REPUBLIC OF KENYA
MINISTRY OF EDUCATION

PRIMARY SCHOOL CURRICULUM DESIGN

MATHEMATICS ACTIVITIES

GRADE 2

FOR LEARNERS WITH PHYSICAL IMPAIRMENT

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT
A Skilled and Ethical Society

First Published in 2017

Revised 2024

ISBN: 978-9914-43-078-3

Published and printed by Kenya Institute of Curriculum Development

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 2 curriculum designs for learners with physical impairment build on competencies attained by learners at Grade 2. 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,
MINISTRY OF EDUCATION

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 2 curriculum furthers implementation of the CBC from Grade------- in 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 ------- curriculum designs for learners with physical impairment 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 2 and prepare them for smooth

transition to Grade 2. Furthermore, it is my hope that teachers will use the adapted designs to make learning interesting, exciting and enjoyable.

DR. BELIO KIPSANG', CBS
PRINCIPAL SECRETARY
STATE DEPARTMENT FOR BASIC EDUCATION
MINISTRY OF EDUCATION

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 2 curriculum designs for learners with physical impairment with 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 2 curriculum designs for learners with….. 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 -- and preparation of learners with physical impairment for transition to Grade 2.

PROF. CHARLES O. ONG'ONDO, PhD, MBS
DIRECTOR/CHIEF EXECUTIVE OFFICER
KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

TABLE OF CONTENTS

FOREWORD iii
PREFACE v
ACKNOWLEDGEMENT vii
TABLE OF CONTENTS ix
NATIONAL GOALS OF EDUCATION x
LESSON ALLOCATION AT LOWER PRIMARY xii
LEVEL LEARNING OUTCOMES FOR PRIMARY EDUCATION xiii
ESSENCE STATEMENT xiv
SUBJECT GENERAL LEARNING OUTCOMES xv
SUMMARY OF STRANDS AND SUB STRANDS xvi
STRAND 1.0: NUMBERS 1
STRAND 2.0 MEASUREMENT 27
STRAND 3.0 GEOMERTY 43
APPENDICES 49
APPENDIX 1: SUGGESTED LEARNING RESOURCES 49
APPENDIX 2: SUGGESTED ASSESSMENT METHODS AND TOOLS 52
APPENDIX 3: CSL GUIDELINES FOR EARLY YEARS EDUCATION (PP1&2 AND GRADE 1-3) 55

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 acquire a sense of nationhood and patriotism. It should also promote peace and mutual respect for harmonious co-existence.

2. **Promote social, economic, technological and industrial needs for national development**
   Education should prepare the learner to play an effective and productive role in the nation.
   a) **Social Needs**
      Education should instill social and adaptive skills in the learner for effective participation in 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.

LESSON ALLOCATION AT LOWER PRIMARY

S/No	Learning Area	Number of Lessons per week
1.	Indigenous Language Activities	2
2.	Kiswahili Language Activities / Kenya Sign Language Activities	4
3.	English Language Activities	5
4.	Mathematical Activities	5
5.	Religious Education Activities	3
6.	Environmental Activities	4
7.	Creative Activities	7
	Pastoral Instruction Programme	1
Total		**31**

LEVEL LEARNING OUTCOMES FOR PRIMARY EDUCATION

By the end of the Primary Education, the learner should be able to:

a) Communicate appropriately using verbal and or non-verbal modes in a variety of contexts.
b) Apply acquired knowledge, skills, values and attitudes in everyday life.
c) Demonstrate social skills, moral and religious values for positive contribution to society.
d) Exploit one's talents for individual development and self-fulfillment.
e) Explore, manipulate, manage and conserve the environment for learning and sustainable development.
f) Use digital literacy skills for learning and enjoyment.
g) Value Kenya's rich and diverse cultural heritage for harmonious living.
h) Appreciate the need for, and importance of interdependence of people and nations

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. Learning mathematics will also enhance the learner' competencies in numeracy as a foundation of STEM at the higher levels of Education cycle. Mathematics is also a subject of enjoyment and excitement as it gives learners opportunities for creative work and fun.

SUBJECT GENERAL LEARNING OUTCOMES

By the end of Primary Education, the learner should be able to:

1. Demonstrate mastery of number concepts by working out problems in day-to-day life.
2. Apply measurement skills to find solutions to problems in a variety of contexts.
3. Apply properties of geometrical shapes and spatial relationships in real life experiences.
4. Apply data handling skills to solve problems in day-to-day life.
5. Analyze information using algebraic expressions in real life situations.
6. Apply mathematical ideas and concepts to other learning areas or subjects and in real life contexts.
7. Develop confidence and interest in mathematics for further learning and enjoyment.
8. Develop values and competencies for a cohesive harmonious living in the society.
9. Manage pertinent and contemporary issues for enhanced inter-personal relationship.

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	20
	1.4 Subtraction	20
	1.5 Multiplication	12
	1.6 Division	8
	1.7 Fractions	12
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 Lines	5
	3.2 Shapes	5
Total Number of Lessons		**150**

NOTE:

The suggested number of lessons per Sub Strand may be less or more depending on the context.

STRAND 1.0: NUMBERS

Strand	Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Numbers	**1.1 Number Concept** (8 lessons)	By the end of the sub strand, the learner should be able to; a) identify numbers 1 to 100 in symbols in different situations, b) represent numbers 1 to 100 using concrete objects from the environment, c) play number games using number cards or digital devices, d) appreciate the use of numbers in real life situations.	The learner is guided to: • Recognize and read numbers 1-100 from number cards or charts in purposive groups/pairs or individually. Learners with speech difficulties could use alternative modes of communication to carry out the task. Learners who may not perform the task orally could point/ pick number cards/ type numbers that are read by peers or use Augmentative and Alternative Communication modes. • Collect safe concrete objects from the environment using appropriate mobility devices for those who may not walk with ease. use suitable assistive technology for manipulation for learners who may not	How can we represent numbers using objects?

			manipulate the concrete objects. Learners should be guided to use protective gear and avoid rugged/ unsafe terrains as well as possible triggers to some chronic health impairment. The task could be rescheduled in conformity with favourable weather vis-à-vis the individual unique needs of learners. • Count concrete objects of given numbers in symbols. • Match a group of objects to their number value using appropriate assistive technology for manipulation with physical support and positioned on devices whose table tops are at a suitable height. • Discuss/share ideas, in purposive groups/pairs, choose and play number games in turns using large number cards made of heavy gauge paper/ plastic or adapted digital devices with appropriate accessibility features	

			whose screen light/ glare and volume are suitably adjusted vis-a-vis individual learner's unique needs. Learners who may not use hands could use any other alternative functional part of the body/ Assistive technology for manipulation with physical support to perform the task.	

Core Competencies to be developed:

- Digital literacy: learner uses digital devices to play number games.
- Learning to learn: learner discovers ways of representing numbers as they match a group of objects to their number value.

Values:

- Unity: learner respects peers' opinion as they in turns discuss, choose and play number games.
- Responsibility: learner observes safety practices as they collect concrete objects for learning from the environment.

Pertinent and Contemporary Issues (PCIs):

- Social cohesion: learner discusses, chooses and plays number games in turns.
- Safety issues: learner observes safety as they collect concrete objects for learning from the environment.

Link to other learning areas:

The learner relates the concept of using concrete objects from the environment to represent numbers to the concept of resources in the environment in Environmental Activities.

Strand	Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Numbers	**1.2 Whole Numbers** (20 lessons)	By the end of the sub strand, the learner should be able to; a) count numbers forward up to 100 in different situations, b) count numbers backward from number 50, c) read and write numbers 1 to 100 in symbols in different situations, d) identify the place value of numbers in ones and tens, e) read and write numbers 1 to 20 in words, f) work out missing numbers in number patterns up to 100, g) appreciate number patterns in playing number games.	The learner is guided to: • Count numbers forward up to 100 starting from any point, orally/ by pointing/ placing counters or using alternative modes of communication to carry out the activity. • Count numbers backward from 50 starting from any point. • Recognize and read numbers 1 to 100 in symbols from number cards or charts. • Name and write the numbers in the place value of ones and tens, tens on charts/ value notation tables in exercise worksheets or in their adapted digital devices using appropriate assistive technology for writing/ stamping. Learners with difficulties in manipulation	How do we get the next number in a number pattern?

			could mount or arrange number cards to represent place values or respond orally as a physical assistant does the task with his/ her guidance. • Discuss /share the place value of digits written on the number cards in purposive groups/pairs or individually. • Read/point and write/ mount/ type or stamp numbers 1 to 20 in words. Learners who may not perform the task could mention the numbers orally/ use number cards with number names with physical support. • Work out missing numbers in number patterns up to 100, by writing/ typing/ mounting/ stamping or give their responses orally as they are audio-visually recorded and the recorded clip saved in	

			their e-portfolio as evidence of the task performance. Those who may not use hands could use any alternative functional part of the body with appropriate Assistive technology for holding the book/ flipping pages/ writing/ typing/ stamping with physical support. Assign tasks proportionately vis-a-vis individual learner's ability/ unique needs. • make number patterns and share with peers in purposive groups/pairs, orally/ by writing using appropriate Assistive technology and physical support • learners are appropriately positioned/ seated on devices whose worktops/ table tops are at a suitable height and play games involving whole numbers using adapted digital devices with appropriate accessibility features and	

			software or other resources which they operate using any functional part of the body with appropriate Assistive technology for manipulation, • improvise place value tins and pockets from locally available materials, • play a game of putting number cards in place value tins or pockets (ones and tens) according to the place value of digits in purposive groups/pairs or individually.	

Core Competencies to be developed:

- Creativity and imagination: learner improvises place value tins and pockets from locally available materials.
- Communication and collaboration: learner discusses the place value of digits written on the number cards.

Values:

- Unity: learner in turn, plays a game of putting number cards in place value tins or pockets according to the place value of digits.
- Responsibility: learner observes safety precautions as they use locally available materials to improvise place value tins and pockets.

Pertinent and Contemporary Issues (PCIs):

- Effective communication: learner reads and writes numbers 1 to 100 in symbols in different situations.
- Creative thinking: learner improvises place value tins and pockets from locally available materials.

Link to other learning areas:

- The learner relates the skills used in reading and writing numbers in symbols to reading and writing skills in English Language Activities.
- The learner relates the skills used in making number patterns to the concept of patterns in Creative Activities.

Strand	Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Numbers	**1.3 Addition** (20 lessons)	By the end of the sub strand, the learner should be able to; a) add a 2-digit number to a 1-digit number without and with regrouping with sum not exceeding 100, b) add a 2-digit number to a 2-digit number without and with regrouping, with sum not exceeding 100, c) add two multiples of 10 whose sum does not exceed 100, d) work out missing numbers in patterns involving addition of whole numbers up to 100,	The learner is guided to: • Write mount/ type/ stamp addition sentences given in horizontal form into vertical form according to place value, using any alternative functional part of the body and/ appropriate Assistive technology/device with physical support to carry out the activity. Those who may not perform the task could alternatively arrange number cards or mention their responses orally as they are audio-visually recorded and the recorded clip saved in their e-portfolio as evidence of performing the task.	1. How are horizontal addition sentences written vertically? 2. Why do we regroup during addition?

		e) appreciate the addition of numbers in real life situations.	• Add a 2-digit number to a 1-digit number without regrouping orally by writing or typing using any functional part of the body and/ suitable adapted digital devices with physical support. • Add a 2-digit number to a 1-digit number with regrouping, orally, by writing or typing using any functional part of the body and/ suitable adapted digital devices with physical support. • Discuss in purposive teams/pairs, orally by writing or typing using any functional part of the body and/ suitable adapted digital devices with physical support and come up with different ways of adding two 2-digit numbers without and with regrouping, by writing/ stamping/ typing or sharing orally.	

			• Add 2 multiples of ten whose sum does not exceed 100, by writing/ stamping/ typing or sharing orally. • Play games in purposive groups/pairs or individually involving addition using adapted digital devices or other resources, with peers, with suitable accessibility features/ software whose screen light/ glare or volume are suitably adjusted and other resources using the appropriate Assistive technology for manipulation as they observe given safety precautions • Make patterns in purposive groups/pairs or individually using numbers up to 100 and share with peers. Learners who may not use hands could be supported to use any alternative functional part of the body and/ appropriate Assistive technology for	

			manipulation or show how to how to make the patterns as peers perform the task physically.	

Core Competencies to be developed:

- Communication and collaboration: learner speaks and listens to peers as they discuss different ways of adding two 2-digit numbers without and with regrouping.
- Learning to learn: learner discovers ways of presenting addition as they write addition statements in horizontal and vertical forms.

Values:

- Social justice: learner accommodates others as they play games involving addition.
- Unity: learner discusses and comes up with different ways of adding two 2-digit numbers without and with regrouping.

Pertinent and Contemporary Issues (PCIs):

- Critical thinking: learner works out missing numbers in patterns involving addition.
- Friendship formation: learner plays games involving addition with peers.

Link to other learning areas:

- The learner relates the skills used in making patterns to the concept of patterns in Creative Activities.
- The learner relates the skills used in writing addition sentences in horizontal and vertical forms to functional writing in English Language Activities.

Strand	Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Numbers	**1.4 Subtraction** (20 lessons)	By the end of the sub strand, the learner should be able to; a) subtract a 1-digit number from a 2-digit number without regrouping, b) subtract a 2-digit number from a 2-digit number without and with regrouping, c) subtract a lower multiple of 10 from a higher multiple of 10, d) work out missing numbers in patterns involving subtraction up to 100, e) appreciate subtraction of numbers in real life situations.	The learner is guided to: • Subtract a 1-digit number from a 2-digit number without regrouping, orally/ by writing/ mounting/ stamping or typing using adapted digital devices using any functional part of the body/ suitable Assistive technology with physical support. • Subtract a 2-digit number from a 2-digit number without regrouping using place value apparatus. • Subtract a 2-digit number from a 2-digit number with regrouping using adapted place value apparatus. • Subtract lower multiples of 10 from higher multiples of 10, and give their responses orally/ by writing/ mounting/ stamping	How do you work out missing numbers in number patterns involving subtraction?

			or typing using adapted digital devices. • In purposive teams, discuss/share and work out missing numbers in patterns involving subtraction up to 100.	
Core Competencies to be developed: ● Learning to learn: learner discovers steps of subtracting a 2-digit number from a 2-digit number with regrouping using place value apparatus. ● Critical thinking: learner discusses and works out missing numbers in patterns involving subtraction up to 100.				
Values: ● Unity: learner collaborates as they discuss and work out missing numbers in patterns involving subtraction up to 100. ● Social justice: learner accommodates peers as they discuss and work out missing numbers in patterns involving subtraction.				
Pertinent and Contemporary Issues (PCIs): ● Social cohesion: learner jointly with others discusses and works out missing numbers in patterns involving subtraction up to 100. ● Critical thinking: learner subtracts a 2-digit number from a 2-digit number with regrouping using place value apparatus.				
Link to other learning areas: The learner relates the skills used in discussion to speaking and listening skills in English Language Activities.				

Strand	Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Numbers	**1.5 Multiplication** (12 lessons)	By the end of the sub strand, the learner should be able to; a) represent multiplication as repeated addition using numbers 1, 2, 3, by 2 and 3, b) write repeated addition sentences as multiplication using '×' sign, c) multiply 1-digit numbers by 1, 2, 3, 4 and 5, d) multiply 1-digit numbers by 10, e) appreciate arranging objects in groups of 3's, 4's, 5's and 10's in real life situations.	The learner is guided to: • Use counters or other concrete objects to represent multiplication as repeated addition, using any functional part of the body / appropriate Assistive technology for movement and manipulation with physical support as safety is observed. • Model multiplication as repeated addition using, grip enhanced concrete objects which they can manipulate. • Use '×' sign in writing stamping/ typing on adapted digital devices/ mounting repeated addition sentences as multiplication, or undertake the exercise orally as they are audio-visually recorded and the recorded clip saved in their e-portfolio as evidence of task	How is multiplication represented as repeated addition?

			performance. • In purposive groups/pairs or individually, multiply 1-digit numbers by 1, 2, 3, 4, 5 using number cards, made of heavy gauge paper/ plastic • Use locally available materials to model a multiplication chart and display in the learning environment • Multiply 1-digit numbers by 10 to form multiples of 10, by writing/ mounting/ stamping/ typing using adapted digital devices or orally. • Play games in purposive groups/pairs or individually. involving multiplication using adapted digital devices or other resources, made of heavy gauge paper/ plastic or adapted digital devices with special accessibility features/ software, whose screen light/ glare and volume are suitably adjusted	

			and which they operate using any functional part of the body/ appropriate Assistive technology with physical support. • Visit the local market using appropriate means of transport/ Assistive technology for movement and strategically positioned to see how different fruits and other items are arranged in groups of 3's, 4's, 5's or 10's for selling, using appropriate Assistive technology for movement and manipulation as safety is observed. They could record their observation by writing/ drawing/ stamping using adapted materials or photo shooting using digital devices with neck-straps handles/ stands and remote control, with physical support and assist in grouping some of the items for sale.	

Core Competencies to be developed: ● Digital literacy: learner uses digital devices to play games involving multiplication. ● Critical thinking and problem solving: learner uses locally available materials to model a multiplication chart.
Values: ● Responsibility: learner shares resources amicably as they model a multiplication chart. ● Patriotism: learner participates in community activities as they visit the local market and assist in grouping items for sale.
Pertinent and Contemporary Issues (PCIs): ● Financial literacy: learner visits the local market to see how fruits and other items are arranged in groups for selling. ● Community involvement: learner visits the local market to assist in grouping items for sale.
Link to other learning areas: The learner relates the skills used in improvising learning materials to waste management skills in Environmental Activities.

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) represent division as equal sharing up to number 20 by 2, b) represent division as equal grouping of numbers up to 25 by 3, c) use ' ÷' sign in writing division statements.	The learner is guided to: • in purposive teams or pairs to share a given number of objects equally by each picking one object at a time using any functional part of the body/ appropriate Assistive technology for manipulation with physical support until all the objects are finished. Each learner to count how many	How can you share a given number of objects equally?

		d) divide numbers up to 25 by 4 and 5 without a remainder, e) appreciate the application of division of numbers in real life situations.	objects he/she got, using the appropriate Assistive technology for movement and manipulation as safety is observed • in purposive teams, place several objects together, let each team pick one item at a time using any functional part of the body/ appropriate Assistive technology for manipulation with physical support until there is no object remaining, each team to count the number of objects they picked, orally/by writing or typing using adapted digital devices to perform the activity. learners are appropriately positioned/ seated on devices whose worktops/ table tops are at a suitable height. • Use division sign in writing, typing/ stamping/ mounting division statements	

			using the sign '÷', or mentioning their responses orally as they are audio-visually recorded and the recorded clip saved in their e-portfolio as evidence of the task performance. • Organise numbers up to 25 into groups of 4 or 5 without a remainder, using adapted number card made of heavy gauge paper/ plastic and record their answers by writing/ mounting/ typing on adapted digital devices/ stamping. Learners who may not perform the task could make their responses orally as they are audio-visually recorded and the recorded clip saved in their e-portfolio as evidence of the task performance.	

			• Play games in purposive groups/ pairs or individually involving division using adapted digital devices or number cards using the appropriate Assistive technology for manipulation or use any functional part of the body to carry out the activity using any functional part of the body/ appropriate Assistive technology for manipulation with physical support.	

Core Competencies to be developed:

- Learning to learn: learner learns to organise numbers up to 25 into groups of 4 or 5 without a remainder,
- Digital literacy: learner uses digital devices to play games involving division.

Values:

- Love: learner shares a given number of objects equally by each picking one object at a time until all the objects are finished.
- Unity: learner works harmoniously in teams as they place objects together.

Pertinent and Contemporary Issues (PCIs):

- Positive discipline: learner works harmoniously in teams as they place and share objects together.
- Social cohesion: learner plays games involving division using digital devices or other resources with peers.

Link to other learning areas:

- The learner relates the skills of writing division statements to functional writing in English Language Activities.
- The learner relates the concept of equal sharing to the concept of values in Religious Activities.

Strand	Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Numbers	**1.7 Fractions** (12 lessons)	By the end of the sub strand, the learner should be able to; a) identify a $\frac{1}{2}$ as part of a whole in different situations, b) identify a $\frac{1}{4}$ as part of a whole in different situations, c) use fractions in day-to-day activities, d) appreciate the application of fractions in daily life activities.	The learner is guided to: • Use papers, pencils and a pair of scissors in purposive groups/ pairs to make circular paper cut-outs, using heavy gauge papers, adapted pencils and pair of scissors with padded handles and appropriate Assistive technology for manipulation with physical support. Learners should be guided to observe safety precaution when using cutting tools. • Fold the circular paper cut-outs into two equal parts and identify one of the parts as a half of the whole written as $\frac{1}{2}$ using appropriate Assistive technology for manipulation with physical support while appropriately positioned/ seated on devices with worktops/ table	How do we get a fraction from a whole?

			tops at a suitable height. • Make rectangular paper cut-outs and fold them into two equal parts to get a half of a whole written as $\frac{1}{2}$. • Fold circular paper cut-outs to get 4 equal parts and identify one of the parts as a $\frac{1}{4}$ of a whole. • Practise making halves and quarters of a whole. • Play games in purposive groups/ pairs or individually involving fractions using adapted digital devices or other resources with appropriate accessibility features/ software, whose screen light/ glare or volume is suitably adjusted or other resources which they operate using appropriate Assistive devices for manipulation with physical support	

Core Competencies to be developed: • Learning to Learn: learner identifies halves and quarters as part of a whole in different situations. • Self-efficacy: learner practises making halves and quarters of a whole from paper cut-outs.
Values: • Responsibility: learner observes safety as they use scissors to make circular paper cut-outs. • Unity: learner collaborates with peers as they use digital devices to play games involving fractions.
Pertinent and Contemporary Issues (PCIs): • Life skills: learner uses fractions in day-to-day activities. • Self-esteem: learner practises making halves and quarters of a whole from paper cut-outs.
Link to other learning areas: The learner is able to relate the skills of making halves and quarters of a whole from paper cut-outs to pattern and modelling skills in Creative Activities.

Suggested Assessment Rubric

Level / Indicator	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Ability to identify numbers 1 to 100 in symbols.	The learner identifies numbers 1 to 100 in symbols and in words accurately.	The learner identifies numbers 1 to 100 in symbols accurately.	The learner identifies numbers 1 to 70 in symbols accurately.	The learner identifies numbers 1 to 50 in symbols.
Ability to count numbers forward up to 100 and backward from number 50.	The learner counts numbers forward up to 100 and backward from number 50 accurately and fluently.	The learner counts numbers forward up to 100 and backward from number 50 accurately.	The learner counts numbers forward up to 70 and backward from number 30 accurately.	The learner counts numbers forward up to 50 and backward from number 20.

Ability to read and write numbers 1 to 100 in symbols and 1 to 20 in words.	The learner reads and writes numbers 1 to 100 in symbols and 1 to 20 in words correctly and proficiently.	The learner reads and writes numbers 1 to 100 in symbols and 1 to 20 in words correctly.	The learner reads and writes numbers 1 to 70 in symbols and 1 to 15 in words correctly.	The learner reads and writes numbers 1 to 70 in symbols and 1 to 10 in words.
Ability to identify the place value of numbers in ones and tens.	The learner identifies the place value of numbers in ones, tens and hundreds correctly.	The learner identifies the place value of numbers in ones and tens correctly.	The learner identifies the place value of numbers in ones or tens correctly.	The learner identifies the place value of numbers in ones or tens partially correctly.
Ability to work out missing numbers in number patterns up to 100.	The learner works out missing numbers in number patterns up to 100 correctly and systematically.	The learner works out missing numbers in number patterns up to 100 correctly.	The learner works out missing numbers in number patterns up to 100 partially correctly.	The learner works out missing numbers in number patterns up to any number less than 100 partially correctly.
Ability to add a 2-digit number to a 2-digit number without and with regrouping, with sum not exceeding 100.	The learner adds a 2-digit number to a 2-digit number without and with regrouping, with sum not exceeding 100 correctly and systematically.	The learner adds a 2-digit number to a 2-digit number without and with regrouping, with sum not exceeding 100 correctly.	The learner adds a 2-digit number to a 2-digit number without or with regrouping, with sum not exceeding 100 correctly.	The learner adds a 2-digit number to a 1-digit number without or with regrouping, with sum not exceeding 100.

Ability to work out missing numbers in patterns involving addition and subtraction of whole numbers up to 100.	The learner works out missing numbers in patterns involving addition and subtraction of whole numbers up to 100 correctly and systematically.	The learner works out missing numbers in patterns involving addition and subtraction of whole numbers up to 100 correctly.	The learner works out missing numbers in patterns involving addition and subtraction of whole numbers up to 100 partially correctly.	The learner works out missing numbers in patterns involving addition or subtraction of whole numbers up to any number less than 100 partially correctly.
Ability to subtract a 2-digit number from a 2-digit number without and with regrouping.	The learner subtracts a 2-digit number from a 2-digit number without and with regrouping correctly and systematically.	The learner subtracts a 2-digit number from a 2-digit number without and with regrouping correctly.	The learner subtracts a 2-digit number from a 2-digit number without and with regrouping partially correctly.	The learner subtracts a 2-digit number from a 2-digit number without or with regrouping partially correctly.
Ability to multiply 1-digit numbers by 1, 2, 3, 4, 5 and 10.	The learner multiplies 1-digit numbers by 1, 2, 3, 4, 5 and 10 accurately and systematically.	The learner multiplies 1-digit numbers by 1, 2, 3, 4, 5 and 10 accurately.	The learner multiplies 1-digit numbers by any 3 to 5 of; 1, 2, 3, 4, 5 or 10 accurately.	The learner multiplies 1-digit numbers by any 2 of; 1, 2, 3, 4, 5 or 10.
Ability to represent division as equal sharing and grouping up to number 20 by 2.	The learner represents division as equal sharing and grouping up to number 20 by 2 accurately and systematically.	The learner represents division as equal sharing and grouping up to number 20 by 2 accurately.	The learner represents division as equal sharing or grouping up to number 15 by 2 accurately.	The learner represents division as equal sharing or grouping up to number 10 by 2.

Ability to divide numbers up to 25 by 4 and 5 without a remainder.	The learner divides numbers up to 25 by 4 and 5 without a remainder accurately and systematically.	The learner divides numbers up to 25 by 4 and 5 without a remainder accurately.	The learner divides numbers up to 20 by 4 or 5 without a remainder accurately.	The learner divides numbers up to 15 by 4 or 5 without a remainder.
Ability to identify a $\frac{1}{2}$ and a $\frac{1}{4}$ as part of a whole.	The learner identifies a $\frac{1}{2}$ and a $\frac{1}{4}$ as part of a whole correctly and systematically.	The learner identifies a $\frac{1}{2}$ and a $\frac{1}{4}$ as part of a whole correctly.	The learner identifies a $\frac{1}{2}$ and a $\frac{1}{4}$ as part of a whole partially correctly.	The learner identifies a $\frac{1}{2}$ or a $\frac{1}{4}$ as part of a with partially correctly.

STRAND 2.0 MEASUREMENT

Strand	Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
2.0 Measurement	**2.1 Length** (6 lessons)	By the end of the sub strand, the learner should be able to; a) measure length using fixed units, b) identify the metre as a unit of measuring length, c) measure length in metres, d) appreciate measuring length using fixed units in real life situations.	The learner is guided to: • Use sticks of equal length in purposive pairs/groups to measure lengths of different objects and record the measurements, learners are appropriately positioned/ seated on devices whose worktops/ table tops are at a suitable height and guided to use sticks (padded at points of grip) • Use sticks of different lengths to measure length, including a 1- metre sticks, by the use of any functional part of the body and/ appropriate Assistive technology for manipulation and mobility and with physical support. • In purposive teams, use locally available materials to make 1-metre sticks and use	How is the length of an object measured?

			them to measure the length of various objects within the classroom and record correctly by writing/ mounting/ stamping/ typing and discuss/ share ideas on the results orally/ by writing/ stamping/ using Augmentative and Alternative Modes of Communication, AAC. • Measure the length of different objects at home, record/ mount/ stamp/ type the measurements and discuss with peers in school.	

- **Core Competencies to be developed:**
- Critical thinking and problem solving: learner makes 1-metre sticks and uses them in measuring length of various objects.
- Self-efficacy: learner measures the length of different objects at home, records the measurements and discusses with peers in school.

Values:

- Responsibility: learner uses locally available materials to make 1-metre sticks and use them to measure the length of various objects.
- Unity: learner works in teams to make 1-metre sticks and use them to measure the length of various objects.

Pertinent and Contemporary Issues (PCIs):

- Self-esteem: learner measures the length of different objects at home, record the measurements and discuss with peers in school.
- Creative thinking: learner uses locally available materials to make 1-metre stick.

Link to Other Learning Areas:

The learner is able to relate the concept of using objects within the classroom and at home for learning to the concept of resources in the environment in Environmental Activities.

Strand	Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
2.0 Measurement	**2.2 Mass** (6 lessons)	By the end of the sub strand, the learner should be able to; a) measure mass using fixed units, b) identify the kilogram as a unit of measuring mass, c) measure mass of different objects in kilograms, d) appreciate measuring mass using fixed units in real life situations.	The learner is guided to: ● Collect safe materials from the environment for measuring mass, using any functional part of the body/ appropriate Assistive technology for movement and/ manipulation with suitable protective gear and physical support. ● Use locally available materials to improvise a beam balance. ● In purposive teams, use items of the same mass and an improvised beam balance to	Why is it important to know the mass of an object?

			measure different masses, record by writing/ stamping/ mounting/ typing and discuss the results with peers, orally/ by writing/ stamping/ typing or using Augmentative and Alternative modes of Communication, AAC. Learners should handle masses vis-a-vis their individual ability/ unique characteristics or needs to prevent mishaps such as fractures ● Use an item equivalent to a 1-kilogram mass and a beam balance to measure mass of different objects in kilogram accurately. ● Visit a shop or market and assist vendors measure mass of items such as beans, maize, rice, flour using fixed units, for example an empty 1-kilogram container. ● Measure the mass of different items in kilograms using a 1-	

			kilogram container. • Play digital games in purposive groups, pairs or individually involving mass in kilograms, on adapted digital devices with special accessibility features/ software which they operate using any functional part of the body/ appropriate Assistive technology for manipulation with physical support	
Core Competencies to be developed: • Communication and collaboration: learner in teams, uses items of the same mass and an improvised beam balance to measure different masses and discuss results. • Digital literacy: learner plays digital games involving mass in kilograms.				
Values: • Patriotism: learner assists vendors to measure the masses of items such as beans, maize, rice, flour using fixed units. • Responsibility: learner improvises beam balance to measure different masses.				
Pertinent and Contemporary Issues (PCIs): • Creative thinking: learner improvises beam balance to measure different masses. • Community involvement: learner visits a shop or market and assist vendors measure the masses of items such using fixed units.				

Link to Other Learning Areas:

- The learner is able to relate the concept of visiting a shop or market to the concept of our market in Environmental Activities.
- The learner is able to relate the skills of using locally available materials to improvise a beam balance to the skills of identifying resources in the environment in Environmental Activities.

Strand	**Sub strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Suggested Key Inquiry Question(s)**
2.0 Measurement	**2.3 Capacity** (8 lessons)	By the end of the sub strand, the learner should be able to; a) measure capacity using fixed units, b) identify the litre as a unit of measuring capacity, c) measure capacity in litres, d) appreciate measuring capacity in litres using improvised containers in real life situations.	The learner is guided to: ● Collect containers of different sizes for use in measuring capacity. learners are appropriately positioned/ seated on devices whose worktops/ table tops are at a suitable height and guided in purposive pairs /groups to use small containers (with handles for ease of manipulation). ● Use small containers of equal capacity to fill bigger containers of same capacity but different shapes with water, count the number of	1. Why do containers have different capacities?

			small containers used to fill the big containers in purposive groups/ pairs using any functional part of the body/ appropriate Assistive technology for manipulation. ● Use 1 litre containers to fill bigger containers with water and count the number of litres used to fill the big containers in purposive pairs or groups. Use water properly to avoid wetting floors/tables. Learners who may not handle the litre container could fill it in bits then supported to pour its content into the big containers. ● In purposive teams, discuss and measure the capacity of different containers in litres accurately. ● Participate in activities involving measuring liquids such as milk and water using 1 litre bottles.	

Core Competencies to be developed: • Self-efficacy: learner uses 1 litre containers to fill bigger containers with water and count the number of litres used to fill the bigger containers. • Communication and collaboration: learner in teams, discusses and measures the capacity of different containers in litres.
Values: • Unity: learner participates in activities involving measuring liquids such as milk and water using 1 litre bottles. • Responsibility: learner collects containers of different sizes for use in measuring capacity.
Pertinent and Contemporary Issues (PCIs): • Safety issues: learner uses water carefully to avoid wetting floors as they use 1 litre containers to fill big containers with water. • Self-esteem: learner discusses and measures the capacity of different containers in litres confidently.
Link to Other Learning Areas: The learner is able to relate the skills used in discussion to speaking and listening skills in English Language Activities.

Strand	Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
2.0 Measurement	**2.4 Time** (10 lessons)	By the end of the sub strand, the learner should be able to; a) relate the months of the year to special occasions, b) recite the number of days in each month of the year,	The learner is guided to: • Discuss share ideas on special occasions that take place in different months of the year, orally (through residual speech)/ by writing/ stamping/ typing on adapted digital devices	How do we tell time?

		c) read the calendar in terms of day and date, d) measure time using arbitrary units, e) identify the minute and hour hand in clock face, f) read time by the hour from the clock face, g) write time by the hour shown by an analogue and digital clock, h) appreciate keeping time in day-to-day activities.	using appropriate Assistive technology with physical support or by total communication ● Sing songs/hum and rhymes related to the number of days in the months of the year, Learners who may not perform the task could alternatively tap/ stump/ clap/ dance rhythmically or point the lyrics of the song/ rhyme in a chart/ digital device/ chalkboard as peers sing along. ● Discuss share ideas on how to read, tell and write/ mount/ stamp/ type/ point to dates from the calendar in purposive pairs or groups. Learners who may not write could alternatively mention the dates orally as they are audio-visually recorded and the recorded	

			clip saved in their e-portfolio as evidence for task performance ● Discuss/share ideas and relate time by hour using the length of a shadow of an object such as a tree in the environment in purposive pairs or groups. Learners could move outside using appropriate Assistive technology for mobility and measure the shadows using measuring tape with loops at the ends/ strings knotted at interval lengths and record their measurement by writing/ mounting/ typing/ stamping. Learners are assigned duties vis-a-vis individual unique characteristics/ needs. ● Discuss places where clocks are displayed and how they look in purposive pairs or	

			groups. ● Observe a clock face and discuss the minute and hour hand. ● Discuss how to read, tell/show and write time by the hour using both the analogue and digital clock in purposive pairs or groups. ● Discuss the importance of keeping time in different activities, orally/ by writing/ mounting/ pointing/ stamping/ typing.	

Core Competencies to be developed:

- Citizenship: learner discusses special occasions that take place in different months of the year.
- Self-efficacy: learner reads the calendar in terms of day and date, and measure time using arbitrary units.

Values:

- Patriotism: learner discusses special occasions that take place in different months of the year.
- Integrity: learner discusses the importance of keeping time in different activities.

Pertinent and Contemporary Issues (PCIs):

- Global citizenship: learner discusses special occasions that take place in different months of the year.
- Life skills: learners discuss and relates time by hour using the length of a shadow of an object such as a tree in the environment.

Link to other learning areas: The learner is able to relate the skills of telling time to the concept of weather and sky, and day and night in Environmental Activities.

Strand	**Sub strand**	**Specific Learning Outcomes**	**Suggested learning experiences**	**Suggested Key Inquiry Question(s)**
2.0 Measurement	**2.5 Money** (10 lessons)	By the end of the sub strand, the learner should be able to; a) identify Kenyan currency coins and notes up to sh.100, b) count the number of sh. 10 and sh. 20 coins in different situations, c) count the number of sh. 50 and sh. 100 notes in different situations, d) add two denominations of money with a sum not exceeding sh. 100, e) use money to buy up to 3 items without balance, f) appreciate the use of money in buying items.	The learner is guided to: ● Recognize and sort out Kenyan currency coins and notes up to sh.100. learners are positioned/ seated on devices whose worktops/ table tops are at suitable height ● In purposive teams, make sh. 10 and sh. 20 coins paper cut-outs, sort and count the number of sh. 10 and sh. 20 coins paper cut-outs, using improvised materials such as heavy gauge paper/ plastic cut out of pictures of coins which they handle using any functional part of the body and/ appropriate Assistive	How different are Kenyan currency denominations?

			technology for manipulation with physical support. ● Work collaboratively, to make sh. 50 and sh. 100 notes paper cut-outs, sort and count the number of sh. 50 and sh. 100 notes paper cut-outs. ● Add two denominations of money with a sum not exceeding sh. 100, by writing/ mounting/ pointing/ stamping/ typing or mention their responses orally. Learners are assigned assessment items vis-a-vis individual unique. ● With peers, role-play buying up to 3 items without balance from the model shop in the classroom. The room should be clutter free and allow free movement. Shelves/ tables and price list in the model shop should be at suitable height.	

			• Record a video during a role-play of classroom shopping activities. Using any functional part of the body/ adapted digital devices with special accessibility features/ software and neck-strap/ stand with blue-tooth switch and appropriate Assistive technology for manipulation.	

Core Competencies to be developed:

- Collaboration: learner in teams, makes sh. 10 and sh. 20 coins paper cut-outs, sorts and counts the number of sh. 10 and sh. 20 coins paper cut-outs.
- Digital literacy: learner records a video during a role play of classroom shopping activities.

Values:

- Patriotism: learner recognizes and sorts out Kenyan currency coins and notes up to sh.100.
- Responsibility: learner takes up assigned roles as they role play classroom shopping activities.

Pertinent and Contemporary Issues (PCIs):

- Financial Literacy: learner role plays buying up to 3 items without balance from the model shop in the classroom.
- Citizenship: learner recognizes and sorts out Kenyan currency coins and notes.

Link to other learning areas:

The learner is able to relate the skills of using money to buy items to the concept of our market in Environmental Activities.

Suggested Assessment Rubric

Level / Indicator	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Ability to measure length in metres, mass in kilograms and capacity in litres.	The learner measures length in metres, mass in kilograms and capacity in litres accurately and systematically.	The learner measures length in metres, mass in kilograms and capacity in litres accurately.	The learner measures any 2 of; length in metres, mass in kilograms and capacity in litres accurately.	The learner measures any 1 of; length in metres, mass in kilograms or capacity in litres.
Ability to read the calendar in terms of day and date.	The learner reads the calendar in terms of day, month and year accurately and fluently.	The learner reads the calendar in terms of day, month and year accurately.	The learner reads the calendar in terms of any 2 of; day, month and year accurately.	The learner reads the calendar in terms of any 1 of; day, month or year.
Ability to read and write time by the hour from the clock face.	The learner reads and writes time by the hour from the clock face accurately and fluently.	The learner reads and writes time by the hour from the clock face accurately.	The learner reads or writes time by the hour from the clock face accurately.	The learner reads or writes time by the hour from the clock face partially accurately.
Ability to identify Kenyan currency coins and notes up to sh.100.	The learner identifies Kenyan currency coins up to sh. 40 and notes up to sh.100 accurately and names their features.	The learner identifies Kenyan currency coins up to sh. 40 and notes up to sh.100 accurately	The learner identifies Kenyan currency coins up to sh. 40 or notes up to sh.100 accurately.	The learner identifies Kenyan currency coins up to sh. 20 or sh.50 note.
Ability to count the number of sh.10 and sh.20 coins	The learner counts the number of sh.10 and sh.20 coins and sh.50 and sh.100	The learner counts the number of sh.10 and sh.20 coins and	The learner counts the number of any 3 of; sh.10 and sh.20 coins, sh.50 and	The learner counts the number of any 2 or 1 of; sh.10 or sh.20

and sh.50 and sh.100 notes.	notes correctly and fluently.	sh.50 and sh.100 notes correctly.	sh.100 notes correctly.	coins, sh.50 or sh.100 notes.
Ability to add 2 denominations of money with sum not exceeding sh. 100.	The learner adds 2 denominations of money with sum not exceeding sh. 100 correctly and consistently.	The learner adds 2 denominations of money with sum not exceeding sh. 100 correctly.	The learner adds 2 denominations of money with sum not exceeding Sh. 70 correctly.	The learner adds 2 denominations of money with sum not exceeding sh. 50.

STRAND 3.0 GEOMERTY

Strand	Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 Geometry	**3.1 Lines** (5 lessons)	By the end of the sub strand, the learner should be able to; a) model straight lines in different ways, b) draw straight lines in different ways, c) model curved lines in different ways, d) draw curved lines in different situations, e) appreciate the use of lines in real life situations.	The learner is guided to: ● safely model straight lines using sticks, plasticine or clay or papier mache and strings in purposive pairs/groups. ● Safely model curved lines using plasticine or clay or papier mache and strings, by the use of any functional part of the body/ appropriate Assistive technology for manipulation with physical support. ● Model straight and curved lines by holding their hands in different ways; upward, horizontal, diagonal. Learners who may not perform the task using the limbs (manipulation	How are lines used in real life?

			difficulties) could make oral presentation on the formations/ other relevant ways of creating straight and curved lines as peer/ teacher/ learner support assistant does the actual task under their instruction. ● Draw/trace/mount/stamp straight and curved lines on manila papers and books using pencils, crayons and rulers or sticks, with grips for enhanced manipulation. ● Use adapted digital devices or other resources to draw lines and share with peers. with appropriate accessibility features/ software or other resources with appropriate Assistive technology for holding/ flipping pages.	

Core Competencies to be developed: ● Self-efficacy: learner draws straight and curved lines on manila papers and books. ● Digital literacy: learner uses digital devices to draw lines.
Values: ● Responsibility: learner takes care of materials used for drawing straight and curved lines. ● Love: learner portrays a caring attitude as they use digital devices to draw lines and share with peers.
Pertinent and Contemporary Issues (PCIs): ● Creative thinking: learner safely models curved lines using plasticine or clay or papier mache and strings. ● Friendship formation: learner uses digital devices or other resources to draw lines and share with peers.
Links to other learning areas: The learner is able to relate the skills used in drawing straight and curved lines to drawing skills in Creative Activities.

Strand	**Sub strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Suggested Key Inquiry Question(s)**
3.0 Geometry	**3.2 Shapes** (5 lessons)	By the end of the sub strand, the learner should be able to; a) identify different shapes in the environment, b) draw shapes in different ways, c) draw patterns involving different shapes, d) appreciate the use of shapes in forming patterns in fabrics.	The learner is guided to: ● Recognise and name different shapes in the environment (triangles, squares, circles and ovals) orally or through residual speech/ by writing/ mounting/ stamping using any functional part of the body/ appropriate Assistive technology for writing or point	How can patterns be made using shapes?

			on the shapes whose names are called out. ● Discuss /share on types of lines in different shapes (triangles, rectangles, squares, circles and ovals) in purposive pairs or groups. ● In turns, name different shapes of objects or on surfaces in their classroom. ● Draw using appropriate/ adapted drawing materials triangles, rectangles, squares, circles and ovals on manila papers and display in the learning environment, at an appropriate height for absolute accessibility by all learners. ● Make patterns using triangles, rectangles, squares, circles and ovals patterns using adapted digital devices with special accessibility features/ software which they operate by any functional part of the body or	

			appropriate Assistive technology with physical support, colour them and share with peers. • Play games in purposive pairs or groups involving pattern making using adapted digital devices or other resources with peers.	
Core Competencies to be developed: • Creativity and Imagination: learner makes patterns using triangles, rectangles, squares, circles, and ovals, and colour them. • Learning to Learn: learner recognises and names different shapes in the environment				
Values: • Unity: learner discusses types of lines in different shapes and in turn, names different shapes of objects in their classroom. • Social justice: learner gives others equal opportunity as they in turn name different shapes of objects in their classroom.				
Pertinent and Contemporary Issues (PCIs): • Self-esteem: learner draws triangles, rectangles, squares, circles and ovals on manila papers and display them in the learning environment. • Social cohesion: learner plays games involving pattern making using digital devices or other resources with peers.				
Link to other learning areas: The learner is able to relate the skills used in drawing shapes to drawing skills in Creative Activities.				

Level / Indicator	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Ability to model and draw straight and curved lines.	The learner models and draws straight lines correctly and creatively.	The learner models and draws straight lines correctly.	The learner models or draws straight lines correctly.	The learner models or draws straight lines partially correctly.
Ability to model and draw curved lines.	The learner models and draws curved lines correctly and creatively.	The learner models and draws curved lines correctly.	The learner models or draws curved lines correctly.	The learner models or draws curved lines partially correctly.
Ability to identify and draw shapes (triangles, rectangles, squares, circles and ovals).	The learner identifies and draws 5 shapes (triangles, rectangles, squares, circles and ovals) accurately and consistently.	The learner identifies and draws 5 shapes (triangles, rectangles, squares, circles and ovals) accurately.	The learner identifies and draws any 4 of the 5 shapes (triangles, rectangles, squares, circles and ovals) accurately.	The learner identifies or draws less than 4 shapes (triangles, rectangles, squares, circles and ovals).
Ability to draw patterns involving shapes (triangles, rectangles, squares, circles and ovals).	The learner draws patterns involving 5 shapes (triangles, squares, circles and ovals) accurately and creatively.	The learner draws patterns involving 5 shapes (triangles, rectangles, squares, circles and ovals) accurately.	The learner draws patterns involving any 4 of the 5 shapes (triangles, rectangles, squares, circles and ovals) accurately.	The learner draws patterns involving less than 4 shapes (triangles, rectangles, squares, circles and ovals).

APPENDICES

APPENDIX 1: SUGGESTED LEARNING RESOURCES

STRANDS	SUB -STRANDS	RESOURCES
NUMBERS	NUMBER CONCEPT	• Counters such as bottle tops, marbles, sticks, stones, grains, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,
	WHOLE NUMBERS	• Bottle tops, marbles, sticks, stones, grains, a number line drawn on the ground/floor, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,
	ADDITION	• Bottle tops, marbles, stones, sticks, grains, place value chart, abacus, basic addition facts table, a number line drawn on the ground/floor, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,
	SUBTRACTION	• Bottle tops, marbles, sticks, stones, grains, basic addition facts table, a number line drawn on the ground/floor, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,

	MULTIPLICATION	• Bottle tops, marbles, stones, grains, number line drawn on the ground/floor, multiplication table, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,
	DIVISION	• Bottle tops, marbles, sticks, stones, grains, multiplication tables, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,
	FRACTIONS	• Circular and rectangular cut outs, pair of scissors, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,
MEASUREMENT	LENGTH	• Pencils, sticks, rulers, strings, ropes, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,
	MASS	• Items of different masses such as books, stones, pieces of wood, items of same mass, beam balance, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,
	CAPACITY	• Containers of different sizes, 1 litre containers, water, soil, sand, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,
	TIME	• Charts with number of days in each month and months of the year in order, clock face both analogue and digital, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,
	MONEY	• Money in coins and notes sh.1, sh.5, sh.10, sh.20, sh.40, sh.50, sh.100, Model classroom shop, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,

GEOMETRY	LINES	• Sticks, clay, plasticine, strings, ropes, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,
	SHAPES	• Cut-outs of rectangles, circles, triangles, ovals and squares of different sizes, Adapted writing materials such as heavy gauge paper, pens/pencils with grip, Universal cuffs, Splints,

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
- Adapted digital devices among others.

APPENDIX 2: SUGGESTED ASSESSMENT METHODS AND TOOLS

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

NOTE: Assessment methods may be modified to accommodate a learner's diverse needs so that he/she can participate and achieve the learning outcomes. The table below shows how modes of assessment may be adapted:

S/No	**Assessment Methods/Modes And Suggested Adaptations**	
	Methods	**Suggested Adaptations**
1.	Written assessment	• Typing, stamping or signing • Description of the task as a scribe or learner support assistant writes Audio visual recording of the learner as he/she makes oral responses • Provision of Adapted digital devices and writing/drawing resources • Adjustment of time according to individual needs • Providing illustrations to be interpreted for activities that involve drawing • Use of worksheets

2.	Oral or Aural assessment	• Written responses • Use of AAC (Augmentative and Alternative modes of Communication) e.g. talking books, gestures, body movement, sign language, alphabet cards, facial expressions • Adjustment of time according to individual needs
3.	Portfolio	• Use of E-Portfolio • Provision of physical support • Use of assistive technology • Provision of Adapted digital devices and writing/drawing resources • Adjustment of time according to individual needs • Description of how to carry out a practical activity while being audio/video recorded
4.	Practical assessment/ Experiments	• Provision of physical support • Provision of Adapted resources (learner specific) • Description of how to carry out a practical activity while being audio/video recorded • Adjustment of time according to individual needs • Rest intervals according to individual needs • Environmental adaptation

5.	Project	• Provision of physical support • Provision of Adapted resources (learner specific) • Description of how to carry out a practical activity while being audio/video recorded • Adjustment of time according to individual needs • Environmental adaptation

APPENDIX 3: CSL GUIDELINES FOR 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 CSL 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.