



REPUBLIC OF KENYA

LOWER PRIMARY LEVEL CURRICULUM DESIGNS

**MATHEMATICS ACTIVITIES GRADE 3
FOR
LEARNERS WITH HEARING IMPAIRMENT**



KENYA INSTITUTE OF CURRICULUM EDUCATION

A Skilled and Ethical Society

2024

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FOREWORD

The Government of Kenya is committed to ensuring that policy objectives for Education, Training and Research meet the aspirations of the Constitution of Kenya 2010, the Kenya Vision 2030, National Curriculum Policy 2019, the United Nations Sustainable Development Goals (SDGs) and the Regional and Global conventions to which Kenya is a signatory. Towards achieving the mission of Basic Education, the Ministry of Education (MoE) has successfully and progressively rolled out the implementation of the Competency Based Curriculum (CBC) at Pre-Primary, Primary and Junior School levels.

The implementation of Competency Based Curriculum involves monitoring and evaluation to determine its success. After the five-year implementation cycle, a summative evaluation of the primary education cycle was undertaken to establish the achievement of learning outcomes as envisaged in the Basic Education Curriculum Framework. The Government of Kenya constituted a Presidential working Party on Education Reforms (PWPER) in 2022 to address salient issues affecting the education sector. PWPER made far reaching recommendations for basic education that necessitated curriculum review. The recommendations of the PWPER, monitoring reports, summative evaluation, feedback from curriculum implementers and other stakeholders led to rationalisation and review of the basic education curriculum.

The reviewed Grade one curriculum designs for learners with Hearing Impairments build on competencies attained by learners at Pre-primary level. Emphasis at this grade is the development of basic literacy, numeracy and skills for interaction with the environment.

The curriculum designs present National Goals of Education, essence statements, general and specific expected learning outcomes for the subjects as well as strands and sub strands. The designs also outline suggested learning experiences, key inquiry questions, core competencies, Pertinent and Contemporary Issues (PCIs), values, and assessment rubric.

It is my hope that all Government agencies and other stakeholders in Education will use the designs to plan for effective and efficient implementation of the CBC.

HON. EZEKIEL OMBAKI MACHOGU, CBS
CABINET SECRETARY,
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PREFACE

The Ministry of Education (MoE) nationally implemented Competency Based Curriculum (CBC) in 2019. Grade one is the first grade of Primary education level while Grade 6 is the final grade of the level in the reformed education structure.

The reviewed Grade two curriculum furthers implementation of the CBC from Pre Primary level. The curriculum provides opportunities for learners to focus in a field of their choice to form a foundation for further education and training and/or gain employable skills. This is very critical in the realisation of the Vision and Mission of the on-going curriculum reforms as enshrined in the Sessional Paper No. I of 2019 whose title is: Towards Realizing Quality, Relevant and Inclusive Education and Training for Sustainable Development in Kenya. The Sessional Paper explains the shift from a content-focused curriculum to a focus on **nurturing every learner's potential**.

Therefore, the Grade two curriculum designs for learners with Hearing Impairments are intended to enhance the learners' development in the CBC core competencies, namely: Communication and Collaboration, Critical Thinking and Problem Solving, Creativity and Imagination, Citizenship, Digital Literacy, learning to Learn and Self-efficacy.

The curriculum designs provide suggestions for interactive and differentiated learning experiences linked to the various sub strands and the other aspects of the CBC. They also offer several suggested learning resources and a variety of assessment techniques. It is expected that the designs will guide teachers to effectively facilitate learners to attain the expected learning outcomes for Grade one and prepare them for smooth transition to Grade two. Furthermore, it is my hope that teachers will use the adapted designs to make learning interesting, exciting and enjoyable.

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ACKNOWLEDGEMENT

The Kenya Institute of Curriculum Development (KICD) Act Number 4 of 2013 (Revised 2019) mandates the Institute to develop and review (SNE adapt) curricula and curriculum support materials for basic and tertiary education and training. The curriculum development process for any level of education involves thorough research, international benchmarking and robust stakeholder engagement. Through a systematic and consultative process, the KICD conceptualised the Competency Based Curriculum (CBC) as captured in the Basic Education Curriculum Framework (BECF) 2017, that responds to the demands of the 21st Century and the aspirations captured in the Constitution of Kenya 2010, the Kenya Vision 2030, East African Community Protocol, International Bureau of Education Guidelines and the United Nations Sustainable Development Goals (SDGs).

KICD receives its funding from the Government of Kenya to facilitate successful achievement of the stipulated mandate and implementation of the Government and Sector (Ministry of Education (MoE) plans. The Institute also receives support from development partners targeting specific programmes. The revised Grade one curriculum designs for learners with Hearing Impairments were developed and adapted with the support of the World Bank through the Kenya Primary Education Equity in Learning Programme (KPEELP); a project coordinated by MoE. Therefore, the Institute is very grateful for the support of the Government of Kenya, through the MoE and the development partners for policy, resource and logistical support. Specifically, special thanks to the Cabinet Secretary-MoE and the Principal Secretary – State Department of Basic Education,

I also wish to acknowledge the KICD curriculum developers and other staff, all teachers, educators who took part as panelists; the Semi-Autonomous Government Agencies (SAGAs) and representatives of various stakeholders for their roles in the development and adaptation of the Grade one curriculum designs for learners with Hearing Impairments. In relation to this, I acknowledge the support of the Chief Executive Officers of the Teachers Service Commission (TSC) and the Kenya National Examinations Council (KNEC) for their support in the process of developing and adapting these designs. Finally, I am very grateful to the KICD Council Chairperson and other members of the Council for very consistent guidance in the process.

I assure all teachers, parents and other stakeholders that this curriculum design will effectively guide the implementation of the CBC at Grade one and preparation of learners with Hearing Impairments for transition to Grade two.

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NATIONAL GOALS OF EDUCATION

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 to acquire a sense of nationhood and patriotism. It should also promote peace and mutual respect for harmonious coexistence.

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 community and national 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 provide the learner with necessary competences for technological and industrial development in tandem with changing 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 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 learners with special educational needs and disabilities. Education should also provide the learner with opportunities for shared responsibility and accountability through 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 therefore enable the learner to respect, appreciate and participate in the opportunities within the international community. Education should also facilitate the learner to operate within the international community with full knowledge of the obligations, responsibilities, rights and benefits that this membership entails.

8. Good health and environmental protection

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

LEARNING AREAS TIME ALLOCATION

S/ No.	Learning Area	Lesson
1	Mathematical Activities for Learners with Hearing Impairment	5
2	English Language Activities for Learners with Hearing Impairment	5
3	Environmental Activities for Learners with Hearing Impairment	4
4	Creative Activities for Learners with Hearing Impairment	7
5	Religious Education Activities	3
6	Kiswahili language activities for Learners with Hearing Impairment	4
7	Kenyan Sign Language Activities	2
8.	Pastoral/ Religious Instruction Programme	1
	Total	31

LEVEL LEARNING OUTCOMES

By the end of Primary education level, the learner with visual impairment should be able to:

- a) demonstrate basic literacy and numeracy skills for learning,
- b) communicate appropriately using verbal and/or non-verbal modes in a variety of contexts,
- c) demonstrate appropriate etiquette in social relationships,
- d) apply creativity and critical thinking skills in problem solving,
- e) explore the immediate environment for learning and enjoyment,
- f) practice hygiene, nutrition, sanitation, safety skills 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 coexistence,
- i) apply digital literacy skills for learning and enjoyment.

ESSENCE STATEMENT

Mathematics is a learning area that involves computation in numbers and arithmetic, shapes, spatial relations and information processing in the form of data. It is a vehicle of development and improvement of a country's economic development. By learning mathematics, learners develop an understanding of numbers, logical thinking skills and problem-solving skills. Mathematics is applied in business, social and political worlds. At this level mathematics will build on the competencies acquired by the learner in the early years of education. Further, this design has been adapted to ensure that learners who are Deaf and those with Hard of Hearing learn effectively. The adaptations include suggestions for provision of sign interpretation on aspects that require use of sound, use of digital devices with assistive technology, use of visual aids such as charts, maps and diagrams, use of hands-on activities, guided demonstrations, purposeful pairing and use of adapted learning resources. The design has also incorporated alternative learning outcomes and activities to enhance the acquisition of sign language vocabulary to learners with Hearing Impairments.

SUBJECT GENERAL LEARNING OUTCOMES

- a) demonstrate mastery of number concepts by working out problems in day to day life,
- b) apply measurement skills to find solutions to problems in a variety of contexts,
- c) describe properties of geometrical shapes and spatial relationships in real life experiences.

SUMMARY OF STRANDS AND SUB-STRANDS

Strands	Sub Strands	Suggested Number of Lessons
1.0 Numbers	1.1 Number Concept	8
	1.2 Whole Numbers	20
	1.3 Addition	25
	1.4 Subtraction	20
	1.5 Multiplication	10
	1.6 Division	8
	1.7 Fractions	10
2.0 Measurements	2.1 Length	6
	2.2 Mass	6
	2.3 Capacity	8
	2.4 Time	10
	2.5 Money	10
3.0 Geometry	3.1 Position and Direction	5
	3.2 Shapes	4
Total Number of Lessons		150

STRAND 1.0 NUMBER

Strand	Sub-strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
<p style="text-align: center;">1.0 NUMBER</p>	<p>1.1 Number Concept (8 lessons)</p>	<p>By the end of the sub-strand, the learner should be able to:</p> <ul style="list-style-type: none"> a) sign words related to order of objects, b) order objects according to size, c) identify position of objects from 1st to 20th, d) write the position of objects in number symbols and in words, e) appreciate use of position items in real life situations. 	<ul style="list-style-type: none"> ● In pairs or groups, fingerspell, sign read and write words related to order of objects such as small, smallest, large, largest. ● In pairs or groups, learners are guided to watch signed videos, illustrations and charts of objects then discuss and arrange real objects collected from the environment according to size starting with the smallest to the largest and also from the largest to the smallest. ● In pairs or groups, learners are guided to fingerspell and sign positions of objects from a reference point. i.e., 1st, 2nd up to 20th. ● In pairs or groups, learners are guided to identify the position of an object from a reference point using 1st, 2nd up to 20th. ● Learners in groups to fingerspell and sign read and write positions of objects from a reference point 	<p>How do we tell our positions in a competition?</p>

			<p>in words i.e. 1st (first), 2nd (second) etc. up to 20th (Twentieth)</p> <ul style="list-style-type: none"> ● In pairs or groups, learners are guided to watch signed videos/captions/charts/illustrations on word positions of numbers. ● In pairs or groups, learners are guided to run for a distance and each to be assigned the correct position using the words first, second up to Twentieth position depending on when they finish the race. Write their positions in the race in symbols and in words. ● In pairs or groups, learners are guided to relate numbers 1 –20 to positions first, second up to 20th and relate to real life situations. For example, birth number in a family; 1st born, 2nd born etc. ● In pairs or groups, learners are guided to watch signed or captioned videos of family members and athletes and make notes on their positions. 	
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			<ul style="list-style-type: none"> Learners to play digital games involving position 1st -20th. 	
<p>Core-Competencies to be developed:</p> <ul style="list-style-type: none"> Communication and collaboration: Teamwork skills as the learners actively contribute to group decision making in pairs or in groups, discuss and arrange real objects collected from the environment according to size. Creativity and Imagination: Making observations as the learner identifies the position of an object from a reference point using 1st, 2nd up to 20th. Digital literacy: Interacting with digital technology as the learner plays games using digital devices with assistive technology. 				
<p>Values:</p> <p>Integrity: Transparency as Learners in groups run for a distance and each to be assigned the correct position using the words first, second up to Twentieth position depending on when they finish the race.</p>				
<p>Pertinent and Contemporary Issues (PCIs):</p> <p>Self-awareness: As learners participate in a race.</p>				
<p>Link to other learning areas:</p> <p>The learner is able to relate the skills of arranging real objects collected from the environment according to size to superlatives in English Language activities.</p>				
<p>Suggested Learning resources:</p> <p>Real objects like marbles, sticks, stones, grains, digital devices.</p>				

Strand	Sub-strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Numbers	1.2 Whole Numbers (20 lessons)	<p>By the end of the sub-strand, the learner should be able to: -</p> <ul style="list-style-type: none"> a) sign words related to counting of numbers forward up to 1000, b) count numbers forward up to 1000 starting from any point. c) count numbers forward in multiples of 100 from 1000. d) identify the place value of numbers up to hundreds. e) read numbers 1-1000 in symbols, f) read, write and sign numbers 1-100 in words, g) identify missing numbers in number patterns up to 1000, h) play games involving number patterns up to 1000 	<ul style="list-style-type: none"> ● In pairs or groups, learners are guided to fingerspell and sign in 1's, 10's, and 100's starting from any point up to 1000. ● In pairs or groups, learners are guided to sign numbers forward in 1's, 10's, and 100's starting from any point up to 1000 using rope skipping in a safe environment. ● In pairs or groups, learners are guided to practise through play using number cards counting numbers backward in multiples of 100 from 1000. ● In pairs or groups, learners are guided to read by signing and identify place value up to hundreds using place value apparatus in class. ● In pairs or groups, learners are guided to watch signed videos/ captions/ pictures /charts on numbers 1-1000 then discuss and make notes. ● In pairs or groups, learners are guided to sign read numbers 	<ol style="list-style-type: none"> 1. How would you get the total number of people in a group? 2. How do you tell the place value of a digit in a number?

			<p>1-1000 in symbols starting from any point.</p> <ul style="list-style-type: none"> ● In pairs or and taking turns to read by signing and write numbers 1-100 in words using number cards. ● In pairs or groups, learners are guided to create number patterns up to 1000 and share with other groups, post them on the wall or be attached to their individual portfolios. ● Learners are guided to play games involving whole numbers up to 1000 using digital devices and other resources. 	
<p>Core-Competence to be developed:</p> <ul style="list-style-type: none"> ● Learning to learn: Independent learning skills as learners work on their own in assigned tasks of counting numbers backward in multiples of 100 from 1000. 				
<p>Values:</p> <ul style="list-style-type: none"> ● Respect: patience as learner works in pairs taking turns to read and write numbers 1-100 in words using number cards. 				
<p>Pertinent and Contemporary Issues (PCIs): Health promotion: as learner practice rope skipping game.</p>				
<p>Link to other learning areas: The learner is able to relate skills of creating patterns counting forward and backwards to skills in creative activities and language activities.</p>				
<p>Suggested Learning resources: A number line drawn on the ground/floor, place value chart, a rope, number cards</p>				

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0Numbers	1.3 Addition (25 lessons)	<p>By the end of the sub-strand, the learner should be able to:</p> <ol style="list-style-type: none"> sign terms related to addition and place values, use place value pockets and charts in addition, add a 3- digit number to up to a 2 -digit number without regrouping with sum not exceeding 1000, add a 3- digit number to up to a 2- digit number with single regrouping with sum not exceeding 1000, add two 3- digit numbers without regrouping, add two 3- digit numbers with single regrouping with sum not exceeding 1000, create number patterns involving addition up to 1000. Practice addition of numbers using digital devices or other resources. 	<ul style="list-style-type: none"> In pairs or groups are guided identify, fingerspell and sign terms such as place value, place value pocket value and charts. In pairs or groups, learners are guided to use place value pockets and charts to aid them in placing digits in their correct place values during addition. In pairs or groups are guided to add a 3- digit number to up to 2- digit number without regrouping with sum not exceeding 1000 using place value apparatus. In pairs or groups, learners are guided to practice adding horizontally and vertically using place value apparatus. Improvise abacus, place value tins or pockets. Learners, in pair or groups or individually practice adding a 3- digit number to up to a 2- digit number with single regrouping with sum not exceeding 1000, In pair or groups, learners are guided to practice adding two 3- digit numbers 	<ol style="list-style-type: none"> How do you arrange numbers when adding vertically How do you identify the first two numbers to add when adding three single digit numbers? How can you get the next number in a given pattern?

			<p>without regrouping with a sum not exceeding 1000 using place value tins.</p> <ul style="list-style-type: none"> ● Learners in groups /pairs are guided to add two 3-digit numbers with single regrouping with sum not exceeding 1000 using an abacus, ● In pairs, are guided to create and work out missing numbers in patterns involving addition up to 1000. ● In pairs or groups are guided to use digital devices or other resources for activities involving additions. 	
<p>Core Competencies to be developed:</p> <ul style="list-style-type: none"> ● Imagination and creativity: exploration skill as learners work out missing numbers in patterns involving addition up to 1000. 				
<p>Values: Respect: patience as the learners upholds positive regard for self and the peers while taking turns to practise adding horizontally and vertically using place value apparatus.</p>				
<p>Pertinent and Contemporary Issues (PCIs): Environmental awareness: Learners improvise place value apparatus such as abacus, place value tins or pockets for activities involving additions.</p>				
<p>Link to other learning areas: The learners are able to relate skills in improvisation of the spike abacus to modelling of items in Creative Activities</p>				
<p>Suggested Learning resources: Basic addition facts table, place value chart, abacus, tins.</p>				

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question
1.0 Numbers	1.4 Subtraction (20 lessons)	<p>By the end of the sub-strand, the learner should be able to:</p> <ol style="list-style-type: none"> sign subtraction and terms related to subtraction, use place value pockets and charts in subtraction, subtract a 2-digit number from a 3- digit number without regrouping, Subtract a 2-digit number from a three-digit number with single regrouping, subtract a 3-digit number from a 3- digit number with single regrouping, subtract up to 3- digit numbers involving missing numbers with single regrouping, work out missing numbers in number patterns involving subtraction up to 1000, 	<ul style="list-style-type: none"> In pairs or groups, to be guided to identify, fingerspell and sign subtraction and the operation sign (-) In pairs or groups, learners are guided to are guided to use place value pockets and charts to aid them in placing digits in their correct place values during subtraction. In pairs or groups, are guided to carry out subtraction of up to 3-digit numbers without regrouping using place value pockets and share findings with others. Learners in turns are guided to work out subtraction of up to 3-digit numbers with single regrouping using place value chart. In pairs or groups, learners are guided to work out missing numbers in subtraction of up to 3-digit numbers with single regrouping using a variety of strategies. In pairs or groups, learners are guided to play games involving 	<p>How do you identify the missing number in a number pattern involving subtraction?</p>

		h) Appreciate subtraction in real life situations.	subtraction using digital devices and other resources. <ul style="list-style-type: none"> ● In pairs or groups, learners are guided to discuss how to work out missing numbers in patterns involving subtraction up to 1000. 	
Core Competencies to be developed:				
<ul style="list-style-type: none"> ● Digital literacy: Learners interact with digital technology with assistive technology as they play games involving subtraction using digital devices and other resources. 				
Values				
Unity: Learners develop cooperation as they portray team spirit in their respective groups while working out subtraction of up to 3- digit numbers without regrouping using place value pockets and share findings with others.				
Pertinent and Contemporary Issues (PCIs):				
Environmental awareness: Learners in turn work out subtraction of up to 3- digit numbers with single regrouping using place value charts that have been reused by different groups.				
Link to other learning areas:				
The learner is able to relate skills used in discussion to sign and observing skills in English and Kenyan Sign Language Activities.				
Suggested Learning resources:				
Bottle tops, marbles, stones, grains, number line drawn on the ground/floor, multiplication tables, abacus.				

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Numbers	1.5 Multiplication (10 lessons)	By the end of the sub-strand, the learner should be able to: a) sign multiplication and terms related to multiplication, b) Model multiplication as repeated addition using numbers 1,2,3,4 and 5 by 4 and 5, c) multiply a single digit number by a single digit number. d) multiply single digit numbers by 10, e) appreciate multiplication of numbers as repeated addition.	<ul style="list-style-type: none"> ● In pairs or groups, learners are guided to, or pairs are guided to identify, fingerspell and sign multiplication and terms related to multiplication such as multiplication charts or tables. ● In pairs or groups, learners are guided to model multiplication as repeated addition of numbers 1, 2, 3, 4 and 5 by 4 and 5 using counters and a picture to be captured to be shared to other groups, on walls or attached to individual learners' portfolios. ● In pairs or groups, learners are guided to multiply a single digit number by a single digit number using a multiplication chart. ● Learners in groups in turns practice multiplication of single digit numbers by 10 using multiplication tables. 	<ol style="list-style-type: none"> 1. How can you work out multiplication using repeated addition? 2. How do model multiplication as repeated addition?

			<ul style="list-style-type: none"> In groups learners are guided to watch signed videos/captions and play digital games involving multiplication. 	
<p>Core competencies to be developed:</p> <ul style="list-style-type: none"> Learning to learn: Learners develop self- discipline as they work collaboratively in pairs or groups to model multiplication as repeated addition of numbers 1, 2, 3, 4 and 5 by 4 and 5 using counters. Digital literacy: Interacting with digital technology as the learner plays adapted digital games involving multiplication 				
<p>Values Respect: As learners display humility as they take turns to practise multiplication of single digit numbers by 10 using multiplication tables.</p>				
<p>Pertinent and Contemporary Issues (PCIs): Environmental conservation: Learners re-use materials and objects such as charts, counters to be used by different groups.</p>				
<p>Link to other learning areas: The learner is able to relate skills used in playing games to performance skills in Creative Activities.</p>				
<p>Suggested Learning resources: Bottle tops, marbles, stones, sticks, grains, multiplication tables</p>				

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Numbers	1.6 Division (8 lessons)	By the end of the sub-strand, the learner should be able to a) sign terms related to division, b) represent division as repeated subtraction of numbers of up to 50 by 4 and 5, c) Division of 2-digit numbers by a single digit number without a remainder, d) Division of 2-digit numbers by 10 without a remainder, e) Appreciate division as repeated subtraction in real life situation.	<ul style="list-style-type: none"> ● In pairs or groups, are guided to identify, fingerspell and sign terms related to division such as take away, remainder. ● In pairs or groups, learners are guided to take away from a group a specific number of objects at a time until all are finished and then count the number of small groups formed and share their findings with others. ● In pairs or groups, learners are guided to discuss and model division as repeated subtraction of numbers up to 50 by 4 and 5 using counters and share their findings with others. ● In pairs or / groups are guided to practice division of multiples of ten from 90 by 10 using multiplication tables. 	<ol style="list-style-type: none"> 1. How can you represent division as repeated subtraction? 2. How can we use the multiplication table to work out division questions?
<p>Core Competencies to be developed:</p> <ul style="list-style-type: none"> ● Communication and collaboration: Learners develop teamwork as they contribute to group discussion and actively participating in modelling division as repeated subtraction of numbers up to 50 by 4 and 5 using counters and share their findings with others. 				
<p>Values: Social justice: Learners develop equity as they share objects equitably in groups for use taking away from a group, a specific number of objects at a time until all are finished.</p>				

Pertinent and Contemporary Issues (PCIs):

Animal welfare: Learners participate in feeding animals involving dividing the feeds into the numbers of animals.

Link to other learning areas:

The learner is able to relate skills used in discussion to sign and observing in English and Kenyan Sign Language activities.

Suggested Learning resources:

Basic addition facts table, place value chart, multiplication table.

Strand	Sub-strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Numbers	1.7 Fractions (10 lessons)	<p>By the end of the sub-strand the learner should be able to:</p> <p>a) sign different types of fractions and terms related to fractions,</p> <p>b) write different types of equations $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{1}{8}$ as part of a whole,</p> <p>c) Identify $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{1}{8}$ as part of a group,</p> <p>d) Appreciate fractions as part of a whole.</p>	<ul style="list-style-type: none"> ● In pairs or groups, learners are guided to identify, fingerspell and sign terms such as ‘fractions’, ‘proper fraction,’ ‘improper fraction,’ ‘mixed fraction’, ‘numerator’ and ‘denominator’. ● In pairs or groups, learners are guided to safely make circular cut-outs from manila papers. ● In pair or groups, learners are guided to fold circular cut-outs once into 2 equal parts and identify one part as $\frac{1}{2}$ of the whole. ● In pair or groups, learners are guided to make rectangular cut-outs and fold them 2 times and identify $\frac{1}{4}$ as part of a whole. ● In pair or groups, learners are guided to make rectangular cut-outs and fold them 3 times and identify $\frac{1}{8}$ as part of a whole. ● In pair or groups, learners are guided to equal parts to get a quarter of a whole and identify each part as $\frac{1}{4}$ of the whole. ● In pair or groups, learners are guided to divide a number of objects into 2 equal groups and identify each of the small groups as $\frac{1}{2}$ of the whole group. 	<p>How can you represent a half, a quarter or an eighth of a group?</p>

			<ul style="list-style-type: none"> ● In pair or groups, learners are guided to be guided to divide a number of objects i.e. an orange into 4 equal groups and identify each of the small groups as $\frac{1}{4}$ of the whole group. ● In pair or groups, learners are guided to be guided to divide a number of objects into 8 equal groups and identify each of the small groups $\frac{1}{8}$ of the whole group. ● In pairs or groups, learners are guided to watch captioned videos / charts and illustrations then attempt/practice questions and make notes. ● In pairs or to be guided to play games involving $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{1}{8}$ Using digital devices or other resources. 	
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Core-Competencies to be developed:

- Critical thinking and problem solving: Communication skill is developed as learners discuss in pairs or in groups how to divide a number of objects into 8 equal groups and identify each of the small groups as eighth of a whole.

Values:

Unity: The spirit of cooperation is enhanced as learners work as a team to make rectangular cut-outs and fold them into 4 equal parts to get a quarter of a whole.

Pertinent and Contemporary Issues (PCIs):

Safety: In pairs or in groups to safely make circular cut-outs from manila papers.

Link to other learning areas:

The learner is able to relate the skills of making rectangular cut-outs and fold to get equal parts

Suggested Learning resources:

Circular and rectangular cut outs, marbles, bottle tops, sticks, grains, stones, manilla papers

Assessment Rubrics

Level Indicator	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Ability to sign terms related to numbers	Sign all terms related to numbers (number concepts, whole numbers, addition, subtraction, division, multiplication and fraction) used in a given context clearly and concisely.	Sign terms related to measurements with good accuracy but may require prompts for less common terms	sign terms related to numbers, but may make errors or struggle with less common terms	sign terms related to numbers confusing most of the terms prompting the learner to fingerspell the terms
Ability to identify positions of numbers 1-20.	Identify positions of numbers 1-20 in both ascending and descending sequences and write the position of the numbers 1st, 2nd, 3rd up to 20th.	Identify positions of numbers 1-20 in both ascending and descending sequences and write the position of most numbers 1st, 2nd, 3rd up to 20th.	Identify positions of numbers 1-20 but with notable errors in both ascending and descending sequences and write the position of the numbers 1st, 2nd, 3rd up to 20th.	Identify positions of numbers 1-20 but with limited ability to order numbers in both ascending and descending sequences and make significant errors in writing the position of the numbers 1st, 2nd, 3rd up to 20th.

Ability to count numbers up to 1000	Count numbers up to 1000 maintaining consistency throughout the counting sequence and understands and applies place value concepts while counting up to 1000.	count numbers up to 1000 maintaining consistency in most parts of the counting sequence and shows good understanding of place value concepts while counting up to 1000.	Count numbers up to 1000 but with inconsistencies in counting sequence and pot lays some understanding of place value concepts while counting up to 1000.	Count numbers up to 1000 but with limited ability to count the numbers frequently skipping or repeating and lacks place value concepts.
Ability to add up to 3-digit numbers without and with regrouping with a sum not exceeding 1000.	add up to 3-digit numbers without and with regrouping with a sum not exceeding 1000 by demonstrating clear understanding of regrouping and solving the problems effectively.	add up to 3-digit numbers without and with regrouping with a sum not exceeding 1000 by demonstrating understanding of regrouping and solving the problems effectively.	add up to 3-digit numbers without and with regrouping with a sum not exceeding 1000 by demonstrating some understanding of regrouping and add the problems omitting some key aspects in addition.	add up to 3-digit numbers without and with regrouping with a sum not exceeding 1000 in a somewhat disorganised manner that lacks clarity.
Ability to subtract up to 3-digit numbers from a 3-digit number without and with regrouping.	Subtract up to 3-digit numbers from a 3-digit number without and with regrouping by demonstrating clear understanding of regrouping and subtracting the problems effectively	Subtract up to 3-digit numbers from a 3-digit number without and with regrouping by demonstrating understanding of regrouping and subtracting the problems effectively.	Subtract up to 3-digit numbers from a 3-digit number without and with regrouping by demonstrating some understanding of regrouping and subtract the problems omitting some key aspects in subtraction.	Subtract up to 3-digit numbers from a 3-digit number without and with regrouping in a somewhat disorganised manner that lacks clarity.
Ability to multiply a single digit number by a single digit number.	Multiplies single digit number by single digit number insightfully and with critical analysis of the products and the patterns generated.	Multiplies single digit number by single digit number, highlighting the products of each multiplication.	Multiplies single digit number by single digit number with little analysis of the products of multiplication.	Multiplies single digit number by single digit number without analysing the patterns and lacks clarity in organisation.

Ability to divide 2-digit numbers by a single digit number without a remainder.	Divide 2-digit numbers by a single digit number without a remainder and efficiently demonstrates a clear understanding of the concept with clarity.	Divide 2-digit numbers by a single digit number without a remainder with neatly and clearly organised steps making it easy to follow the division and demonstrates a clear understanding of the concept.	Divide 2-digit numbers by a single digit number without a remainder but omits some key aspects in performing division.	Divide 2-digit numbers by a single digit number without a remainder in a somewhat disorganised manner that lacks clarity.
Ability to identify $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$ as part of a whole or group	Identifies $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a whole or group with a comprehensive elaboration and demonstrates how it is obtained from the whole with clarity.	Identifies $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a whole or group mentioning how it is obtained from the whole.	Identifies $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a whole or group with little information on how it is obtained from the whole.	Identifies $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a whole or group without explaining how it is obtained from the whole.

STRAND 2.0 MEASUREMENT

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
<p>2.0 MEASUREM ENT</p>	<p>2.1 Length (6 lessons)</p>	<p>By the end of the sub-strand, the learner should be able to:</p> <ul style="list-style-type: none"> a) sign terms related to length, b) measure length in metres, c) add length in metres, d) subtract length in metres, e) estimate length up to 10 metres. f) appreciate measuring length in metres in real life situation. 	<ul style="list-style-type: none"> ● In pairs or groups, learners are guided to identify, fingerspell, and write terms related to length such as metres, distance, measure, estimate. ● In pairs or groups, learners are guided to use metre sticks to measure various distances and record their results. ● In pairs or groups are guided to prepare 5 metres long strings with knots at intervals of one metre to measure long distances and record them on a book then calculate the total distance measured. ● In pairs or groups, learners are guided to measure the lengths of the 4 walls in their classroom and add the lengths. ● In pairs, are guided to measure the length of the chalkboard and the teacher’s table in metres and work out the difference in length. ● In pairs or groups, learners are guided to work out questions involving addition of length in real life situations. ● In pairs, are guided to work out subtraction of length in metres based on real life situations. 	<ol style="list-style-type: none"> 1. How do you measure the chalkboard using a metre stick? 2. How do you get the total length in metres of the 4 classroom walls? 3. How do you measure the distance between the flag post and the staffroom using a 5 metres long string?

			<ul style="list-style-type: none"> ● In pairs or groups, learners are guided to take turns to estimate distances around the school up to 10 metres and measure and compare results. ● In pairs, are guided to watch and take videos of others measuring length then play back and discuss their results using digital devices. 	
<p>Core Competencies to be developed:</p> <ul style="list-style-type: none"> ● Digital literacy: Learners develop the skill of creating with technology as they take videos of others measuring length then play back and discuss their results. 				
<p>Values:</p> <p>Integrity: Learners develop consistency as they engage in measuring the length of the chalkboard and the teacher’s table in metres.</p>				
<p>Pertinent and Contemporary Issues (PCIs):</p> <p>Environmental awareness: Learners in groups measure the lengths of the 4 walls in their classroom and add the lengths.</p>				
<p>Link to other learning areas:</p> <p>measure the lengths of the 4 walls in their classroom and add the lengths.</p>				
<p>Suggested Learning resources:</p> <p>Books, pencils, rulers, sticks, bottles, metre rule, metre sticks, digital devices, strings</p>				

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question
2.0 Measurement	2.2 Mass (6 lessons)	<p>By the end of the sub-strand, the learner should be able to:</p> <ol style="list-style-type: none"> sign 'mass' and terms related to mass, measure mass in kilograms, add mass in kilograms. subtract mass in kilograms. estimate mass up to 5 kilograms. Appreciate measuring mass of objects in kilograms. 	<ul style="list-style-type: none"> In pairs or groups, learners are guided to identify, fingerspell, sign, read and write terms related to mass, such as kilograms, beam balance, weighing scale. In pairs or groups are guided to collect safe materials to be used to measure mass in their immediate environment. Learners in groups to be guided through demonstration/ illustration on measuring and estimation of weight then allowed to practice. In pairs or are guided to make masses of 1kg using sand/ soil by measuring against the kilogram standard unit. In pairs or groups, learners are guided to measure mass of different objects in kilograms using a beam balance and share their findings with others. In pairs or groups, learners are guided to role play addition of mass in kilograms using items in the classroom model shop. In pairs or are guided to practice subtraction of masses 	<p>How can you make a 1kg mass using a beam balance?</p>

			<p>in kilograms using items from the corner shop.</p> <ul style="list-style-type: none"> ● In pairs or groups, learners are guided to use a 5kg mass to compare other masses. ● In pairs or are guided to estimate mass up to 5kg and measure to confirm. ● In pairs or groups learners are guided to play digital games involving mass. 	
<p>Core competencies to be developed:</p> <ul style="list-style-type: none"> ● Self-efficacy: Learners identify who they are, as they role play in pairs or in groups, adding mass in kilograms using items in the classroom model shop. 				
<p>Values:</p> <p>Integrity: Learners in groups or in pairs, display honesty in measuring mass of different objects in kilograms using a beam balance and share their findings with others.</p>				
<p>Pertinent and Contemporary Issues (PCIs):</p> <p>Safety: Learners collect safe materials to be used to measure mass in their immediate environment.</p>				
<p>Link to other learning areas:</p> <p>The learner is able to relate skills used in preparing mass of different object to molding in Creative Activities.</p>				
<p>Suggested Learning resources:</p> <p>Masses of 1kg, soil, sand, beam balance</p>				

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
<p>2.0 Measurement</p>	<p>2.3 Capacity (8 lessons)</p>	<p>By the end of the sub-strand, the learner should be able to:</p> <ul style="list-style-type: none"> a) sign capacity and terms related to capacity, b) measure capacity in litres, c) add capacity in litres. d) subtract capacity in litres, e) estimate capacity up to 5 litres, f) Appreciate measuring capacity of containers in Litres. 	<ul style="list-style-type: none"> ● In pairs or groups, learners are guided to identify, fingerspell, sign read and write capacity and terms related to capacity such as litres. ● In pairs or groups, learners are guided to collect safe materials in their immediate environment to be used to measure capacity. ● Learners in groups are guided through demonstration/ illustration on measuring capacity. ● In pairs or groups, learners are guided to discuss and measure capacity of different containers using 1 litre containers. ● Learners, in turns, are guided to practise addition of capacity in litres in real life situations, for example using a 1 litre container to fill a 10 litres container. ● Learners in turns are guided to practice subtraction of 	<p>What can we use to measure capacity?</p>

			<p>capacity in litres in real life situations.</p> <ul style="list-style-type: none"> ● In pairs learners are guided to estimate capacity up to 5 litres and measure to confirm using 1 litre containers. ● In groups learners are guided to watch recorded signed videos/captions, demonstrations and play digital games involving capacity in real life situations. 	
<p>Core Competencies to be developed:</p> <ul style="list-style-type: none"> ● Self-efficacy: Learners identify the resources within the school environment for use in estimating capacity up to 5 Litres and measure to confirm using 1 Litre containers 				
<p>Values: Peace: Learners develop care as they avoid hurting their peers and in turns practise addition of capacity in litres in real life situations.</p>				
<p>Pertinent and Contemporary Issues (PCIs): Safety: In pairs or groups, learners are guided to collect safe materials in their immediate environment to be used to measure capacity. Environmental Education and Climate change: Keeping surroundings clean and neat as the learner navigates their environment as they collect safe materials for measuring capacity.</p>				
<p>Link to other learning areas: The learner is able to relate collection of safe materials in their immediate environment for learning to waste management in Environmental Activities.</p>				
<p>Suggested Learning resources: Containers of different sizes, 1 litre containers, sand, soil, water, 5 litre containers, digital devices</p>				

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
<p>2.0 Measurement</p>	<p>2.4 Time (10 lessons)</p>	<p>By the end of the sub-strand, the learner should be able to: -</p> <ul style="list-style-type: none"> a) sign terms related to time, b) identify unit of measuring time, c) read and tell time using ‘past’ and ‘to’ the hour using the clock face, d) read and tell time using the digital clock or analogue clock, e) write time using ‘past’ and ‘to.’ the hour, f) estimate time in hours, g) add time involving hours and minutes without conversion in real life situations, h) subtract time involving hours and minutes without conversion in real life situations, i) Appreciate reading and telling time using digital and analogue clocks. 	<ul style="list-style-type: none"> ● In pair or groups, learners are guided to are guided to identify, fingerspell and sign terms related to time, i.e. clock, digital and analog clock, minute, ‘past’, ‘to.’ ● In groups, learners are guided to identify the minute as a unit of measuring time and tell the relationship. ● In groups, learners are guided to draw a clock face in a manila paper or any other resource and divide into two parts through the center and discuss what each division represents. ● In pair or groups, learners are guided to are guided to discuss division on the clock face and identify the minute as a unit of measuring time. ● In pairs or groups, learners are guided to discuss how to tell time on the clock face using “past” and “to” the hour. 	<p>How do we read and tell time using digital and analogue clocks?</p>

			<ul style="list-style-type: none"> ● In pairs or groups, learners are guided to discuss the digital clock and share their findings with others. ● Learners in turns are guided to read by signing and tell time on a digital clock. ● In pairs or groups, learners are guided to estimate time in hours. ● In pairs or groups, learners are guided to add time involving hours and minutes without conversion in real life situations. ● In pair or groups, learners are guided to are guided to subtract time involving hours and minutes without conversion in real life situations. ● In pairs or groups, learners are guided to practice telling time using digital and analogue clocks in real life situations. 	
<p>Core Competencies:</p> <ul style="list-style-type: none"> ● Communication and collaboration: Learners communicate clearly and effectively as they discuss in pairs or in groups how to tell time on the clock face using “past” and “to” the hour. ● Creativity and imagination: Discovering fresh ways of doing things by observing the world around them as the learner draws a clock face on a manila paper or any other resource and divide into two parts through the centre and discuss what each division represents. 				

Values:

Respect: Learners develop patience as they patiently wait for their turns to read and tell time on a digital clock.

Pertinent and Contemporary Issues (PCIs):

Governance: Law and order in school in keeping time as learners in turns read and tell time on a digital clock.

Link to other learning areas:

The learner is able to relate the skills used in drawing the clock face to drawing skills in Creative Activities.

Learning resources:

- Clock face both analogue and digital, tactile clock face, manilla paper

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
2.0 Measurement	2.5 Money (10 lessons)	<p>By the end of the sub-strand, the learner should be able to:</p> <ul style="list-style-type: none"> a) sign terms related to Kenyan currency. b) identify Kenyan currency notes up to sh.1000, c) count money in different denominations up to sh.1000, d) add money involving different denominations up to a sh.1000. e) subtract money involving different denominations up to a sh.1000, f) Represent the same amount of money in different domination. g) Use money to buy up to 3 items involving balance. h) carry out shopping activities involving change and balance, 	<ul style="list-style-type: none"> ● In pair or groups, learners are guided to are guided to identify, fingerspell, sign, and sort out Kenyan currency notes according to their value up to sh.1000 i.e. sh. 5 coin, sh 10 coin, sh 20 coin, sh 50 note, sh 100 note, sh 200 note, sh 500 note, sh 1000 note, balance. ● In pairs or groups, learners are guided to count Kenyan currency notes in different denominations up to sh1000 using imitation money. ● In pairs or groups, learners are guided to practise addition of money in real life situations up to sh.1000 using realia or imitation currency. ● In pairs or groups, learners are guided to practice subtraction of money in real life situations up to sh.1000. ● In pairs or groups, learners are guided to practice addition of money in real life situations up to sh.1000. ● In pair or groups, learners are guided to are guided to role play in the shop corner how to represent same amount 	How do you represent the same amount of money using different denominations?

		<p>i) appreciate spending and saving money in real life situations.</p>	<p>of money in different denominations up to sh 1000.</p> <ul style="list-style-type: none"> ● In pairs or groups, learners are guided to role play buying up to 3 items involving balance using imitation money up to sh.1000 in shopping activities. ● In pairs or groups, learners are guided to share their own experiences in relation to shopping activities. ● In pairs or groups, learners are guided to play digital games involving money. 	
<p>Core Competencies to be developed:</p> <ul style="list-style-type: none"> ● Citizenship: Learners develop communication skills as they communicate and collaborate with their peers, in pairs or in groups counting Kenyan currency notes in different denominations up to sh1000 using imitation money. ● Critical thinking and problem solving: Evaluation and decision making is developed as the learner role plays by buying up to 3 items involving balance using real or imitation money up to sh.1000 in shopping activities. 				
<p>Values: Patriotism: Learners dedicate while working in pairs or groups sort out Kenyan currency notes according to their value up to sh.1000.</p>				
<p>Pertinent and Contemporary Issues (PCIs): Financial literacy: The choice of what to buy and what not to buy as learners in groups role play buying up to 3 items involving balance using imitation money up to sh.1000 in shopping activities.</p>				
<p>Link to other learning areas: The learner is able to relate the skills used in modelling the Kenyan currency denominations to modelling skills in Creative Activities.</p>				
<p>Suggested Learning resources: Kenyan currency coins and notes or imitations up to sh.1000, classroom shop, digital devices</p>				

Assessment Rubric

Level Indicator	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Ability to sign terms related to measurements	Sign all terms related to measurements (length, mass, time, money, capacity) used in a given context clearly and concisely.	Sign terms related to measurements with good accuracy but may require prompts for less common terms	sign terms related to measurements, but may make errors or struggle with less common terms	sign terms related to measurement confusing most of the terms prompting the learner to fingerspell the terms
Ability to measure length in metres	Measures length in metres using 1 metre sticks and counting the number of times precisely with specific illustrations and records the results.	Measures length in metres highlighting all the steps to be followed.	Measures length in metres mentioning some steps to be followed leaving out key aspects of measurement.	Measures length in metres providing minimal information on the steps to be followed.
Ability to measure mass in kilograms.	Measure mass in kilograms with precision demonstrating advanced skills in measuring mass and critically analysing the relationship between the mass of different objects.	Measure mass in kilograms by highlighting different objects and their masses.	Measure mass in kilograms but leaves out key aspects in measuring mass.	Measure mass in kilograms but demonstrate limited or no understanding of mass in kilograms.
Ability to measure capacity in litres.	Measures capacity in litres insightfully and shows critical analysis of the relationship between the capacity of different containers.	Measures capacity in litres highlighting the different liquids and their capacity in litres.	Measures capacity in litres but leaves out key aspects in measuring capacity.	Measures capacity in litres but demonstrates limited or no understanding of capacity in litres.

Ability to express time in hours and minutes.	Expresses time in hours and minutes and creates songs that relate hours and minutes with an in - depth explanation on the relationships.	Expresses time in hours and minutes and explains their relationships.	Expresses time in hours and minutes with little information on their relationships.	Expresses time in hours and minutes without explanations on their relationships.
Ability to use money in buying up to 3 items involving balance.	Uses money in buying up to 3 items involving balance, by selecting appropriately up to 3 items and calculates the total cost of the selected items with clarity.	Uses money in buying up to 3 items involving balance, with accuracy in selecting up to 3 items and calculates the total cost of the selected items.	Uses money in buying up to 3 items involving balance, but with some accuracy in selecting up to 3 items and calculates the total cost of the selected items with minimal errors.	Uses money in buying up to 3 items involving balance, with many challenges in selecting items within the budget.

STRAND 3.0 GEOMETRY

Strand	Sub-strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 GEOMETRY	3.1 Position and Direction (5 lessons)	<p>By the end of the sub-strand, the learner should be able to:</p> <ol style="list-style-type: none"> sign ‘position’, ‘direction’ and related terms. move along a straight line from a point, identify right and left side from a point. turn to the right from a point, turn to the left from a point. appreciate directions and make right turns in real life situations. 	<ul style="list-style-type: none"> In pairs or groups, learners are guided to identify, fingerspell and sign ‘position’, ‘direction’, ‘right’, ‘left’, ‘turn’. In pair or groups, learners are guided to are guided to watch signed videos with captions, demonstrations, or illustrations on movement, along a straight line, turning left and right. In pairs or groups, learners are guided to practice moving along a straight line from a given point outside the classroom. In pairs or groups, learners are guided to play a game of identifying right and left from a point. In pair or groups, learners are guided to are guided to move straight along the outside of their classroom and then turn to the right. 	<p>How do you cross the road when you get to a road junction?</p>

			<ul style="list-style-type: none"> ● In pairs or groups, learners are guided to move straight along the outside of their classroom and then turn to the left. ● In pairs or are guided to practice moving along a straight line and turning left or right. ● In pairs or groups, learners are guided to watch and play digital games on movement. 	
<p>Core Competencies to be developed:</p> <ul style="list-style-type: none"> ● Self-efficacy: Learners know their school as they identify in pairs or in groups, places to move straight along the outside of their classroom and then turn to the left. ● Learning to Learn: Learning independently is enhanced as learners recreate moving along a straight line from a given point outside the classroom and turning left or right. 				
<p>Values: Respect: In pairs or in groups, display patience as they practise moving in turns along a straight line and turning left or right.</p>				
<p>Pertinent and Contemporary Issues (PCIs): Environmental awareness: Learners use their body parts in movement in moving along a straight line from a given point outside classroom.</p>				
<p>Link to other learning areas: The learner is able to relate the concept of position and direction to the concept of location in Environmental Activities.</p>				
<p>Suggested Learning resources:</p> <ul style="list-style-type: none"> ● Charts showing a straight line, a turn to the left and a turn to the right. 				

Strand	Sub-strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
3.0 GEOMETRY	3.2 Shapes (4 lessons)	By the end of the sub-strand, the learner should be able to: - a) sign terms related to shape, b) identify shapes from a figure made of two different shapes, c) draw a combined shape involving 2 shapes, d) Model a combined shape involving two shapes, e) Appreciate objects with combined shapes in the environment.	<ul style="list-style-type: none"> ● In pairs or groups, are guided to identify, fingerspell and sign terms related to shapes. ● In pairs or groups, learners are guided to sort out cutouts of different shapes according to the attribute of shape. ● In pairs or groups, learners are guided to identify and name the different shapes from the cutouts and relate to shapes found in the environment. ● In pairs or groups, learners are guided to draw combined figures found in the environment using up to 2 different shapes. e.g. hut. ● In pairs or groups, learners are guided to model combined figures of up to 2 shapes using safe locally available materials. ● Learners in groups are guided to watch and play digital games involving shape using digital devices. 	What shapes can you identify in your school?
<p>Core Competencies to be developed:</p> <ul style="list-style-type: none"> ● Creativity and imagination: Imagination and originality as in pair or groups, learners are guided to draw or model combined figures found in the environment using up to 2 different shapes. e.g. hut. ● Digital literacy: Interacting with digital technology as learners use digital devices with assistive technology to play digital games. 				
<p>Values: Unity: Learners cooperate together as they share available resources in groups or in pairs, for modelling combined figures of up to 2 shapes using safe locally available materials.</p>				

<p>Link to PCIs: Environmental awareness: In pair or groups, learners are guided to, identify and name the different shapes from the cutouts and relate to shapes found in the environment.</p>
<p>Link to other learning areas: The learner is able to relate the skills used in drawing combined shapes to drawing skills in Creative Activities.</p>
<p>Suggested Learning resources:</p> <ul style="list-style-type: none"> • Cut- outs of rectangles, circles, triangles, ovals and squares of different sizes, tactile diagrams showing shapes, tactile cut- outs.

Assessment Rubric

Level Indicator	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Ability to sign the terms related to geometry.	sign the terms related to lines and shapes with appropriate facial expressions and body language.	sign the terms related to line and shapes.	signs terms related to lines and shapes with limited facial expression and body language	sign term related to lines and shapes with noticeable struggles
Ability to identify right and left side from a point	Identifies right and left side from a point by consistently applying the concepts of right and left in various situations.	Identifies right and left side from a point by applying the concepts of right and left in various contexts	Identifies right and left side from a point applies the concepts of right and left with noticeable errors.	Identifies right and left side from a point but lacks the ability to apply it in different situations.
Ability to identify shapes from a figure made of different shapes.	Identify shapes from a figure made of different shapes with comprehensive analysis of the shapes with clarity and generate more complex shapes.	Identify shapes from a figure made of different shapes by showing a clear understanding of the shapes.	Identify shapes from a figure made of different shapes with limited understanding of the shapes.	Identify shapes from a figure made of different shapes without any explanations of the shapes.

SUGGESTED RESOURCES

SUB -STRANDS	RESOURCES
NUMBER CONCEPT	Marbles, sticks, stones, grains
WHOLE NUMBERS	A number line drawn on the ground/floor, place value chart
FRACTIONS	Circular and rectangular cut outs, marbles, bottle tops, sticks, grains, stones
ADDITION	Place value chart, abacus, basic addition facts table
SUBTRACTION	Basic addition facts table, place value chart
MULTIPLICATION	Bottle tops, marbles, stones, grains, number line drawn on the ground/floor, multiplication tables
DIVISION	Bottle tops, marbles, stones, sticks, grains, multiplication tables
LENGTH	Books, pencils, rulers, sticks, bottles, metre rule, metre sticks
MASS	Masses of 1kg, soil, sand, beam balance
CAPACITY	Containers of different sizes, 1litre containers, sand soil water,5 litre containers
TIME	Clock face both analogue and digital
MONEY	Kenyan currency coins and notes/imitations up to sh.1000, classroom shop
POSITION AND DIRECTION	Charts showing a straight line, a turn to the left and a turn to the right
SHAPES	Cut- outs of rectangles, circles, triangles, ovals and squares of different sizes

Suggested Assessment Methods and Tools

1. Written tests and quizzes
2. Rating scales
3. Projects
4. Observation Schedules
5. Portfolio
6. Assessment Rubric
7. Questionnaire

NOTE

The following **ICT** devices may be used in the teaching/learning of mathematics at this level:

Learner digital devices (LDD), Teacher digital devices (TDD), Mobile phones, Digital clocks, Television sets, Videos, Cameras, Projectors, Radios, DVD

players, CD's, Scanners, Internet among others.

Community Service Learning at Early Years Education (PP1&2 and Grade 1-3)

At this level, the goal of the CSL activity is to provide linkages between concepts learnt in the various Learning Activities and the real-life experiences. Learners begin to make connections between what they learn and the relevance to their daily life. CSL is hosted in the Environmental Activities learning area. The class teacher is expected to identify and guide learners to undertake age-appropriate whole-class integrated CSL activity within the school. The safety of the learners should also be taken into account when selecting the CSL activity. The following steps for the integrated CSL activity should be staggered across the school terms:

Steps in carrying out the integrated CSL activity

1) Preparation

- Determine the activity for the learners
- Map out the targeted core competencies, values and specific learning areas skills for the CSL activity
- Identify resources required for the activity (locally available materials)
- Stagger the activities across the term (Set dates and time for the activities)
- Communicate to learners, parents/caregivers/guardians, school administration, teachers and other relevant stakeholders in the school community
- Identify and develop assessment tools

2) Implementation of CSL Activity

- Assigning roles to learners.
- Ensure every learner actively participates in the activity
- Observe learners as they carry out the CSL activity and record feedback.
- Use an appropriate assessment tool to assess both the process and the product (Assess learner's work from the beginning to the end product)
- Assess the targeted core competencies, values and subject skills.

3) **Reflection on the CSL Activity**

Conduct a self-evaluation session with learners on the integrated CSL activity undertaken by discussing the following:

- what went well and why?
- what did not go well and why,
- what can be done differently next time?
- what they have learnt.

There will be **one** integrated CSL activity that will be conducted **annually**. The thematic areas for the integrated CSL activity will be derived from the broader categories of the PCIs and concepts from the various Learning Areas. The teachers are expected to vary the themes yearly to allow learners to address different PCIs within their contexts. There should be a linkage between the skills from the learning areas and the themes.

The integrated CSL activity will take a Whole School Approach (WSA) where the entire school community is involved (learners, parents/caregivers/guardians, school administration, teachers). Parents/caregivers/guardians are key stakeholders in the planning and execution of the CSL activity. Although the teacher takes the lead role in the planning and integration of the CSL activity, learners will be expected to participate actively in the whole process.

The CSL activity provides an opportunity for the development of core competencies and the nurturing of various values. The teacher is expected to vary the core competencies and values emphasised in the activity yearly.

Assessment of the Community Service Learning Activity

Assessment of the integrated CSL activity will focus on 3 components namely: skills from various learning areas applied in carrying out the activity, and core competencies developed and values nurtured . Assessment should focus on both the process and end product of the CSL activity. The teacher will assess learners in groups using various tools such as an observation schedule, checklist, rating scale or any other appropriate assessment tool.