Curriculum design

Mathematics grade three

Strand	Sub-strand	Specific Learning Outcomes	Suggested Learning Experiences	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:** • Use ordinal numbers to identify position from 1-20.	• Learners in pairs/groups to arrange different items in order of size starting with the smallest. • Learners to identify the position of an object from a reference point using first, second up to 20th . • Learners in groups to run for a distance and each to identify their position using the words first, second up to 20th position. • Learners in pairs/groups to relate numbers 1 –20 to positions first, second up to 20th using concrete objects. • Learners to play digital games involving position 1st - 20th.	**In which position were you when you came to class in the morning?**
Core-Competences to be developed: communication and collaboration, learning to learn, imagination and creativity, critical thinking and problem solving, self–efficacy, digital literacy.				
Link to PCI's: **Life Skills:** self– awareness- as they use their body parts.			**Link to Values:** • cooperation • social justice • positive competition	
Link to other learning areas: • Language activities			**Suggested Community Service Learning Activities:** • Learners may assist in giving patients cards in health facilities according to their arrival time.	
Suggested non-formal activity to support learning: • Learners to take turns in playing games.			**Suggested assessment:** • Written exercises, oral questions, observation.	

Assessment Rubric

Exceeds expectations	Meets expectations	Approaches expectations	Below expectations
Correctly uses ordinal numbers in identifying positions from 1st-20thand beyond with ease.	Correctly uses ordinal numbers in identifying positions from 1st-20th.	Inconsistently uses ordinal numbers in identifying positions from 1st-20th.	Major inaccuracies in using ordinal numbers in identifying positions from 1st-

Strand	Sub-strand	Specific Learning Outcomes	Suggested Learning Experiences	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 and backward from 1-1000, b. Identify place value up to thousands, c. Read numbers 1-1000 in symbols, d. Read and write numbers 1-100 in words, e. Identify missing numbers in number patterns up to 1000, f. Appreciate number patterns as they skip on a number line.	• Learners in pairs/groups to count in 2's and 5's forward and backward starting from any point. • Learners in pairs/groups to count their fingers and toes in 2's and 10's forward and backward starting from any point. • Learners in pairs / groups to discuss place value up to thousands. • Learners in pairs / groups to compete reading numbers 1-1000 in symbols. • Learners to read and write numbers 1-100 in words. • Learners to play digital games involving whole numbers. • Learners in pairs/groups to make number patterns up to 1000 and share with other groups.	**How would you get the total number of people in a group?**

Core-Competence to be developed: communication and collaboration, critically thinking and problem solving, imagination and creativity, digital literacy.	
Link to PCI's: • **Life skills**: self- awareness -as learners count their fingers and toes. • **Citizenship**: social cohesion -as learners work in groups.	**Link to Values:** • Integrity • cooperation • unity • responsibility
Link to other learning areas: • Environmental activities • Language activities	**Suggested Community Service Learning Activities:** • Learners may assist in counting the number of chairs in a community function.
Suggested non-formal activity to support learning: • Learners to count trees in the school compound.	**Suggested assessment:** • Written exercise, oral questions, observation.

Assessment Rubrics

Exceeds expectations	**Meets expectations**	**Approaches expectations**	**Below expectations**
Correctly: counts numbers from 1 -1000, reads and writes numbers 1-100 in words, reads and writes number symbols from 1 - 1000, identifies place value up to thousands, works out missing numbers in patterns up to 1000 with ease.	Correctly: counts numbers from 1 - 1000, reads and writes numbers 1-100 in words, reads and writes number symbols from 1 - 1000, identifies place value up to thousands, works out missing numbers in patterns up to 1000.	Inconsistently: counts numbers from 1 -1000, reads and writes numbers 1-100 in words, reads and writes number symbols from 1 -1000, identifies place value up to thousands, works out missing numbers in patterns up to 1000.	Major inaccuracies in: counting numbers from 1 - 1000, reading and writing numbers 1-100 in words, reading and writing number symbols from 1- 1000, identifying place value up to thousands, working out missing numbers in

Strand	Sub-strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
1.0 Numbers	**1.1 Fractions** (10 lessons)	By the end of the sub-strand the learner should be able to: a. Identify $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a whole. b. Identify $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a group.	• Learners in pairs /groups to make circular cut- outs. • Learners in pairs /groups to fold circular cut-outs into 2 equal parts and identify one part as $\frac{1}{2}$ of the whole. • Learners in pairs /groups to make rectangular cut-outs and fold them into 4 equal parts to get a quarter of a whole and identify each part as $\frac{1}{4}$ of the whole. • Learners in pairs /groups to make rectangular cut-outs and fold to get 8 equal parts and identify one part as $\frac{1}{8}$ of the whole. • Learners in pairs /groups 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. • Learners in pairs /groups to divide a number of objects into 4 equal groups and identify each of the small groups as $\frac{1}{4}$ of the whole group. • Learners in pairs /groups to divide a number of objects into 8 equal groups and identify each of the small groups as $\frac{1}{8}$ of the whole group • Learners to play digital games involving $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$.	**How can you represent a half, a quarter or an eighth of a group**

Core-Competence to be developed: imagination and creativity, communication and collaboration, critical thinking and problem solving, digital literacy.	
Link to PCI's: • **Life skills:** interpersonal relationships- friendship formation and decision making. • **Citizenship**: integrity-sharing, social cohesion -as they work in groups. • **ESD:** environmental awareness- as learners collect objects like sticks.	**Link to Values:** • integrity • unity • responsibility
Link to other learning areas: • Hygiene and Nutrition activities • Environmental activities • Language activities	**Suggested Community Service Learning Activities:** • Learners can share responsibilities during community activities.
Suggested non-formal Activity to support learning: • Learners to share library books during free time.	**Suggested assessment:** • Written exercise, observation, oral questions.

Assessment Rubrics

Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
• Correctly identifies , , and more as part of a whole and as part of a group.	• Correctly identifies , and as part of a whole and as part of a group.	and as part'of a whole and as part of a group.	identifying , and as part of a whole and as part of a group.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
1.0 Numbers	**1.2 Addition** (25 lessons)	By the end of the sub-strand, the learner should be able to: a. Add a 3- digit number to up to a 2 - digit number without regrouping with sum not exceeding 1000, b. Add a 3- digit number to up to a 2- digit number with single regrouping with sum not exceeding 1000, c. Add three single digit numbers with sum up to 27, d. Add two 3- digit numbers without regrouping, e. Add two 3- digit numbers with single regrouping with sum not exceeding 1000, f. Work out missing numbers in patterns involving addition up to 1000, g. Create number patterns involving addition up to 1000.	• Learners to add up to two 3- digit numbers without and with regrouping with sum not exceeding 1000. • Learners to practice adding horizontally and vertically. • Learners in pairs to come up with different ways of adding 3- single digit numbers. • Learners to play digital games involving addition. • Learners to create and work out missing numbers in patterns involving addition up to 1000.	• 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?
Core Competences to be developed: communication and collaboration, critical thinking and problem solving, digital literacy, imagination and creativity.				
Link to PCI's: • **ESD: DRR;** safety-environmental awareness. • **Life skills**: self- awareness-as they use body parts in counting.			**Link to Values:** • integrity • responsibility	
Link to other learning areas: • Environmental activities • Language activities • Religious activities			**Suggested Community Service Learning Activities:** • Learners may assist in working out the total number of different trees in their locality in order to find out which type should be planted.	

Assessment Rubrics

Exceeds Expectations	Meets Expectations	Approaching Expectations	Below Expectations
• Correctly: adds a 3- digit number to up to 3- digit numbers with double regrouping with sum not exceeding 1000,works out missing numbers in number patterns up to 1000, creates patterns involving addition up to 1000.	• Correctly: adds a 3- digit number to up to 3- digit numbers with single regrouping with sum not exceeding 1000 works out missing numbers in number patterns up to 1000, creates patterns involving addition up to 1000.	• Inconsistently: adds a 3-digit number to up to 3-digit numbers with single regrouping with sum not exceeding 1000, works out missing numbers in number patterns up to 1000, creates patterns involving addition up to 1000.	• Major inaccuracies in: adding a 3- digit number to up to 3- digit numbers with single regrouping with sum not exceeding 1000, working out missing numbers in number patterns up to 1000, creating patterns involving addition up to

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
1.0 Numbers	1.5 Subtraction (20 lessons)	**By the end of the sub-strand, the learner should be able to:** a. Subtract up to 3- digit numbers without regrouping, b. Subtract up to 3- digit numbers involving missing numbers with single regrouping, c. Work out missing numbers in number patterns involving subtraction up to 1000.	• Learners to work out subtraction of up to 3-digit numbers without regrouping in real life situations. • Learners to work out missing numbers in subtraction of up to 3-digit numbers with single regrouping using a variety of strategies such as number families. • Learners to play digital games involving subtraction. • Learners to discuss how to work out missing numbers in patterns involving subtraction up to 1000.	**1) When do you regroup during subtraction?** **2) How do you identify the missing number in a number pattern**

Core Competences to be developed: communication and collaboration, critical thinking and problem solving, digital literacy.

Link to PCI's: **ESD:** environmental awareness- as learners work out subtraction.	**Link to Values:** • respect • responsibility • integrity
Link to other learning areas: • Language activities • Hygiene and Nutrition activities • Environmental activities	**Suggested Community Service Learning Activities:** • Learners to participate in community environmental cleaning activities.
Suggested non- formal activity to support learning: • Learners to clean up their school.	**Suggested assessment:** • Oral questions, written exercise, observation.

Assessment Rubrics

Exceeds Expectations	Meets Expectations	Approaching Expectations	Below Expectations
• Correctly: subtracts up to 3- digit numbers without regrouping, subtracts up to 3- digit numbers involving missing numbers with single regrouping, works out missing numbers in patterns up to 1000 with ease.	• Correctly: subtracts up to 3- digit numbers without regrouping, subtracts up to 3- digit numbers involving missing numbers with single regrouping, works out missing numbers in patterns up to 1000.	• Inconsistently: subtracts up to 3- digit numbers without regrouping, subtracts up to 3- digit numbers involving missing numbers with single regrouping, works out missing numbers in patterns up to 1000.	• Major inaccuracies in: subtracting up to 3- digit numbers without regrouping, subtracting up to 3- digit numbers involving missing numbers with single regrouping, working out missing numbers in patterns up to 1000.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
1.0 Numbers	1.6 Multiplication (10 lessons)	**By the end of the sub-strand, the learner should be able to:** • Multiply single digit numbers by numbers 1-10 in different contexts.	• Learners in pairs/groups to multiply single digit numbers by numbers1-10 using: • -groups of objects • -repeated addition • -multiplication table. • Learners to play digital games involving multiplication.	**1) How can you work out multiplication using repeated addition?** **2) How can we get the answer to a multiplication question using the multiplication table?**

Core competences to be developed: communication and collaboration, imagination and creativity ,self-efficacy, digital literacy.	
Link to PCI's: • **Life skills**: self –awareness -learners use body parts in grouping objects. • **ESD: DRR**; Environmental conservation-learners re-use materials and objects; animal welfare-feeding animals in small portions at a time.	**Link to values** • integrity • unity • cooperation
Link to other learning areas: • Language activities • Environmental activities • Movement and creative activities	**Suggested Community Service Learning Activities**: • Learners to assist farmers in finding out how many seedlings planted in rows are in a seed bed.
Suggested non-formal activities to support learning: • Learners to play games involving multiplication in school.	**Suggested assessment:** • Written exercise, observation, oral questions.

Assessment Rubrics

Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
• Correctly multiplies single digit numbers by numbers 1-10 and beyond.	• Correctly multiplies single digit numbers by numbers 1-10.	• Inconsistently multiplies single digit numbers by numbers 1-10.	• Major inaccuracies in multiplying single digit numbers by numbers 1-10.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
1.0 Numbers	1.7 Division (8 lessons)	**By the end of the sub-strand, the learner should be able to**: a) Represent division as repeated subtraction up to 5 times, b) Show relationship between multiplication and division using mathematical sentences up to $9 \times 10 = 90$.	• Learners 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. • Learners to represent division as repeated subtraction up to 5 times. • Learners to discuss the relationship between division and multiplication using the multiplication table. • Learners in pairs/ groups to practice how to divide numbers related to multiplication of up to • $9 \times 10 = 90$. • Learners to play digital games	**1) How can we divide numbers using subtraction?** **2) How can we use the multiplication table to work out division questions?**

Core Competences to be developed: communication and collaboration, critical thinking and problem solving, digital literacy.

Link to PCI's: **ESD:** animal welfare- feeding animals by giving small portions at a time.	**Link to Values:** • respect • responsibility • love
Link to other learning areas : • Language activities • Hygiene and Nutrition activities • Environmental activities	**Suggested Community Service Learning Activities:** • Learners to assist in sharing food in functions.
Suggested non- formal activity to support learning: • Learners to water flowers and trees in the school compound.	**Suggested assessment:** oral questions, written exercise, observation.

Assessment Rubrics

Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
• Correctly represents division as repeated subtraction up to more than 5 times and relates division to multiplication up to 9 x10 = 90.	• Correctly represents division as repeated subtraction up to 5 times and relates division to multiplication up to 9x10= 90.	• Inconsistently: represents division as repeated subtraction up to 5 times, relates division to multiplication up to 9 x10 = 90.	• Major inaccuracies in: representing division as repeated subtraction up to 5 times and in relating division to multiplication up to 9 x10 = 90.

Strand	**Sub-Strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**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 in metres, b) Add and subtract length in metres, c) Estimate length up to 20 metres.	• Learners in pairs/groups to use metre sticks to measure various distances and record their results. • Learners to prepare 5 metres long strings with knots at intervals of one metre to measure long distances. • Learners in groups to measure the lengths of the 4 walls in their classroom and add the lengths. • Learners to measure the length of the chalkboard and the wall it is fixed and work out the difference in length. • Learners to work out questions involving addition and subtraction of length in metres based on real life situations. • Learners in pairs/groups to estimate distances around the school up to 20 metres and measure to confirm. • Learners to take videos of others measuring length then playback and discuss.	**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?**

Core Competencies to be developed: communication and collaboration, imagination and creativity, critical thinking and problem solving, self-efficacy, digital literacy.	
Link to PCI's: **ESD:DRR**; • Environmental awareness-re-use of materials, safety- of materials learners use.	**Link to values:** • Integrity • Unity • Responsibility
Link to other learning areas: • Environmental activities • Language activities	**Suggested Community Service Learning Activities:** • Learners to assist their neighbours in measuring length when building chicken and rabbit cages among others.
Suggested non-formal activity to support learning: • Learners to measure lengths of buildings in school.	**Suggested assessment:** • Oral questions, observation' written exercise.

Assessment Rubrics

Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
• Correctly: measures length in metres, adds length in metres, subtracts length in metres and estimates length up to 20 metres and beyond.	• Correctly measures length in metres, adds length in metres, subtracts length in metres and estimates length up to 20 metres.	• Inconsistently: measures length in metres, adds length in metres, subtracts length in metres and estimates length up to 20 metres.	• Major inaccuracies in: measuring length in metres, adding length in metres, subtracting length in metres and estimating length up to 20 metres.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	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 in kilograms, b. Add and subtract mass in kilograms, c. Estimate mass up to 5 kilograms.	• Learners to measure mass in kilograms using a beam balance. • Learners to make masses of 1kg using sand/ soil by measuring against the kilogram standard unit. • Learners to add and subtract mass in kilograms in real life situations. • Learners to use a 5kg mass to compare other masses. • Learners to estimate mass up to 5kg and measure to confirm. • Learners to play digital games involving mass.	**How can you make a 1kg mass using a beam balance?**
Core competencies to be developed: communication and collaboration, imagination and creativity, critical thinking and problem solving, self-efficacy, digital literacy.				
Link to PCI's: • **Citizenship:** social cohesion- as learners work in groups. • **ESD: DRR**; safety- in selecting appropriate materials.			**Link to Values:** • integrity • unity • honesty	
Link to other learning areas: • Environmental activities • Language activities • Movement and creative activities			**Suggested Community Service Learning Activities:** • Learners to assist neighbours in arranging light items.	
Suggested non-formal activity to support learning: • Learners to measure mass of different items in kilograms.			**Suggested assessment:** • Written exercise, oral questions, observation	

Assessment Rubrics

Exceeds Expectations	Meets Expectations	Approaching Expectations	Below Expectations
• Correctly: measures mass in kilograms adds and subtracts mass in kilograms and estimates mass up to 5kg and beyond.	• Correctly: measures mass in kilograms adds and subtracts mass in kilograms and estimates mass up to 5kg.	• Inconsistently: measures mass in kilograms adds and subtracts mass in kilograms and estimates mass up to 5kg.	• Major inaccuracies in: measuring mass in kilograms, adding and subtracting mass in kilograms and estimating mass up to 5kg..

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	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 in litres, b. Add and subtract capacity in litres, c. Estimate capacity up to 5 litres.	• Learners in pairs/groups measure capacity of different containers in litres. • Learners to add and subtract capacity in litres in real life situations. • Learners to estimate capacity up to 5 litres and measure to confirm. • Learners play digital games involving capacity.	**What can we use to measure capacity?**
Core Competences to be developed: communication and collaboration, critical thinking and problem solving, digital literacy, imagination and creativity, citizenship.				
Link to PCI's: **ESD:** animal welfare – feed animals with water			**Link to Values:** • respect • responsibility • integrity	

Link to other learning areas: • Language activities • Nutrition and hygiene activities • Environmental activities • Movement and creative activities	**Suggested Community Service Learning Activities:** • Learners to take part in watering flowers and trees around places of worship, health centres and at home.
Suggested non- formal activity to support learning: • Learners to water flowers and trees in the school compound.	**Suggested assessment:** • Oral questions, observation, written exercise

Assessment Rubrics

Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
• Correctly: measures capacity in litres, adds and subtracts capacity in litres in real life experiences and estimates capacity up to 5 litres and beyond.	• Correctly: measures capacity in litres, adds and subtracts capacity in litres in real life experiences and estimates capacity up to 5 litres	• Inconsistently: measures capacity in litres, adds and subtracts capacity in litres in real life experiences and estimates capacity up to 5 litres	• Major inaccuracies in: measuring capacity in litres, adding and subtracting capacity in litres in real life experiences and estimating capacity up to 5 litres

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	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. Identify the minute as a unit of measuring time, b. Read and tell time using the digital clock, c. Read and tell time using 'past' and 'to' the hour using the clock face, d. Write time using 'past' and 'to' the hour, e. Estimate time in hours, f. Add and subtract time involving hours and minutes without conversion in real life	• Learners to discuss the divisions on a clock face and what each division represents. • Learners to read time on a digital clock • Learners in pairs/groups to discuss the relationship between hours and minutes using a clock face. • Learners in pairs/groups to read, tell and write time using 'past' and 'to' the hour. • Learners in pairs/groups to estimate time in hours. • Learners in pairs/groups to add and subtract time involving hours and minutes without conversion in real life situations.	**How do we convert hours to minutes**
Core Competences to be developed: communication and collaboration, critical thinking and problem solving, digital literacy, learning to learn.				
Link to PCI's: • **Health education:** HIV and AIDS- drugs time adherence. • **Citizenship**: governance- law and order in school in keeping time.			**Link to Values:** • respect • responsibility • integrity • social justice	
Link to other learning areas : • Language activities • Nutrition and Hygiene activities • Environmental activities			**Suggested Community Service Learning Activities:** • Learners to assist in being time keepers in community activities.	
Suggested non- formal activity to support learning: • Learners to assist in time keeping during games.			**Suggested assessment:** • Oral questions, observation, written exercise.	

Assessment rubrics

Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Correctly: reads, tells, writes time using 'past' and 'to' the hour, estimates time in hours and minutes, adds and subtracts time involving hours and minutes without conversion in real life situations with ease.	Correctly: reads, tells, writes time using 'past' and 'to' the hour, estimates time in hours, adds and subtracts time involving hours and minutes without conversion in real life situations.	Inconsistently: reads, tells, writes time using 'past' and 'to' the hour, estimates time in hours, adds and subtracts time involving hours and minutes without conversion in real life situations.	Major inaccuracies in: reading, telling, writing time using 'past' and 'to' the hour, estimating time in hours, adding and subtracting time involving hours and minutes without conversion in real life situations

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	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 notes up to sh.1000, b. Count money in different denominations up to sh.1000, c. Add and subtract money involving up to sh.1000, d. Carry out shopping activities involving change and balance, e. Relate money to goods and services up to sh.1000, f. Differentiate between needs and wants, g. Appreciate spending and saving of money in real life situations.	• Learners in pairs/groups to sort out Kenyan currency notes according to their value and features up to sh.1000. • Learners in pairs/groups to practice addition and subtraction of money in real life situations up to sh.1000. • Learners in pairs/groups to practice giving change and balance using imitation money up to sh.1000 in shopping activities. • Learners in pairs/groups to share own experiences in relation to shopping activities.	**What is the difference between needs and wants?**

			• Learners in pairs/groups to discuss items they cannot do without and those that are necessary but they can do without. • Learners in pairs/groups to classify needs and wants. • Learners to play digital games involving money.	

Core Competences to be developed: communication and collaboration, critical thinking and problem solving, digital literacy, citizenship.

Link to PCI's: • **ESD:** financial literacy- the choice of what to buy and what not to buy. • **Parental Empowerment and engagement:** selection of what to buy and what not to buy.	**Link to Values:** • respect • responsibility • integrity • social justice
Link to other learning areas: • Language activities • Hygiene and Nutrition activities	**Suggested Community Service Learning Activities:** • Learners to visit older citizens to listen to stories involving money features.
Suggested non- formal activity to support learning • Learners to help count money in school activities.	**Suggested assessment:** • Written exercise, oral questions, observation.

Assessment Rubrics

Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Correctly: identifies Kenyan currency notes up to sh. 1000,counts money in different denominations, adds, subtracts, carries out shopping activities above sh.1000, relates money to goods and services, differentiates needs and wants, explains meaning of spending and saving	Correctly: identifies Kenyan currency notes up to sh. 1000,counts money in different denominations, adds, subtracts, carries out shopping activities within sh.1000, relates money to goods and services, differentiates needs and wants, explains meaning of spending and saving in real life	Inconsistently: identifies Kenyan currency notes up to sh.1000,counts money in different denominations, adds, subtracts, carries out shopping activities within sh.1000, relates money to goods and services, differentiates needs and wants, explains meaning of spending and saving in real life situations.	Major inaccuracies in: identifying Kenya currency notes up to sh.1000, counting money in different denominations, adding, subtracting, carrying out shopping activities within sh.1000, relating money to goods and services, differentiating needs and wants, explaining meaning of spending and saving in real life situations.

Strand	Sub-strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question(s)
3.0 Geometry	3.1 Position and Direction (5 lessons)	**By the end of the sub-strand, the learner should be able to:** a) Move along a straight line from a point, b) Turn to the right from a point, c) Turn to the left from a point.	• Learners in pairs /groups to move along a straight line from a given point. • Learners in pairs/groups to move straight along the outside of their classroom and then turn to the right or left. • Learners in pairs practice moving along a straight line and turning left or right. • Learners to play digital games on movement.	**What do you do when you get to a road junction**?
Core Competences to be developed: communication and collaboration, critical thinking and problem solving, digital literacy, imagination and creativity.				

Link to PCI's: • **Life skills:** self- awareness - as learners use their body parts in movement. • **Citizenship**: social cohesion- as learners work in groups	**Link to Values:** • cooperation • responsibility • unity
Link to other learning areas: • Language activities • Movement and creative activities • Environmental activities	**Suggested Community Service Learning Activities:** • Learners to assist in ushering people during community functions.
Suggested non- formal activity to support learning: • Learners to participate in games, athletics and scouting.	**Suggested assessment:** • Written exercise, oral questions, observation.

Assessment Rubric

Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
• Correctly demonstrates movement along a straight line and turning to the right or left with ease.	• Correctly demonstrates movement along a straight line and turning to the right or left.	• Inaccurately: demonstrates movement along a straight line, and turning to the right or left.	• Major inaccuracies in: demonstrating movement along a straight line and turning to the right or left.

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) Make patterns involving rectangles, circles, triangles, ovals and squares, b) Appreciate making patterns involving rectangles, circles, triangles, ovals and squares.	• Learners to sort and group items of different shapes. • Learners in pairs /groups to discuss the types of lines making various shapes. • Learners to identify and name the different shapes found in their environment. • Learners to make patterns using the five shapes. • Learners in groups to make patterns, colour them and share with other groups. • Learners to play digital games involving shapes.	**What shapes can you identify in your school?**

Core Competences to be developed: communication and collaboration, creativity and imagination, critical thinking and problem solving, digital literacy.	
Link to PCI's: • **Citizenship:** leadership development, social cohesion- as learners work in groups. • **Life skills**: self- esteem and awareness- as learners make patterns	**Link to Values:** • respect • responsibility • unity
Link to other learning areas : • Languages activities • Movement and creative activities • Environmental activities	**Suggested Community Service Learning Activities:** • Learners to visit children homes and beautify their rooms with patterns drawn on paper.
Suggested non- formal activity to support learning: • Learners to mark games /sports fields.	**Suggested assessment:** • Written exercises, oral questions, observation.

Assessment Rubric

Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
• Correctly makes patterns involving rectangles, circles, triangles, ovals and squares with ease.	• Correctly makes patterns involving rectangles, circles, triangles, ovals and squares.	• Inaccurately makes patterns involving rectangles, circles, triangles, ovals and squares.	• Major inaccuracies in making patterns involving rectangles, circles, triangles, ovals and squares

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

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.