND	SUB-STRAND	Specific Learning Outcomes knowledge (k), skills (s) and attitude (a)	Suggested learning experiences (align them to the level competency descriptors)	Key Inquiry Questions
2.0 MEASUREMENT	2.4 Time  Suggested number of lessons: 6, 35 min	By the end of the lesson the learner could be able to: a) Relate daily activities to time to demonstrate time management. b) Relate days of the week with various activities and life routine. c) Sign or recite days of the week and months of the year to enable them associate various seasons and activities with their timings. d) Learner to appreciate the importance of time management.(A)	a) In pairs/groups learners could be guided in identifying activities they do in the morning, afternoon and evening both at home and school through signing. b) Learners could sign sing /sing songs/ rhymes related to days of the week In pairs/groups learners to be guided in identifying activities that takes place during the days of the week through signing. c) Learners could sign /recite poems in pairs/groups related to months of the year. d) In pairs learners could make a daily routine roster in the class and use it appropriately.	a) What do you do in the morning, afternoon and evening? b) Which day of the week do you raise the school flag? c) Which day of the week do you worship? d) when is your birthday?

**Core competence to be developed:**

- Communication and collaboration as they discuss and work in groups. They also collaborate with the teacher when following instruction

➤ Self-efficacy: this boosts their self-esteem and confidence as they discuss in groups and present responses in their work books	
<b>Links to PCIs and values</b> <ul style="list-style-type: none"> <li>➤ Health education – brushing teeth, washing face, sleeping, meals</li> <li>➤ Learner support programmes: peer education as they peer mentor each other in time management</li> </ul>	<b>Link to values:</b> hardworking, honesty, reliability, nurturing
<b>Links to other subjects;</b> <ul style="list-style-type: none"> <li>➤ Language activities in discussion</li> <li>➤ Religious activities – days of worship</li> </ul>	<b>Suggested community service learning activities to support learning through application:</b> <ul style="list-style-type: none"> <li>➤ Sweeping religious institutions during weekends</li> <li>➤ Visiting/helping the needy during school holidays</li> <li>➤ Participating in religious activities in their community</li> </ul>
<b>Suggested non formal activity to support learning ;</b> observing family members at home on their schedules	<b>Suggested assessment:</b> observation, and practical assignments on time reading

**Suggested resources;** realia (watches, clocks ,calendars), videos

### Assessment Rubrics

<b>Exceeds expectations</b>	<b>Meets expectations</b>	<b>Approachoes expectations</b>	<b>Below expectations</b>
Learner able to relate various daily activities to time and days of the week. Able to sign accurately days of the week and months of the year in a sequential order	Able to relate various daily activities to time and days of the week but has difficulty signing days of the week and months of the year in a sequential order	Difficulty in relating various daily activities to time and days of the week but has difficulty signing days of the week and months of the year in a sequential order	Difficulty in signing days of the week and months of the year Challenges in relating various daily activities to time and days of the week

<b>STRAND</b>	<b>SUB-STRAND</b>	<b>Specific Learning Outcomes knowledge (k), skills (s) and attitude (a)</b>	<b>Suggested learning experiences (align them to the level competency descriptors)</b>	<b>Key Inquiry Questions</b>
<b>2.0 MEASUREMENT</b>	<b>2.5 Money</b>  <b>Suggested number of lessons: 6</b>	By the end of the sub strand the learner could be able to: a) Recognise and identify Kenyan currency of various denominations [coins and notes] up to ksh.50 in order to demonstrate buying and selling. (k) b) Relate values of money to goods and services up to ksh.50. c) Learner to differentiate between needs and wants to enable them prioritize. d) Learner to appreciate the importance of money in creating demands and services.	a) In pairs/groups individual learners could sort out Kenyan currency notes and coins up to ksh.50 (different coins for sh.1) (copper, silver (smaller and bigger) sh.5 (pentagon, silver Sh.10 – 1 Sh.20 – 1 Sh.40 – 1 Sh.50 note b) Learners put coins together according to their value and the sh.50 note separately Learners and the teacher could discuss the value of items in the classroom shop up to ksh.50. c) In pairs/groups through teacher’s guidance learners could practices own experiences in relation to shopping activities.	How do you differentiate coins?  Which coins have less value?  How do we use money?  Where do we use money?

STRAND	SUB-STRAND	Specific Learning Outcomes knowledge (k), skills (s) and attitude (a)	Suggested learning experiences (align them to the level competency descriptors)	Key Inquiry Questions
			<p>learners could also discuss items or things they cannot do without and those that are necessary but they can do without them through signing individually or in groups learners could classify needs and wants</p> <p>d) Learners could role play buying and selling items from a model classroom shop</p>	

<p><b>Core competencies to be developed;</b></p> <ul style="list-style-type: none"> <li>➤ Communication and collaboration –is enhanced as they interact during group work</li> <li>➤ Citizenship-appreciate the value of money as a national currency in buying and selling.</li> </ul>	
<p><b>Link to PCIs:</b> Citizenship- they become patriotic in the use of national currency</p>	<p><b>Link to values;</b> Patriotism ,harmonious, commitment, hardworking.</p>
<p><b>Suggested community service learning:</b> learner doing family shopping</p>	<p><b>Link to other subjects;</b></p> <ul style="list-style-type: none"> <li>➤ Languages</li> </ul>

<b>Suggested non formal activity to support learning;</b> Doing family shopping, spending on transport fares while travels to and from schools	<b>Suggested assessment;</b> Construction and stocking model classroom shop and attaching respective prices,

### Assessment Rubrics

Exceeds expectations	Meet expectations	Approaching expectations	Below expectations
Learner able to recognise notes and coins currency and use it buy goods.	Recognises currency and able to use it.	Difficulty in relating to various currency.	Has challenges recognising money.

TOPIC	SUB-TOPIC	Specific Learning Outcomes (ensure you cover knowledge (k), skills (s) and attitudes (a))	Suggested Learning Experiences ( align to the level competency descriptors)	Key Inquiry Question(s)
3.0GEOMETRY				
	<b>3.1 Lines</b>	<ul style="list-style-type: none"> <li>a) Learner to form straight and curved lines concretely to enable them apply the concept in drawing of various lines.</li> <li>b) Learners to draw straight lines to apply knowledge already acquired</li> <li>c) Learners to draw curved lines on various media to</li> </ul>	<ul style="list-style-type: none"> <li>a) The learners could be asked to stand two points on the behind one another as they face the same side. The learners could sign what they have formed. Learner could be guided to model using plasticise or clay. they could model straight and curved lines</li> </ul>	<ul style="list-style-type: none"> <li>What types of lines do you know ?</li> <li>How do we form lines?</li> <li>Where have you seen arrangement of objects in either straight or curved lines?</li> </ul>

		<p>apply knowledge already acquired</p> <p>d) Learners to differentiate between straight and curved lines in various physical structures</p> <p>e) Learner to appreciate the use of straight and curved lines in day to day activities.</p>	<p>using strings or by holding their hands.</p> <p>a)</p> <p>b) Learners in pairs or groups could mark two points on the ground and then draw a line joining the two points using a stick to come up with a straight line. Teacher to explain the safety as they draw the lines. Learners practice drawing straight lines on the ground</p> <p>c) Learners in groups could form a semi-circle and one of them to draw a line along the semi-circle formed. Teacher explains this shape as a curved line. Learners practice drawing curved lines on the ground.</p> <p>d) Learners could draw the two lines then do comparison. They could also observe various physical structures.</p> <p>e) Learners could observe and identify structures in</p>	
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			the school compound with straight and curved lines for example[eg assembly formation, paths, classroom corners, the helm of the buildings' roofs].	
<p><b>Core-Competence to be developed:</b></p> <ul style="list-style-type: none"> <li>➤ Communication and collaboration; as learners form lines they enhance their communication skills and develop turn taking skills thus inculcate unity</li> </ul> <p>Self-efficacy :self-esteem is enhanced as learners draw straight and curved lines and get positive feedback from peers</p>				
<p><b>Link to PCIs: ESD</b> Safety they use sticks to draw</p>			<p><b>Links to other subject(s):</b> 1) Music and movement</p>	
<p><b>Suggested Community Service Learning :</b>Learners could visit a local church and assist in arranging seats in straight or curved lines</p>			<p><b>Link to values:</b> Peace, integrity and respect</p>	
			<p><b>Suggested non-Formal Activity to support learning through application</b> Formation of straight and curved lines in the school assembly</p>	
<p><b>Suggested Resources;</b> Sticks, chairs, videos</p>			<p><b>Suggested assessment:</b> observation, drawing</p>	



## Assessment Rubrics

Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Correctly draws straight and curved lines and beyond	Correctly draws straight and curved lines	Inaccurately draws straight and curved lines	Major inaccuracies in drawing straight and curved lines

STRAND	SUB-STRAND	Specific Learning Outcomes (ensure you cover knowledge (k), skills (s) and attitudes (a))	Suggested Learning Experiences (align to the level competency descriptors)	Key Inquiry Question(s)
3.0 GEOMETRY	1.2 Shapes			
	Suggested number of lessons: 6, 35 min	<p>By the end of the sub-strand the learner could be able to:</p> <ul style="list-style-type: none"> <li>a) Observe various shapes in order to identify rectangles, circles and triangles (k)</li> <li>b) Differentiate between rectangles, circles and triangles to enable them draw appropriate shapes in their classroom tasks.</li> <li>c) Model patterns involving rectangles, circles and triangles.</li> <li>d) Appreciate the beauty of patterns.</li> </ul>	<ul style="list-style-type: none"> <li>a) The learners could be asked to sort and group shapes using one attribute.</li> <li>b) Learners in pairs /groups could discuss the properties of various shapes in their groups. Teacher could discuss the properties further and give names of the shapes.</li> <li>c) Learners working individually to make patterns of their choice using the three shapes.</li> <li>d) Learners individually and /or in groups make patterns, colour them and share with other groups.</li> </ul>	What shapes can you identify in your school?

	<b>Core-Competence to be developed:</b> Communication and collaboration; as learners discuss how to make patterns	
	<b>Link to PCIs:</b> Safety as they pick objects to trace and colour the patterns	<b>Link to values:</b> peace, respect and responsibility
	<b>Suggested Community Service Learning:</b> Learners could visit pre - school and decorate the walls using patterns drawn on manila paper.	<b>Links to other subject(s):</b> ➤ Movement and creative activities ➤ Environmental activities
		<b>Suggested non-formal Activity to support learning through application</b>  Tree planting in the school compound and at home.
<b>Suggested Resources;</b> Manila paper, crayons or paint, video, models	<b>Suggested assessment:</b> observation, drawing	

### Rubrics Assessment

<b>Exceeds Expectations</b>	<b>Meets Expectations</b>	<b>Approaches Expectations</b>	<b>Below Expectations</b>
Correctly identified shapes and makes patterns using rectangles, circles and triangles and beyond	Correctly identifies shapes and makes patterns using rectangles, circles and triangles	Inaccurately identifies shapes and makes patterns using rectangles, circles and triangles	Major inaccuracies in identification of shapes and making patterns using rectangles, circles and triangles