P5 MATHEMATICS SCHEME OF WORK TERM ONE

Wk	Pd	Theme	Tp	Sp	Content	L/SKL	Competences		Activity	Methods / tech	Learning materials	RS	Rm
							Subject	**Language**					
2	**2**	**SET CONCEPTS**	EQUAL SETS, EQUIVALENT SETS	Types of s ets	**<u>TYPES OF SETS</u>** i) Definition of a set. ii) Types of sets **EQUAL SETS** i) Definition of an equal set. ii) Symbol of an equal set iii) Examples of equal sets **<u>EQUIVALENT SETS</u>** i) Definition of equivalent sets ii) Symbol of equivalent sets iii) Examples of equivalent sets.	Critical thinking and problem solving.	**Learners should be able to:** i) Define a set. ii) Name different types of sets. iii) Define an equal set iv) Give the symbol of equal sets v) Give examples of equal sets. **Learners should be able to:** i) Define an equivalent set ii) Write the symbol of an equivalent set iii) Form examples of equivalent sets through own experiences.	Leaners should: 1) Read vocabularies with correct intonation and pronunciation. 2) Spell the vocabularies correctly	Naming types of sets. Drawing set symbols Shading sets Applying symbols in given sets Reading applied symbols Doing some exercises	1) Class discussion and Demonstration. Explanation Discovery Question and answer.	Pens, sets, pencil. & Other real objects. - charts showing types of sets.	New Mk Primary mathematics 2000, Page 1 New Mk Primary mathematics 2000, Page 1 - 2	

2	**2**	**SET CONCEPTS**		Types of sets	**NON EQUIVALENT SETS** i) Definition of non-equivalent sets. ii) Symbol of non-equivalent sets iii) Examples of non-equivalent sets. **EMPTY SETS** i) Definition of an empty set. ii) Symbol of non-equivalent set iii) Examples of an empty set. **INTERSECTION SETS** i) Definition of intersection of sets. ii) The symbol of intersection of sets. iii) Finding number of elements in intersection. iv) Shading and representing intersection on a Venn diagram. v) Identifying members of intersection. vi) Deriving members of intersection from a venn diagram.	**Critical thinking and problem solving**	**Learners should be able to:** Define a non-equivalent set. Write the symbol of a non- equivalent set Form non-equivalent sets **Learners should be able to:** i) Define an empty set. ii) Write and identify the symbols of an empty set. iii) Identify empty sets. **Learners should be able to:** i) Define intersection of sets ii) Identify and Draw the symbol of intersection of sets. iii) State the number of intersection of sets. iv) Shade and represent intersection on a venn diagram. v) Identify members of intersection. vi) Derive members ofintersection from a venn diagram.	Leaners should: 3)Read - vocabularies with correct intonation and pronunciation. 4) Spell vocabularies correctly	Drawing set symbols Shading sets Applying symbols in given sets Reading applied symbols Doing some exercises	Class discussion. Demonstration. Explanation Discovery	Pens, sets, pencil. & Other real objects. chart showing types of sets.	New Mk Primary mathematics 2000, Page 2 New Mk Primary mathematics 2000, Page 3 New Mk Primary mathematics 2000, Page 4 - 7	

2	**2** **2**	**SET CONCEPTS CEPTS**	Union of se t s	Types of setsttt	**<u>UNION OF SETS</u>** i) Definition of union of sets. ii) Symbol for union of sets. iii) Finding union of sets. iv) Number of elements in the union of sets. v) Representing union sets on a Venn diagram. **<u>THE DIFFERENCE OF SETS</u>** i) Definition of difference of sets. ii) How difference of sets is represented symbolically. iii) Diagrammatic representation of difference of sets. iv) Listing members of the difference of sets. v) Number of members in the difference of sets.	Critical thinking and putting information on the Venn diagram	**Learners should be able to:** i) Define union of sets. ii) Write the symbol for union of sets. iii) Form union of sets from given sets. iv) Write the number of elements in the union of sets. v) Represent union of sets on a Venn diagram. vi) Derive members of union of sets from a Venn diagram. **Learners should be able to:** i) Define difference of sets. ii) Represent difference of sets symbolically. iii) Represent difference of sets diagrammatically. vi) Identify and list members of the difference of sets. iv) Write number of members in the difference of sets.	Leaners should: 3) Read vocabularies with correct intonation and pronunciation. 4)Spell vocabularies correctly.	Drawing set symbols Shading sets Applying symbols in given sets Reading applied symbols Doing some exercises	Class discussion. Demonstration. Explanation	Pens, sets, pencil. & Other real objects. chart showing types of sets.	New Mk Primary mathematics 2000, Page 8 – 12 New Mk Primary mathematics 2000, Page 13 - 14	

3	2 2 2	SET CONCEPTS	**Set elements**		**SUB SETS OF A SET** i) Description of a sub - set. ii) The symbol for a sub set. iii) Listing sub sets of a given set. iv) Finding number of sub sets in a given set. v) Representing subsets on a Venn diagram vi) Using the formula **PROBABILITY** i) Definition of probability. ii) Formula to find probability. iii) Probability using a coin. iv) Probability using a Dice.	**Critical thinking and putting information on the Venn diagram**	**Learners sh'd be able to:** i) Shade the required set on a Venn diagram. ii) Identify elements from a given set on the Venn diagram. iii) State number of elements in a given set. **Learners sh'd be able to:** i) Define a sub set. ii) Write the symbol for a sub set. iii) List sub sets of a given set. iv) State number of sub sets in a given set. v) Represent sub sets on a Venn diagram. Define probability. i) State the formula used to find probability. ii) Solve probability involving a coin and a dice by using the formular.	Leaners should: 3) Read vocabularies with correct intonation and pronunciation. 4) Spell vocabularies correctly.	Drawing set symbols Shading sets Applying symbols in given sets Reading applied symbols Doing some exercises Carrying out some demonstrations by tossing the coins and the dice.	Class discussion Demonstration. Explanation	Pens, sets, pencil. & Other real objects. chart showing Venn diagrams with illustrations of elements in a set and subsets Coin and a dice.	New Mk Primary mathematics 2000, Page 14 – 16 New Mk Primary mathematics 2000, Page 18 - 20	

3	**2** **2** **2**	**THE NUMERATION SYSTEM**	Place values	Place values of whole numbers	**<u>THE NUMERATION SYSTEM</u>** **<u>Introduction</u>** i) Meaning of a numeration system ii) The numeric symbols. E.g. 0, 1, 2, 3… iii) Formation of numerals from digits. The largest and smallest. iv) The difference between the smallest and largest numbers. **<u>PLACE VALUES OF WHOLE NUMBERS</u>** i) Place values of each digit in a given number of up to hundreds of thousands. ii) Place values of underlined digits in a given number. **<u>VALUES OF WHOLE NUMBERS</u>** i) Finding values of each digit in a given number. ii) Finding values of underlined digits in a given number.	Critical thinking and problem solving	**Learners sh'd be able to:** i) State the meaning of Numeration system. ii) Give examples of numeric symbols. iii) Use given digits to form larger and smaller numbers iv) Work out the difference between the smallest and largest numbers formed. **Learners sh'd be able to:** i) State place values of each digit in a given number of up to hundreds of thousands. ii) Identify place values of underlined digits in a given number. **Learners sh'd be able to:** i) Work out values of each digit in a given number. ii) Work out values of underlined digits in a given number.	Leaners should: 3) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly.	Class discussion in lesson , answering oral questions Doing an exercise Learners' participation in lesson as guided by the teacher. Doing an exercise	Chalkboard illustration Explanation Oral questioning and answer. Mental work Discussion.	- Chalk board illustration - chart showing place values.	New Mk Primary mathematics 2000, Page 24 - 25 New Mk Primary mathematics 2000, Page 26 New Mk Primary mathematics 2000, Page 27	

4	**2** **2**	**THE NUMERATION SYSTEM**	Writing figures in words	Writing figures in words	Leaners should: 4) Read 	New Mk Primary mathematics 2000, Page 28 New Mk Primary mathematics 2000, Page 29 New Mk Primary mathematics 2000, Page 29	

4	**2** **2**	**THE NUMERATION SYSTEM**	Expanded form of whole numbers	Expanding whole numbers	**EXPANDING WHOLE NUMBERS USING VALUES** i) Revision on values of digits in a given number. ii) Expanding numbers using values **EXPANDING WHOLE NUMBERS AS MULTIPLES OF TEN** i) Revision of values of digits in a given number in multiples of ten. ii) Expanding whole numbers using multiples of ten.	Critical thinking and problem solving	**Learners should be able to:** i) Work out the values of digits in a given number. ii) Expand numbers with the help of values **Learners should be able to:** i) Solve the values of digits in a given number in multiples of ten. ii) Expand whole numbers using multiples of ten.	Leaners should: 5) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly.	Learners' participation in lesson as guided by the teacher. Doing an exercise Learners participation in lesson as guided by the teacher. Doing an exercise	Chalkboard illustration. Explanation Oral questioning and answer. Mental work Discussion. Learners' participation in lesson as guided by the teacher. Doing an exercise	Chart showing Place values Chalkboard illustration.	New Mk Primary mathematics 2000, Page 30 New Mk Primary mathematics 2000, Page 31	

4 **5**	2 2 2	**THE NUMERATION SYSTEM**	Expanded form of whole numbers	Expanded form of whole numbers	**EXPANDING NUMBERS USING POWERS/ EXPONENTS** i) Supplying powers to digits in a given number to aid expansion. _____ **#CREATIVE PRINTERS 0703745068/ 0785681207** _____	Critical thinking and problem solving	**Learners sh'd be able to:** i) Supply powers to digits in a given number to aid expansion.	Leaners should: 6) Read vocabularies with correct intonation and pronunciation.	New Mk Primary mathematics 2000, Page 32 New Mk Primary mathematics 2000, Page 33	

5	**2** **2** **2**	**THE NUMERATION SYSTEM**	Decimal numbers	Values of decimal numbers	**VALUES OF DIGITS IN DECIMAL** i) Work out the values of digits in decimal numbers. ii) Work out the values of underlined digits in decimal numbers. **WRITING DECIMAL NUMBERS IN WORDS** i) Place values of digits in decimal numbers. ii) Writing decimal numbers in words. **WRITING DECIMAL FRACTIONS IN FIGURES** i) Writing decimal fractions in figures. ii) Writing up to hundredth decimal fractions in figures.	Critical thinking and problem solving	**Learners should be able to:** i) Work out the values of digits in decimal numbers. ii) Work out the values of underlined digits in given decimal numbers. **Learners should be able to:** i) State the place values of digits in decimal numbers. ii) Write decimal numbers in words up to hundredth correctly. **Learners should be able to:** i) Write decimal fractions in words to figures up to hundredth.	Leaners should: 7) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly.	Identifying place values of each digit. Doing an exercise.	Chalkboard illustration. Explanation Oral questioning and answer Mental work Discussion. .	Chart showing Place values including Decimal numbers Chalkboard illustration.	New Mk Primary mathematics 2000, Page 34 – 35 New Mk Primary mathematics 2000, Page 35 New Mk Primary mathematics 2000, Page 35 - 36	

#CREATIVE PRINTERS 0703745068/ 0785681207

6	2 2 2	THE NUMERATION SYSTEM		**EXPANDING DECIMAL NUMBERS** i) Expanding decimal #CREATIVE PRINTERS 0703745068/ 0785681207 #CREATIVE PRINTERS 0703745068/ 0785681207	**Learners should be able to:** i) Expand decimal Leaners should: 8) Read	New Mk Primary mathematics 2000, Page 36 New Mk Primary mathematics 2000, Page 37 New Mk Primary mathematics 2000, Page38	

6	**2** **2**	**THE NUMERATION SYSTEM**	Rounding off	Rounding off whole numbers	**ROUNDING OFF WHOLE NUMBERS** i) Using a number line to aid in rounding off numbers. ii) Rounding off to the nearest tens. iii) Rounding off to the nearest Hundreds iv) Rounding off to the nearest thousands. **ROUNDING OFF DECIMAL NUMBERS** i) Rounding off numbers to the nearest tenth. ii) Rounding off numbers to the nearest Hundredth.	Critical thinking and problem solving	**Learners should be able to;** i) Use a number line to aid in rounding off numbers. ii) Round off numbers to the nearest tens. iii) Round off numbers to the nearest Hundreds. iv) Round off numbers to the nearest thousands. **Learners should be able to:** i) Round off numbers to the nearest tenth. ii) Round off numbers to the nearest hundredth.	Leaners should: 9) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly.	Learners' participation in lesson as guided by the teacher. Responding to oral questions Learners will do an exercise. Learners' participation in lesson as guided by the teacher. Responding to oral questions	Chalkboard illustration. Explanation -Oral questioning and answer. Discussion.	Chalkboard illustration. Chalkboard illustration.	New Mk Primary mathematics 2000, Page 39 – 44 New Mk Primary mathematics 2000, Page 44	

7		**<u>ADDITION UPTO SIX DIGITS</u>** i) Arranging digits	**Learners should be able to:** i) Arrange digits	Leaners should: 10) Read	New Mk Primary mathematics 2000, Page 47 – 49
	2				
		#CREATIVE PRINTERS 0703745068/ 0785681207			
	2				New Mk Primary mathematics 2000, Page 50 - 51

7	**2** **2**	**OPERATION ON NUMBERS**	Multiplication	Multiplication of a two by two digit number	**<u>MULTIPLICATION BY A TWO DIGIT NATURAL NUMBER</u>** i) Arranging digits vertically in respect of place values before multiplying. ii) Multiplying two digit numbers. iii) Applying carrying when multiplying two digit numbers. iv) Carrying out multiplication involved in word problem. **<u>DIVISION OF NUMBERS.</u>** i) Divisibility test. ii) Comparing multiplication with division. iii) Dividing three digit numbers with and without remainders. iv) Dividing numbers by multiples of 10.	Critical thinking and problem solving	**Learners should be able to;** i) Arrange digits vertically in respect of place values before multiplying. ii) Multiply two digit numbers. iii) Carry when multiplying two digit numbers. iv) Solve numbers involving multiplication in word problem. **Learners should be able to:** i) Apply divisibility test to easily divide numbers. v) Compare multiplication with division. vi) Divide numbers by multiples of 10 with remainder. v) Divide three digit numbers with and without remainders. vi) Solve numbers involving division in word problems.	Leaners should: 11) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly.	Chalkboard illustration. Explanation Oral questioning and answer. Discussion.	Learners' participation in lesson as guided by the teacher. Learners will do an exercise. Learners' participation in lesson as guided by the teacher. Learners will do an exercise.	Chalkboard illustration. Chalkboard illustration.	New Mk Primary mathematics 2000, Page 52 – 56 New Mk Primary mathematics 2000, Page 57 - 59	

7	2	**OPERATION ON NUMBERS**	**Combined operations**	**Combined operations**	**COMBINED OPERATION** i) Solving mixed	Leaners should: 12) Read
8	2		**Finding mean** Mean			

8	**2** **2** **2**	**OPERATION ON NUMBERS**	**Bases**	**Base five and base ten**	**<u>SYMBOLS $>, <, \geq, \leq$ AND =</u>** i) The meaning of each symbol. ii) Applying each symbol in different mathematical phrases. **<u>BASE FIVE AND TEN</u>** i) Meaning of decimal system. ii) Meaning of non-decimal system. iii) Counting in base five. iv) The basic digits of base five. **<u>PLACE VALUE</u>** i) Place values of each digit in base five ii) Finding the values of each digit in base five numbers with up to three digits.	Critical thinking and problem solving	**Learners should be able to:** i) State the meaning of each symbol. iii) Apply each symbol in a given mathematical phrase. **Learners should be able to:** i) State the meaning of decimal system. ii) State the meaning of non-decimal system. iii) Count in base five. iv) Mention the basic digits of base five. **Learners should be able to:** i) Work out the place values of each digit in a base five number. iii) Work out the values of each digit in base five numbers with up to three digits.	Leaners should: 13) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly.	Chalkboard illustration. Explanation Oral questioning and answer. Mental work Demonstration. Discussion.	Responding to oral questions Learners will do an exercise.	Chart of symbols with what they mean. Chalkboard illustration. Chart showing place values of base numbers	New Mk Primary mathematics 2000, Page 66 New Mk Primary mathematics 2000, Page 68 – 69 New Mk Primary mathematics 2000, Page 70	

9	**2** **2** **2**		**Bases**	Conversion of numbers to different bases	

9	**2** **2**	**OPERATION ON NUMBERS**	**Bases**	Conversion of numbers to different bases Addition in bases	**CHANGING BASE TEN TO BASE FIVE** i) Using division to change base ten to base five. ii) Finding the remainder after each consecutive division carried out. iii) Reading the answer from the remainder column. **ADDITION IN BASE FIVE** i) Digits applied in base five. ii) Use of division to get the remainder. iii) Regrouping the whole number and the remainders to obtain he answer.	Critical thinking and problem solving	**Learners should be able to:** i) Use division to change base ten to base five. ii) Obtain the remainder after each consecutive division carried out. iii) Read the answer from the remainder column from down up wards. **Learners should be able to:** i) Name the operational digits of base five when adding. ii) Use division to get the remainder. iii) Regroup the whole number and the remainders to obtain he answer. iv) Add in base five.	Leaners should: 15) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly.	Chalkboard illustration. Explanation Oral questioning and answer. Mental work Discussion.	Learners' participation in lesson as guided by the teacher. Learners will do an exercise Learners' participation in lesson as guided by the teacher. Responding to oral questions Learners will do an exercise	Chalkboard illustration. Chalkboard illustration.	New Mk Primary mathematics 2000, Page 72 New Mk Primary mathematics 2000, Page 73	

10	**2** **2**	**OPERATION ON NUMBERS**	**Bases** **Finite system**	Multiplication in base five Clock arithmetic	**MULTIPLICATION IN BASE FIVE** i) Carry out simple multiplication. ii) Maintaining the operational digits in base five by division and a remainder obtained. iii) Multiplying numbers in base five. **CLOCK ARITHMETIC** **EXPRESSING NUMBERS IN FINITE 5 AND 7.** i) Explanation of clock arithmetic. ii) Explanation of finite system. iii) Application of division in the finite system. iv) Finding the remainder after division as the answer	Critical thinking and problem solving	**Learners should be able to:** i) Carry out simple multiplication. ii) Maintain the operational digits in base five by division and a remainder obtained. iii) Multiply numbers in base five. **Learners should be able to:** i) Explain clock arithmetic. ii) Explain finite system. iii) Divide in the finite system. iv) Read the remainder after division as the answer v) Express numbers in finite 5 and 7.	Leaners should: 16) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly.	Chalkboard illustration. Explanation Oral questioning and answer. Rote Discussion.	Learners answer oral questions in time of discussion Chalk board illustration.	Chalkboard illustration. Chalkboard illustration.	New Mk Primary mathematics 2000, Page74 New Mk Primary mathematics 2000, Page 204 and 208 - 9	

10	2	**OPERATION ON NUMBERS**	Finite system	Clock arithmetic	**ADDITION USING A DIAL** i) Drawing a dial. ii) Identifying the digits applied in base 5 and 7 respectively. iii) Inserting the digits of a particular finite in a dial. iv) Clockwise movement for addition in positive integers. v) Applying addition of numbers in the finite system.	Critical thinking and problem solving	**Learners should be able to:** i) Draw a dial. ii) Identify the digits applied in base 5 and 7 respectively. iii) Insert the digits of a particular finite in a dial. iv) Demonstrate clockwise movement on a dial for addition in positive integers. v) Apply addition on a dial for numbers in the finite system.	Leaners should: 17) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly.	Chalkboard illustration. Explanation Oral questioning and answer. Mental work Demonstration. Discussion.	Drawing dials Demonstration of mov't of the dial clock and anticlock wise	Chalkboard illustration.	New Mk Primary mathematics 2000, Page 211	
	2				**ADDITION IN FINITE WITHOUT USING A DIAL.** i) Carrying out simple addition in finite system. ii) Applying division to get the remainder considered to be the answer.		**Learners should be able to:** i) Carry out simple addition in finite system. ii) Apply division to get the remainder considered to be the answer			Learners' participation in oral questions and answer. Responding to oral questions Learners will do an exercise	Chalkboard illustration.	New Mk Primary mathematics 2000, Page 212	

10	**2** **2**	**INTEGERS**	Integers	Arranging integers on a number line	**INTEGERS** i) Definition of integers. ii) Description of positive integers. iii) Representing positive integers on a number line. iv) Description of negative integers. v) Writing expressions that represent negative integers. **THE NUMBER LINE AND ORDERING INTEGERS** i) Integers on a number line. ii) Symbols used for the positive and negative integers respectively. iii) Drawing a number line. iv) Placing integers on a number line. v) Ordering integers using a number line. vi) Comparing the directions of integers on a number line.	Critical thinking and problem solving	**Learners should be able to:** i) Define integers. ii) Describe positive integers. iii) Represent positive integers on a number line. vi) Describe negative integers. iv) Give expressions that represent negative integers. **Learners should be able to:** i) Identify negative and positive integers. ii) Describe the Symbols used for the positive and negative integers. iii) Draw a number line. iv) Place integers on a number line. v) Order integers using a number line. vi) Compare the directions of integers on a number line	Leaners should: 18) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly	Chalkboard illustration. Explanation Oral questioning and answer. Rote Discussion.	Mental work Learners' participation in class discussion. Drawing number lines Ordering integers on a number line. Doing a given exercise.	Chalkboard illustration. Chart showing parts of a number line.	New Mk Primary mathematics 2000, Page 95 – 96 New Mk Primary mathematics 2000, Page 97 - 98	

11	**2** **2**	**INTEGERS**		Ordering integers	**<u>ORDERING INTEGERS USING SYMBOLS</u> <, >, <u>≤</u>, <u>≥</u>** i) The meaning of each symbol. ii) Ordering the integers v) The inverse property. vi) Working out the additive inverses of integers on a number line.	Critical thinking and problem solving	**Learners should be able to:** i) State The meaning of each symbol. v) State the inverse property. vi) Work out the additive inverses of integers on a number line.	Learners should: 19) Read	

11	**2** **2**	**INTEGERS**	Integers	Addition of integers on a number line subtraction of integers on a number line	**ADDITION OF INTEGERS USING A NUMBERLINE.** i) Identifying positive and negative directions on the number line in respect of the given integers to be added. ii) Carrying out the actual addition on the number line. iii) Showing the answer on the number line using the doted line. **SUBTRACTION OF INTEGERS USING A NUMBERLINE.** i) Identifying positive and negative directions on the number line in respect of the given integers to be added. ii) Carrying out the actual subtraction on the number line. iii) Showing the answer on the number line using the doted line.	**Critical thinking and problem solving**	**Learners should be able to:** i) Identify positive and negative directions on the number line in respect of the given integers to be added. ii) Carry out the actual addition on the number line. iii) Show the answer on the number line using the doted line. **Learners should be able to:** i) Identify positive and negative directions on the number line in respect of the given integers to be added. ii) Carry out the actual (-) tion on the number line. iii) Show the answer on the number line using the doted line.	Leaners should: 20) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly	Chalkboard illustration. Explanation Oral questioning and answer. Mental work Discussion.	Mental work Learners' participation in class discussion. Drawing number lines Adding and subtracting integers on a number line.	Chalkboard illustration. Chart showing parts of a number line. Chalkboard illustration. Chart showing parts of a number line.	New Mk Primary mathematics 2000, Page 102 - 104 New Mk Primary mathematics 2000, Page 105 108	

11	**2** **2**	**INTEGERS**	Integers	Forming mathematical statements from a numberline	**FORMING MATHEMATICAL STATEMENTS FROM NUMBER LINES.** i) Starting from zero when writing a mathematical statement. ii) Locating the answer from the number line. **<u>ADDITION OF INTEGERS WITHOUT USING A NUMBER LINE.</u>** i) Some important points to note when adding integers. ii) Carrying out addition without using a number line. iii) Use of the additive inverse.	Problem solving	**Learners should be able to:** i) Identify where to start from when writing a mathematical statement from a number line. ii) Locate the answer from the number line. iii) Interpret and write statements on a number line **Learners should be able to:** i) State some important points to note when adding integers. ii) Carry out addition of integers without using a number line. iii) Easily use the additive inverse property when adding integers.	Leaners should: 21) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly	Chalkboard illustration. Explanation Oral questioning and answer. Mental work Discussion.	Mental work Learners' participation in class discussion. Drawing number lines Interpreting statements on a number line. Mental work Learners' participation in class discussion.	Chalkboard illustration Chalkboard illustration	New Mk Primary mathematics 2000, Page109 – 110 New Mk Primary mathematics 2000, Page111	

#CREATIVE PRINTERS 0703745068/ 0785681207

11	**2**	**INTEGERS**	Integers	Subtraction of integers	**SUBTRACTION OF INTEGERS WITHOUT USING A NUMBER LINE.** i) Subtraction of integers without using a number line. ii) Making use of greater or less than to determine the answer. iii) Transforming [- ¯] into as positive. iv)	Problem solving	**Learners should be able to:** i) Subtract integers without using a number line. ii) Making use of greater or less than to determine the answer. v) Transforming [- ¯] into as positives o as to carry out subtraction easily.	Leaners should: 22) Read vocabularies with correct intonation and pronunciation. Spell vocabularies correctly	Chalkboard illustration. Explanation Oral questioning and answer. Mental work Discussion.	Mental work Learners' participation in class discussion.	Chalkboard illustration	New Mk Primary mathematics 2000, Page112	

9	**WRITING BASE FIVE NUMBERS IN WORDS** iii) Converting base five	Problem solving	**Learners should be able to:** iii) Convert base five	Leaners should: 23) Read

	expanding in base five by multiplication and addition. iv) Adding the expanded expression to find base ten.		**Learners should be able to:** iii) Expand in base five by using multiplication and addition. iv) Add the expanded expression to find base ten.

PRIMARY FIVE MTC SCHEME OF WORK TERM TWO

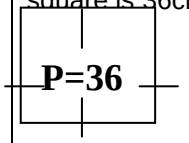
WK	PD	THM	TPC	S/TP	L/SKL	COMPETENCES		CONTENT	METH	A) S/ACT	L/AID	REF	RE
						SUBJECT	LANGUAGE						
2	1	ALGEBRA	ALGEBRA	COLLECTING LIKE TERMS	Critical thinking and problem solving	**The learner** 1. Sorts and groups similar items. 2. Uses an appropriate letter to represent the items. 3. Collects like terms considering application of BODMAS. 4. Collects like terms involved in word problems	Read words correctly. Writes BODMAS in full.	COLLECTING LIKE TERMS **Example:** Write the following in short: 1pen + 1pen + 2pen + 1pen Let each pen be p p + p + p + p = 4p **= 4 pens**	• Demonstration • Discussion	Collecting like terms	Chalkboard illustration, pens, pencils, rubbers, stones, books etc.	A NEW MK PRIMARY MTC BK 5 PAGE 267 – 268	
	2	ALGEBRA	ALGEBRA	SIMPLIFYING ALGEBRAIC EXPRESSION	Critical thinking and problem solving	**The Learner:** 1. Writes an algebraic expression by either adding or subtracting 2. Collects like terms and simplify where necessary.	Read words correctly. Writes BODMAS in full.	SIMPLIFYING ALGEBRAIC EXPRESSION **Example:** Write in short form: q + 7q + 4q = **12q**	• Discussion	Collecting like terms	Chalkboard illustration, pens, pencils, rubbers, stones, books etc.	A NEW MK PRIMARY MTC BK 5 PAGE 268 – 269	

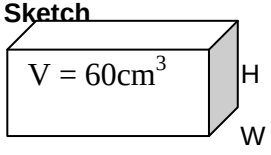
#CREATIVE PRINTERS 0703745068/ 0785681207

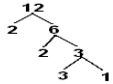
	3	ALGEBRA	ALGEBRA	FORMING ALGEBRAIC EXPRESSIONS	Critical thinking and problem solving	**The Learner:** 1. Uses alphabetical letters to help in forming algebraic expression 2. Forms simple equations from given algebraic expressions.	Read words correctly. Writes BODMAS in full.	**FORMING ALGEBRAIC EXPRESSIONS** **Examples** i) 4 more less than a = **a + 4** ii) x less than 12 = **12 – x** iii) A number added to 10 = **10 + n**	• Discovery • discussion	Collecting like terms	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 270	
	4	ALGEBRA	ALGEBRA	SUBSTITUTION OF NUMBERS	Critical thinking and problem solving	**The Learner:** 1. Names substitution. 2. Solves numbers involving substitution. 3. Expands given expressions before substituting.	The meaning of substitute Expansion.	**SUBSTITUTION OF NUMBERS** **Example** If a = 3 , b = 4; Find: i) a + b = 3 + 4 = **7** ii) 2a + 5b = 2 x a + 5 x b = 2 x 3 + 5 x 4 = 6 + 20 = **26**	• Discovery • Discussion	Solving problems involving substitution	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 271	
	5	ALGEBRA	ALGEBRA	SOLVINGEQUATIONS BY SUBTRACTION	Critical thinking and problem solving	**The Learner:** 1. Collects like terms correctly. 2. Uses the inverse operation to eliminate the unwanted number from either sides of an equation 3. Solves for the unknown.	Collecting like terms. Reading mathematical statements.	**SOLVING EQUATIONS BY SUBTRACTION** **Example** n + 7 = 13 n + 7 – 7 = 13 – 7 n = 13 – 7 **n = 6**	• Discussion • Explanation.	Solving simple equations of one variable.	Chalkboard illustration, pens, pencils, rubbers, etc.	A NEW MK PRIMARY MTC BK 5 PAGE 272	

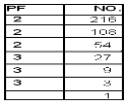
3	1	ALGEBRA	ALGEBRA	ADDITION **The learner:** 1. Derives equations from given word problems. MTC B etc • • **#CREATIVE PRINTERS 0703745068/ 0785681207**
	2	ALGEBRA	ALGEBRA	**#CREATIVE PRINTERS 0703745068/ 0785681207**
	3	ALGEBRA	ALGEBRA	

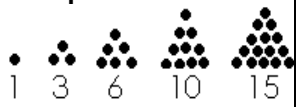
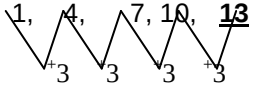
	4	**ALGEBRA**	ALGEBRA	SOLVING MIXED EQUATIONS	Critical thinking and problem solving	**The learner:** 1. Collects like terms correctly. 2. Uses the inverse operation to eliminate the unwanted number from either sides of an equation 3. Solves for the unknown.	Read mathematical statements involving algebra. Collecting like terms.	**SOLVING MIXED EQUATIONS** **Example** 8a + 4 = 3a + 14 8a – 3a + 4 = 3a – 3a + 4 5a + 4 = 14 5a + 4 – 4 = 14 – 4 5a = 10 $\frac{5a}{5} = \frac{10}{5}$ [2] **a = 2**	• Discovery • Discussion	solving simple problems involving algebra.	Chalkboard illustration.	A NEW MK PRIMARY MTC BK 5 PAGE 279	
	5	**ALGEBRA**	**ALGEBRA**	**SOLVINGEQUATIONS BY DIVIDING**	Critical thinking and problem solving	**The learner:** 1. Solves for the unknown in the given equation by dividing. 2. Forms equations from a given text and solve for the un known.	Read mathematical statements involving algebra. Cross multiplication.	**SOLVING EQUATIONS BY DIVIDING** **Example** Solve: 5a = 20 $\frac{5a}{5} = \frac{20}{5}$ **a = 4**	Class discussion	solving simple problems involving algebra.	Chalkboard illustration.	A NEW MK PRIMARY MTC BK 5 PAGE 276 – 278	
4	**1**	**ALGEBRA**	**ALGEBRA**	SOLVING EQUATIONS WITH FRACTIONS	Critical thinking and problem solving	**The learner:** 1. Solves equations involving fractions using the LCM. 2. Derives equations from given word problems. 3. Solves equations involving fractions in word problems.	Read mathematical statements involving algebra. Cross multiplication.	**SOLVING EQUATIONS WITH FRACTIONS** **Example** Solve: $\frac{x}{3} = 4$ $\frac{x}{3} = \frac{4}{1}$ $3 \times \frac{x}{3} = 4 \times 3$ $\frac{3}{3} \quad \frac{1}{1}$ x = 4 x 3 **x = 12**	Class discussion.	solving simple problems involving algebra.	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 282 – 283	

	2	**ALGEBRA**	**ALGEBRA**	**APPLICATION OF ALGEBR AT AREA, PERIMETER AND VOLUME**	Critical thinking and problem solving	**The learner:** 1. Defines perimeter is. 2. State the formulae of finding perimeter of different figures. 3. Derives an equation in order to solve the value of the required side of any shape. 4. Solves for the unknown side of a figure by substituting correctly.	Meaning of perimeter. Formula used to find perimeter.	**PERIMETER:** i) Explanation of perimeter. ii) Formulae for finding perimeters of different figures. **Example** The perimeter of a square is 36cm. Find its  s + s + s + s = 36 4s = 36 | | s = 9cm 4 4 | | **one side** **is 9cm**	• Excursion • Discussion	i)Forming algebraic expressions. ii) solving simple problems involving algebra.	The school playground, assembly ground, etc. chalkboard illustration.	A NEW MK PRIMARY MTC BK 5 PAGE284 – 285	
	3	**ALGEBRA**	**ALGEBRA**	**APPLICATIO OF ALGEBRA IN AREA, PERIMETER AND**	Critical thinking and problem solving	**The learner:** 1. Gives the formula of area of a rectangle, square and triangle. 2. Derives an equation in order to solve the value of the required side of any shape. 3. Solves for the unknown side by involving substitution. 4. Solves for the unknown side of a figure in given word problems.	Meaning of area. Formula used to find area.	**AREA** **Example** The area of a rectangle below is $32cm^2$. And its length is 8cm, find its base. **Sketch**  Area = l x w 32 = 8 x w 32 = 8w . 8w = 32 8 8 **w = 4cm**	Class discussion	i)Forming algebraic expressions. ii) solving simple problems involving algebra.	Chalkboard illustration.	A NEW MK PRIMARY MTC BK 5 PAGE 286	

	4	ALGEBRA	ALGEBRA	APPLICATIO OF ALGEBRA IN AREA,PERIMETER AND VOLUME	Critical thinking and problem solving	**The Learner:** 1. States the formula for finding volume. 2. Applies substitution to aid in solving for the unknown side of a cuboid. 3. Derives an equation in order to solve the value of the required side of the cuboid 4. Solves for the unknown side of a cuboid	Meaning of volume. Formula used to find volume.	**VOLUME** **Example** The volume of a box is $60cm^3$. Its length is 5cm and the width is 4cm. Find its length. **Sketch**  = 4cm L = 8cm l x w x h = volume 5 x 4 x h = 60 20h / 20 = 60 / 20 **h** **= 3cm**	Class discussion	i)Forming algebraic expressions. ii) solving simple problems involving algebra.	Boxes of different sizes, chalkboard illustration.	A NEW MK PRIMARY MTC BK 5 PAGE 287	
	5	NUMERACY	NUMBER PATTERNS AND SEQUENCES	MULTIPLES OF WHOLE NUMBERS	Critical and Creative thinking	**The learner:** 1. Works out the multiples of given numbers. 2. Works out the multiples of a required range of numbers.	Meaning of Multiples of numbers	MULTIPLES OF WHOLE NUMBERS **Example** Multiples of 5 = (1 x 5),(2 x 5),(3 x 5). = 5, 10, 15, … **M5 = {5, 10, 15, 20, 25,…}**	Class discussion Rote	Listing multiples of numbers.	Chalkboard illustration, multiplication tables.	A NEW MK PRIMARY MTC BK 5 PAGE 79	
5	1	NUMERACY	NUMBER PATTERNS AND SEQUENCES	FACTORS AND COMMON FACTORS OF NUMBERS	Critical and Creative thinking	**The learner:** 1. Defines a factor. 2. Write factor of a number in short. 3. Works out the factors of a given numbers by carrying out simple multiplication. 4. Finds the greatest and lowest common factors of given numbers.	Meaning of factors Meaning of common factors.	**FACTORS OF NUMBERS AND COMMON FACTORS.** A factor is a number that divides another in an exact number of items. **Example** Find the factors of 12. F_{12}. = 1 x 12 = 12 = 2 x 6 = 12 = 3 x 4 = 12 **F_{12} = {1, 2, 3, 4, 12}**	Class discussion Rote	Listing factors of numbers.	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 81 – 82	

	2	**NUMERACY**	**NUMBER PATTERNS AND SEQUENCES**	**TYPES OF NUMBERS**	Critical and Creative thinking	**The learner:** 1. Names some types of numbers. 2. Gives examples of each type of numbers. 3. Uses the knowledge of types of numbers to solve problems related to number pattern and sequence	Name the types of numbers from the number pattern.	**<u>TYPES OF NUMBERS.</u>** **Example** Odd numbers Even numbers Whole numbers Counting numbers	Class discussion	Identifying and listing the types of numbers.	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 83 & 91	
	3	**NUMERACY**	**NUMBER PATTERNS AND SEQUENCES**	PRIME AND COMPOSITE NUMBERS	**Critical and Creative thinking**	**The learner:** 1. Defines prime numbers. 2. Gives examples of prime numbers. 3. Defines composite numbers. 4. Gives examples of composite numbers. 5. Determines whether a number is or composite by prime factorising.	Meaning of Prime numbers. Meaning of composite numbers.	<u>PRIME AND COMPOSITE NUMBERS</u> a) Prime numbers are numbers with two factors. b) Composite numbers are numbers with more than two factors.	Class discussion	Identifying and listing the types of numbers.	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 83	
	4	**NUMERACY**	**NUMBER PATTERNS AND SEQUENCES**	**PRIME FACTORISATION USING A FACTOR**	Critical and Creative thinking	**The learner:** 1. Lists the numbers used when factorising. 2. Primes factorise by tree method. 3. Presents the prime factors in multiplication and notation (subscript) form.	Meaning of prime factorisation. Prime numbers.	**<u>PRIME FACTORISATION USING A FACTOR TREE.</u>** **Example** Prime factorise 12  **PF12 = {2 x 2 x 3}**or **<u>PF 12 ={2_1, 2_2, 3_1}</u>**	Class discussion	Listing factors of numbers.	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 84	

	5	NUMERACY	NUMBER PATTERNS AND SEQUENCES	PRIME FACTORISATION USING A LADDER AND LCM	Problem-solving	**The Learner:** 1. Prime factorises given numbers of together using the ladder. 2. Multiplies the prime factors to get the LCM.	Describe what LCM is.	**USING A LADDER.** **Example** Prime factorise 216  PF216 = **2 x 2 x 2 x 3 x 3 x 3** OR PF216 = **2_1, 2_2, 2_3, 3_1, 3_2, 3_3** **LCM of 12 and 18 = 36**	Class discussion	Finding the LCM of numbers.	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 85	
	6		NUMB AND S		Problem-solving	The l**earner:** 1. States what a square number is. 2. Calculates the	Meaning of a square number.					MTC B
	1					3. Solves word problems involving square numbers.		5^2 = 5 x 5 = 25 The square of 5 is 25				
	6	NUMERACY	NUMBER PATTERNS AND SEQUENCES	SQUARE ROOTS OF NUMBERS	Problem-solving	**The learner:** 1. States what a square root is. 2. Finds the square roots of given square numbers. 3. Solves word problems involving square roots. 4. Works out the side of a square using the square root knowledge.	Meaning of a square root.	SQUARE ROOTS OF NUMBERS A square root is a number that is multiplied by itself to get a square number. 3 x **3** = **9** **Square** **Square root** **Example** Find the square root of 25 **5** | **25** **5** | **5** | **1** √25 = (5 x 5) = 5 **The square root of 25 is 5**	Class discussion	Uing the types of numbers to form and solve patterns	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 89	

	3	NUMERACY	NUMBER PATTERNS AND SEQUENCES	TRIANGULAR NUMBERS	Problem-solving	**The learner:** 1. States what triangular numbers mean. 2. Forms patterns of triangular numbers.	Description of triangular numbers.	**TRIANGIULAR NUMBERS** These are numbers when whose dot are arranged form a triangular pattern **Example**  Adding consecutive numbers starting from 1 can get triangular numbers.	Class discussion	Uing the types of numbers to form and solve patterns	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 90	
6	4	NUMERACY	NUMBER PATTERNS AND SEQUENCES	OPERATION ON PATTERNS AND SEQUENCES	Problem-solving	**The learner:** Uses the operations to find the next or missing number in a given sequence	Write and describe the next number in the sequence.	**OPERATION ON PATTERNS AND SEQUENCES** **Example** What is the next number in the sequence? 1, 4, 7, 10, **13**  	Class discussion	Uing the types of numbers to form and solve patterns	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 92	
	5	NUMERACY	FRACTIONS	EXPRESSING IMPROPRE FRACTIONS AS MIXED FRACTIONS	Effective communication and problem solving	**The Learner:** 1. States what a fraction is. 2. Names the parts of a fraction. 3. Names the types of a fraction. 4. Describes each type of fraction 5. Gives examples of each type of fraction. 6. Expresses improper fraction as a mixed fraction	i) Defining fractions ii) Expressing improper fractions as mixed fractions	**FRACTIONS** A fraction is part of a whole **PARTS OF A FRACTION** Numerator and denominator **TYPES OF FRACTIONS** a) Proper fractions b) Improper fractions. c) Mixed fractions **EXPRESSING IMPROPER AS MIXED FRACTION** **Example** Express $^{9}/_{5}$ as a fraction. $9 \div 5 = 1$ rem. 4 $= \mathbf{1\frac{4}{5}}$	• Demonstration • Discussion	Writing definitions of fractions.	Chalkboard illustration, oranges etc.	A NEW MK PRIMARY MTC BK 5 PAGE 115 – 116	

7	**1**	**NUMERACY**	**FRACTIONS**	**MIXED FRACTIONS AS IMPROPER**	Effective communication and problem solving	**The Learner:** Expresses mixed fraction as improper fraction.	i) Expressing improper fractions as mixed fractions ii) Expressing mixed fractions as improper fractions	**MIXED FRACTIONS AS IMPROPER** **Example** Express $4^2/_3$ as an improper fraction $4^2/_3 = \frac{W \times D + N}{D}$ $= \frac{4 \times 3 + 2}{3}$ $= \frac{12 + 2}{3}$ $\mathbf{4^2/_3 = \frac{14}{3}}$	Class discussion	Expressing mixed fractions to improper fractions.	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 116	
	2	**NUMERACY**	**FRACTIONS**	**EQUIVALENT FRACTION**	Effective communication and problem solving	**Learner:** 1. Represents equivalent fractions diagrammatically. 2. Works out equivalent fractions by calculation.	Finding eqivalent fractions	**EQUIVALENT FRACTION** **Diagrammatic representation of equivalent fractions**  **½ = ½ $^2/_4$ = ½ $^3/_6$ = ½** **Equivalent fractions by calculation** **Example** Write four fractions equivalent to ½ ½ = 1x2, 1x3, 1 x 4, 1 x 5 2x2 2x3 2 x 4 2 x 5 **½ = $^2/_4$, $^3/_6$, $^4/_8$, $^5/_{10}$**	Class discussion	Finding equivalent fractions	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 117	
	3	**NUMERACY**	**FRACTIONS**	**REDUCING FRACTIONS**	Effective communication and problem solving	**The learner:** 1. Derives common factors of given parts of a fraction. 2. Uses the GCF to reduce the given fraction	Reducing fractions	**REDUCING FRACTIONS** **Example** Reduce $^{12}/_{24}$ to its simplest term F_{12} = {1, 2, 3, 4, 6, 12} F_{24} = {1, 2, 3, 4, 6, 8, 12, 24} CF = {1, 2, 3, 4, 6, 12} GCF = 12 12 ÷12 24 ÷ 12 **= ½**	Class discussion	Reducing fractions using GCF.	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 118	

8	**4**	**NUMERACY**	**FRACTIONS**	**ORDERING FRACTIONS**	Effective communication and problem solving	**The learner:** 1. States the meaning of arrange. 2. Defines ascending. 3. Defines descending. 4. Uses LCM to determine the size of a fraction. 5. Arranges the fractions in the required order.	Ordering fractions use LCM as a determinant	ORDERING FRACTIONS To arrange fractions is to arrange fractions in ascending or descending order. **Example** Arrange $^1/_3$, ½, ¼ in a) Ascending order. b) Descending order. LCM of 2, 3 and 4 = 12 $^1/_3$ x 12 = 4 (2^{nd}) ½ x 12 = 6 (3^{rd}) ¼ x 12 = 3 (1^{st}) **Asc. Order = ¼ $^1/_3$, ½,** **Desc. Order = ½, $^1/_3$, ¼**	Class discussion	Ordering fractions using the LCM.	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 119 – 120	
	5	**NUMERACY**	**FRACTIONS**	**ADDITION OF WHOLES TO FRACTIONS**	Effective communication and problem solving	**The learner:** 1. Carries out addition of whole numbers to fractions. 2. Adds wholes alone and later the fraction.	Addition of fractions with whole numbers.	ADDITION OF WHOLES TO FRACTIONS **Example** ¾ + 5 = 5 + ¾ = 5 ¾ **Example II** $3^2/_5$ + 7 = 3 + 7 + $^2/_5$ = 10 + $^2/_5$ = **$10^2/_5$**	Class discussion	Addition of fractions with a whole numbers.	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 122	
9	**1**	**NUMERACY**	FRACTIONS	ADDITION OF SIMPLE FRACTIONS	**Effective communication and problem solving**	**The learner:** 1. Adds simple fractions using the LCM. 2. Changes mixed fractions to improper fractions before adding the fractions 3. Reduces the fractions to simpler terms.	Addition of fractions with fractions	ADDITION OF FRACTIONS **Example** Add: **¼ + ½** LCM of 2 and 4 = 4 = 1 + 2 4 **= ¾.**	Class discussion	Addition of fractions with different denominators	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 121-124	

	2	**NUMERACY**	**FRACTIONS**	WORD PROBLEMS IN **ADDITION OF FRACTIONS**	Effective communication and problem solving	**The Learner:** 1. Solves word problems involving addition of fractions 2. Changes mixed fractions to improper fractions before adding the fractions 3. Reduces the fractions to simpler terms or change it to mixed fractions	i)Reading and interprets word ii)Addition of fractions with fractions problems.	<u>WORD PROBLEMS IN ADDITION OF FRACTIONS</u> **Example** John filled ½ a tank with water in the morning and 2/5 in he afternoon. what fraction of the tank was full of water? ½ + $^{2}/_{5}$ ***LCM of 2 and 5 = 10*** = 5 + 4 10 = $^{9}/_{10}$. **<u>The tank was filled with $^{9}/_{10}$</u>**	Class discussion	Subtraction of fractions with different denomina.	Chalkboard illustration, oranges.	A NEW MK PRIMARY MTC BK 5 PAGE 125	
	3	**NUMERACY**	**FRACTIONS**	**SUBTRACTION OF FRACTIONS**	Effective communication and problem solving	**The learner:** 1. Subtracts simple fractions using the LCM. 2. Changes mixed fractions to improper fractions before adding the fractions 3. Reduces the fractions to simpler terms or change improper fraction to mixed fraction	Subtraction of fractions with different different denominators	**<u>SUBTRACTION OF FRACTIONS</u>** Example ½ –$^{1}/_{3}$ LCM of 2 and 3 = 6 = 3 – 2 6 **<u>= $^{1}/_{6}$</u>** **Example II** 5 – 2$^{5}/_{12}$ =$^{5}/_{1}$ - $^{29}/_{12}$ LCM = 12 = <u>60 – 29</u> 12 = <u>31</u> 12 = **<u>2 $^{7}/_{12}$.</u>**	Class discussion	. Subtraction of fractions with different denominat	Chalkboard illustration, oranges	Chalkboard illustration, oranges.	Chalkboard illustration

9	4	NUMERACY	FRACTIONS	Critical thinking and problem solving	**The learner:** 1. Solves word problems involving subtraction of fractions	Subtraction of fractions with different different denominators	**WORD PROBLEMS IN SUBTARACTION OF FRACTIONS** Example A baby was given $^{5}/_{6}$litres of milk and				5 PAGE 127	
	5				4. Reduces the fractions							
10	1	NUMERACY	FRACTIONS	MULTIPLICATION OF FRACTIONS	Effective communication and problem solving	**The learners:** 1. Multiplies fractions by wholes. 2. Converts of' to a times sign. 3. Reduces the answers to simpler terms.	Reading and solving problems involving multiplication of fractions by whole nbers.	**MULTIPLICATION OF FRACTIONS** **Example I** ¼ x 3 = ¼ x $^{3}/_{1}$. = $\frac{1 \times 3}{4 \times 1}$ = ¾ **Example II** ½ of 16 '***of'*** ***becomes x*** = ½ x 16 = ½ x $^{16}/_{1}$. = $\frac{1 \times 16}{2 \times 1}$ = $\frac{16}{2}$ ***Reduce*** **= 8**	Class discussion		Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 129 – 130	

10	**2**	**NUMERACY**		**WORD PROBLEMS INMULTIPLICATION OF FRACTIONS**	Effective communication and problem solving	**The learner:** 1. Solves word problems involving multiplication of fractions 2. Changes mixed fractions to improper fractions before adding the fractions 3. Reduces the fractions to simpler terms or change it to mixed fractions	Reading and solving problems involving multiplication of fractions by whole nbers.	**WORD PROBLEMS IN MULTIPLICATION OF FRACTIONS** **Example** A mathematics book contains 200 pages. A pupil reads $^{3}/_{5}$ of the book. How many pages did the pupil read? A pupil reads $^{3}/_{5}$ of 200 pages. = $^{3}/_{5}$ of 200 pages = $^{3}/_{5}$ x $^{200}/_{1}$. Pages = $\frac{3 \times \cancel{200}^{40}}{\cancel{5}_{1} \times 1}$ pages = $\frac{3 \times 40}{1 \times 1}$ = **120 Pages**	Class discussion		Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 131 - 132	
	3	**NUMERACY**	**FRACTIONS**	**RECIPROCALS OF FRACTION**	Effective communication and problem solving	**The learner:** 1. Give the reciprocal of a fraction given. 2. Give reciprocals of whole numbers.	Reading and solving problems involving multiplication of fractions by whole nbers.	**RECIPROCALS OF FRACTION** **Example** a) The recip. of 6 = $^{6}/_{1}$ b) The recip. of $^{2}/_{3}$= $^{3}/_{2}$ c) The recip. of $^{5}/_{8}$=$^{8}/_{5}$ d) The recip. of 1½= $^{2}/_{3}$	Class discussion	ii)Multiplication of fractions by fractions.	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 132	
	4	**NUMERACY**	**FRACTIONS**	**RECIPROCAL BY CALCULATION**	Effective communication and problem solving	**The learner:** 1. States the underlying principle of when a fraction is multiplied by its reciprocal, the answer is always 1. 2. Works out the reciprocal of a fraction. 3. Solves related problems involving reciprocals	Reading and solving problems involving multiplication of fractions by whole numbers.	**RECIPROCAL BY CALCULATION** We should take note that a number multiplied by its reciprocal gives 1 **Example** What is the reciprocal of $^{3}/_{5}$? Let the recip. be y $^{3}/_{5}$ x y = 1 $^{3}/_{5}$ x $^{y}/_{1}$ = 1 $^{3y}/_{5}$ = $^{1}/_{1}$. 3y x 1 = 5 x 1 $\frac{3y}{3} = \frac{5}{3}$ y = $^{5}/_{3}$ The reciprocal is $^{5}/_{3}$.	Class discussion	Multiplication of fractions by fractions.	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 133	

	5	**NUMERACY**	**FRACTIONS**	**DIVISION OF FRACTIONS**	Effective communication and problem solving	**The learner:** 1. Carries out division of fractions making necessary changes involving use of reciprocal. 2. Simplifies the fractions by canceling using the common factors.	Reading and solving problems involving division of fractions	**DIVISION OF FRACTIONS** **Example I** Divide: $^{1}/_{5} \div 4$ $= {}^{1}/_{5} \div {}^{4}/_{1}$ $= {}^{1}/_{5} \times {}^{1}/_{4}$ $= \frac{1 \times 1}{5 \times 4}$ $= \mathbf{{}^{1}/_{20}}$	Class discussion	Division of fractions by whole numbers	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 134 - 140	
11	**1**	**NUMERACY**	**FRACTIONS**	**EXPRESSING FRACTIONS AS DECIMAL FRACTIONS**	Effective communication and problem solving	**The learner:** 1. Describes decimal places. 2. Converts fractions whose denominators are multiples of ten to decimal fractions. 3. Uses the number of zeros a denominator has to determine the number of decimal places. 4. Expresses mixed fractions as decimals by changing the mixed fraction to an improper fraction first.	Reading and solving problems involving division of fractions	**EXPRESSING FRACTIONS ASDECIMAL FRACTIONS** **Example** a) Write $^{25}/_{10}$ as a decimal fraction $^{25}/_{10}$ = **2.5** (1 zero 1 dec. place) b) Write $^{25}/_{100}$ as a dec. fraction $^{25}/_{100}$ = **0.25** (2 zeros, 2 dec.places)	Class discussion	Converting fractions to decimals	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 141 - 142	
	2	**NUMERACY**	**FRACTIONS**	**CHANGING DECIMALS TO FRACTIONS**	Effective communication and problem solving	**The learner:** 1. Uses the number of decimal places to determine the denominators. 2. Converts decimals to common fractions. 3. Reduces fractions where necessary.	Reading and solving problems involving division of fractions ersa	**CHANGING DECIMALS TO FRACTIONS** **Example** Express 6.9 as a common fraction. $6.9 = {}^{69}/_{10}$.(1 dec. place gives 1 zero on the denominator). $= {}^{69}/_{10}$. Change to mixed. $= \mathbf{6\ {}^{9}/_{10}}$	Class discussion	Converting decimals to fractions and vice	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 143	

	3	**NUMERACY**	**FRACTIONS**	**ORDERING FRACTIONS**	Effective communication and problem solving	**The learner:** 1. Changes the given set of decimal fractions to common fractions first. 2. Calculates the size of each fraction by using the LCM. 3. Arranges the decimals from the smallest to the highest and vise versa.	Reads aloud and solve problems involving decimals	**ORDERING DECIMAL FRACTIONS** **Example** Arrange from smallest to biggest. 0.1, 1.1, 0.11 = $^{1}/_{10}$, $^{11}/_{10}$, $^{11}/_{100}$ LCM = 100 = 1 x 100 = 10 10 = 11 x 100 = 110 10 = 11 x 100 = 11 100 = **From smallest = 0.1, 0.11,** **1.1** **Example II** Which is smaller than the other? 0.2 or 0.1 Use < or >. = $^{2}/_{10}$, $^{1}/_{10}$. LCM = 10 = **2** x 10 = 2 10 = **1** x 10 = 1 10 **0.2 > 0.1**	Class discussion	Ordering fractions using the LCM	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 145 – 146	
	4	**NUMERACY**	**FRACTIONS**	**ADDITION OF DECIMAL FRACTIONS**	Critical thinking and problem solving	**The learner:** 1. Arranges the decimals vertically considering decimal points in line. 2. Creates decimal places to keep place value.	Reads aloud and solve problems involving addition of decimals.	**ADDITION OF DECIMAL FRACTIONS** **Example**. Add: 14.9 + 8.02 + 36.48 14 . 90 8. 02 + 36. 48 **59.40**	Class discussion	Finding place values of decimals. Adding decimals	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 147	

	5	**NUMERACY**	**FRACTIONS**	**SUTRACTION OF DECIMAL FRACTIONS**	Effective communication and problem solving	**The learner:** 1. Balances up the decimal places before actually subtracting. 2. Arranges the decimals vertically putting the points in line.	Reads aloud and solve problems involving subtraction of decimals.	**SUTRACTION OF DECIMAL FRACTIONS** **Example** Subtract: 97.4 – 13.69 97 . 40 - 13 . 69 **83 . 71**	Class discussion	Subtracting decimals. With decimals	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 147	
12	**1**	**NUMERACY**	**FRACTIONS**	**ADDITION AND SUBTRACTION OF DECIMALS**	Effective communication and problem solving	**The learner:** 1. Uses BODMAS to re-arrange the expression starting with the addition first. 2. Arranges the numbers vertically when solving the given problem maintaining the points in line.	Reads aloud and solve problems involving subtraction and addition of decimals.	**ADDITION AND SUBTRACTION OF DECIMALS** **Example.** Work out: 13.7 – 27 + 91.25 Collect positive terms first. = 13.75 + 91.25 – 27 (***First add***) = 13.75 + 91.25 **105.00** - 27.00 **78.00**	Class discussion	Adding and subtracting decimals using BODMAS	Chalkboard illustration	A NEW MK PRIMARY MTC BK 5 PAGE 148	

P.5 MTC SCHEMES OF WORK TERM THREE

WK	PD	THM	TPC	S/TP	L/SKL	COMPETENCES		CONTENT	METH	ACT	L/AID	REF	RE
						SUBJECT	LANGUAGE						
2	1 & 2	Graphs	Pictographs	TABLES	Critical thinking and problem solving	**The leaner:** 1. Represents and interpret the information on the pictograph. 2. Answers the questions about the pictograph.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**PICTOGRAPH** Information is represented in pictorial form. It always has a title and scale. **Example:** Study the pictograph below and answer the questions that follow. Number of pupils who scored different grades: **(Refer to Pictograph in notes pg.1**) a) How many sat for the test? b) How many are in excellent grade? Exc = 2 ½ @ star = 10 pupils 2 ½ = 5/ ₂ x ~~10~~ 5 = 25 pupils.	Demonstration Discussion Observation	Drawing a pictograph Learners will do exercise A1 in the lesson notes.	Mk text books Real objects e.g. pens	New Mk Bk. 5 Page 216–217	
2	3 & 4	Graphs	Tables	TABLES	Critical thinking and Problem solving.	**The leaner :** Answers questions about the table.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	READING AND INTERPRETING TABLES **Example**: A farmer recorded the number of pineapples he harvested each month as shown in the table below; Month | J | F | M | A | M | J Ppls | 420 | 360 | 330 | 380 | 400 | 480 1. Highest number of pineapples was harvested in June. 2. The lowest harvest was in June. 3. The difference between the highest and the lowest was; 480 – 330 = 150. d) The sum of all pineapples Harvested was 2370.	Discovery Discussion Observation	Learner's participation in class discussion. Learners will do exercise A2 in the lesson notes	Chalkboard illustration	Mk 2000 (new) Bk. 5 Pg 218–219	

2	**5 & 6**	**Graphs**	**Drawing tables**	**Tables**	Critical thinking and problem solving.	**The leaner:** 1. Draws tables and represent the information given 2. Solves problems related to the table.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	DRAWING AND INTERPRETING TABLES Example A farmer collected 20eggs on Monday, 25 on Tuesday, 15 on Wednesday, 30 on Thursday and 25 on Friday. **Draw a table to represent the above information.** Day | Mon. | Tue | Wed. | Thur. | Fri Eggs | 20 | 25 | 15 | 30 | 25 **Questions**. On which day was the highest number of eggs collected?…….. Etc.	Discovery Discussion Observation	Learner's participation in class discussion. Learners will do Exercise A3 in Lesson notes.	Chalkboard illustration	Mk 2000 (new) Bk. 5 Page220 – 221	
2	**7 & 8**	**Graphs**	**Bar graphs**	**Drawing bar graphs**	Drawing and problem solving.	**The leaner:** 1. Names the features of a bar graph. 2. Solves problems related to the bar graph.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. **2.** Spells the vocabularies correctly.	BAR GRAPH: Features of a bar graph Title Vertical axis Horizontal axis **(Refer to the graph in notes pg.4**) **Interpretation of a bar graph** **Example**: **(Refer to the graph in notes pg.4**) On which day were more eggs collected? etc	Discovery Guided discussion.	Interpreting a bar graph by identifying features of a bar graph. Learners will do exercise A4	Chalkboard illustration. A chart showing a bar graph.	New Mk 2000 Bk. 5 Pg 222 – 223	

2	**9 & 10**	**Graphs**	**hs graphs**	Drawing and problem solving	**The leaner:** 1. Represents the information on the bar graph. 2. Draws a bar graph using a scale.	**The leaner:** 1. Read	DRAWING A BAR GRAPH FROM TABLES. Example: The table below shows types of food liked by pupils in a P.5 class.	Class discussion	rd illustration	Mk 2000 (new) Bk. 5 Pg 224–226
3	**1 & 2**	**Graphs**	Ba **Recording i gra**			**2.** Spells the vocabularies correctly.			Chalkboard i	

	3 & 4	**Graphs**	**Bar line graph**	**Drawing bar line graphs**	Recording information and problem solving	**The leaner:** 1. Interprets bar line graph. 2. Solves problems related to the bar graph.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	BAR LINE GRAPH Instead of bars, we can use lines to form bar line graphs. Example The graphs bellow show the age and weight of five pupils; A: Age of pupils **Refer to the graph and table in notes pg.9**) B: Weight of pupils; **Refer to the graph and table in notes pg.9**) **A:** Name the pupils with same age. How old is the youngest pupil? How old is Aisha? Who is 10 years old? Etc. **B:** How heavy is Ronald? Name the pupils with same weight. **How much heavier is Hakim than Ronald? Etc.**	Guided discussion Discovery	**Interpreting bar line graphs given.** Learners will do exercise A7 in the lesson notes	Chalkboard illustration Chart of a bar line graph	Mk 2000 (new) Bk. 5 Pg 229–230	
3	**5 & 6**	**GRAPHS**	**Bar line graphs**	**Drawing bar line graph**	Critical thinking and problem solving	The leaner: **1. Draws bar line graphs using the information in the table.** **2. Solves problems related to the bar graph.**	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	DRAWING BAR LINE GRAPHS USING INFORMATION IN TABLES **Example**: A driver recorded the amount o fuel he used through out the week Day | M | T | W | T | F Amount | 10 | 20 | 25 | 15 | 5 Bar line graph **Refer to the graph in notes pg.11**) Which day did he use least amount of fuel? etc	Demonstration Guided discussion	Drawing bar line graphs Solving problems related to bar line graphs. Learners will do exercise A8 in the lesson notes	Chalkboard illustration	Mk 2000 (new) Bk. 5 Page230	

3	**7 & 8**	**MEASURERS**	**TENPERATURE**	**READING TEMPERATURE**	Effective communication and problem solving	**The leaner:** 1. Defines temperature. 2. Names the instruments used to measure temperature. 3. Names the units for measuring temperature. 4. Solves problems related to temperature by subtraction.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**MEASURING TEMPERATURE** Definition of temperature; An instrument used to measure temperature Units used to measure temperature (^{o}C and ^{o}F) Solving problems related to temperature by subtracting. Example The temperature of food at the time of serving was 95 ^{0} C. After leaving it on the plate for 10 minutes, its temperature was 48^{0}C What was the fall in temperature? Temp. at serving = 95^{0} C After 10 minutes = 48^{0} C Fall in temperature = 95^{0}C – 48^{0}C = **47^{0}C**	Discussion Observation	-Solving some numbers related to temperature. -Discussing work on page 233 of new Mk Bk. 5. -Learners will do exercise B1 in the lesson notes	Chalkboard illustration New Mk text books	Mk 2000 (new) Bk. 5 Pg 233–234	
3	**9**	**Measures**	**Temperature**	**Reading maximum and minimum temperature.**	Effective communication and problem solving.	**The leaner:** 1. Reads the maximum and minimum temperature. 2. Solves problems related to maximum and minimum temperature.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	READING MAXIMUM AND MINIMUM TEMPERATURE Example: Study the maximum and minimum thermometer below; **Refer to the thermometer in notes pg.13**) Maximum Temp. = 40^{0} c Minimum Temp. = -20^{0} c Difference between max. & Min. temp. = 40^{0} – 20^{0} = 40 + 20 = **60^{0}**	Discussion Oral questioning and answer.	-Drawing thermometers and reading temperature on them. -Learners will do exercise B2 in the lesson notes	Chalkboard illustration	New Mk 2000 Bk. 5 Pg 235 - 226	

3	**10**	**Measures**	TEMPERATURE	**MAXIMUM AND MINIMUM TEMPERATURE**	Critical thinking and problem solving	1. **The leaner:** 2. Draws a bar graph to represent the maximum and minimum temperature. 3. Interprets the temperature graph. 4. Solves simple problems related to the temperature graphs.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**DRAWING AND INTERPRETING A BAR GRAPH TO REPRESENT MAXIMUM AND MINIMUM TEMP.** Example Draw a bar graph to represent the maximum and minimum temp. below Time | 10pm | 11pm | 12midnight Max. | 5 | 10 | 10 Min. | 10 | 20 | 15 **Refer to the graph in notes pg.14**)	Guided discussion	-Drawing bar graphs from given rates of temperature. -Learners will do exercise B3 in the lesson notes.	Chart of an illustrated drawing of a bar graph.	Mk 2000 (new) Bk. 5 Page 236	
4	**1** **&** **2**	**MEASURES**	**MONEY**	**BUYING AND SELLIND (Profit)**	Critical thinking and problem solving	**The leaner:** 1. Applies formula for finding profit. 2. Calculates profit for a given business transaction.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	BUYING AND SELLING. PROFIT **PROFIT** = Selling price – Buying Price **Or** **P** = SP – CP (BP) Example John bought a bucket for 2000/= and sold it at 2,400/=. Find his profit. Cost price = 2,000/= Selling price = 2,400/= Profit = SP – CP = 2,400 – 2,000 = **400/=** Profit = 400/=	Guided discussion Use of examples	Learners will do exercise B4 in the lesson notes	Coins of 500, 200, 100, 50.	Mk 2000 (new) Bk. 5 Page 245	

4	**3 & 4**	**MEASURES**	**MONEY**	**BUYING AND SELLING (LOSS)**	**Critical thinking and problem solving**	**The leaner:** 1. Applies the formula of finding loss. 2. Calculates loss in a given transaction.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**LOSS** Loss = Cost price –Selling Price Or = **CP – SP** Example The cost of a radio is sh. 100,000 If it is sold at sh 80,000, Find the loss made? Loss = cost prise – selling price = PC – SP = 100,000 – 80,000 = 20,000 **Loss = sh. 20,000.**	Guided discussion	Tr./ Pupils participation in the lesson. Learners will do exercise B5 in the lesson notes	Chalk board illustration	Mk 2000 (new) Bk. 5 Page 245	
4	**5 & 6**	**MESURES**	**MONEY**	**FINDING COSTPRICE**	**Critical thinking and problem solving.**	**The leaner:** 1. Applies the formula for finding the cost price when profit and selling g price are given. 2. Calculates cost price in a given business transaction.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**FINDING COST PRICE WHEN PROFIT AND SP ARE GIVEN** Example Kitanda sold a cow at sh. 225,000 and made a profit of sh. 35,000. What was his cost price? Cost price = SP – Profit = 225,000 – 35,000 = 190,000 Cost price = sh. 190,000	Guided discussion	Learners will do exercise B6 & B7 in the lesson notes	Chalk board illustration	Mk 2000 (new) Bk. 5 Page 246	
4	**7 & 8**	**MESURES**	**MONEY**	**FINDING SELLING PRICE WHEN PROFIT OR LOSS IS GIVEN**	Critical thinking and problem solving.	**The leaner:** 1. Applies the formula of finding selling price when profit and loss are given. 2. Calculates selling price in a given business transaction.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	SELLING PRICE WHEN PROFIT/LOSS IS GIVEN. **Example** A trader bought a shirt at sh. 7,500. She sold it and made a profit of sh. 3,500. What was her selling price? **SP = Buying price + Profit** = 7,500 + 3,500 = 11,000 She sold it at sh. 11,000	Guided discussion	Learners will do exercise B8 & B9 in the lesson notes	Chalk board illustration	Mk 2000 (new) Bk. 5 Page 247	

4	**9**	**MEASURES**	**SIMPLE RATES**	**SIMPEL RATE 1**	Critical thinking and problem solving.	**The leaner:** Finds the simple rates and proportions in a given business transaction.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	SIMPLE RATES I Example A book costs sh.500. What is the cost of 3 similar books? 1 book = sh500 3books= (3 x 500) Sh. = sh. 1,500 3 books = sh. 1,500	Discussion Demonstration of shopping.	Learner/ Tr. participation in the lesson. Learners will do exercise B10 in the lesson notes	Chalk board illustration	New Mk mtc pg 238	
4	**10**	**MEASURES**	**SIMPLE RATES**	**SIMPLE RATE II.**	Critical thinking and problem solving.	**The leaner:** Finds the simple rates and proportions in a given business transaction.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation.	SIMPLE RATES II **Example** 6 Pens cost sh. 900, What is the cost of 1 pen? 6 pens = sh. 900 1 pen = 900/6 = sh. 150 **1 pen =Sh 150**	Discussion Demonstration of shopping.	Learner/ Tr. participation in the lesson. Learners will do exercise B11 in the lesson notes	Chalk board illustration	New Mk mtc pg 238	
5	**1 & 2**	**MEASURES**	**SIMPLE RATES**	**SIMPLE RATES III**	**Critical thing and problem solving.**	**The leaner:** Finds the simple rates and problem solving in a given business transaction.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation.	SIMPLE RATES III **Example** 5 books cost sh. 1000. Find the cost of 12 similar books. 5 books = 1,000 1 book = 1,000/5 1book = 200 12 bk. = 12 x 200 = **2,400**	Discussion Demonstration of shopping.	Learner/ Tr. participation in the lesson. Learners will do exercise B12 in the lesson notes	Chalk board illustration	New Mk mtc pg 238	

<table>
<tr>
<td>5</td>
<td>3
&
4</td>
<td>MEASURES</td>
<td>BILLS</td>
<td>SHOPPING BILLS</td>
<td>Critical thinking and problem solving</td>
<td>The leaner:
1. Draws a bill table to represent the transaction.
2. Uses appropriate working methods to complete the bill table.</td>
<td>The leaner:
1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation.
2. Spells the vocabularies correctly.</td>
<td>SHOPPING BILLS (TABLES)

Example
Brenda bought the following items from a shop;
2 loaves of bread at sh 600 @
4 sodas for sh. 500 @
2 kg of sugar at sh. 1,000 @
A bag of maize flour at sh. 9,000
a) What was his expenditure?
<table>
<tr><th>ITEM</th><th>QTY</th><th>M'THD</th><th>AMN'T</th></tr>
<tr><td>Bread</td><td>2</td><td>2 x 600</td><td>1,200</td></tr>
<tr><td>Soda</td><td>4</td><td>4 x 500</td><td>2,000</td></tr>
<tr><td>Sugar</td><td>2</td><td>2 x 1000</td><td>2,000</td></tr>
<tr><td>Flour</td><td>1bg</td><td>1 x 9,000</td><td>9,000</td></tr>
<tr><td>Total</td><td></td><td></td><td>14,200</td></tr>
</table>
b) If she went with sh. 15,000, how much did she remain with as her balance?
Balance = 15,000
-14,200
800</td>
<td>Discussion Discovery</td>
<td>Drawing and completing bill tables
Learners will do exercise B14 in the lesson notes</td>
<td>Chalk board illustration.</td>
<td>New Mk Mtc pg 243</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5
&
6</td>
<td>MEASURES</td>
<td>TRANSPORT CHARGES (BILLS)</td>
<td>WORD PROBLEMS</td>
<td>Critical thinking and problem solving</td>
<td>The leaner:
Computes transport charges in relation to daily real life situation.</td>
<td>The leaner:
1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation.
2. Spells the vocabularies correctly.</td>
<td>TRANSPORT CHARGES (WORD)
Example I
A Taxi driver charges sh. 2,000 for trip from Kampala to Jinja per person. How much will 7 people pay?

1 person = 2,000/=
7 people = 7 x 2,000
= 14,000/=

Example II
Kagoda travelled from Kampala to Jinja and then back to Kampala. How much will he pay if the return fare is sh. 2,000?

Going = 2,000
Back = 2,000
Total = 4,000
He will use sh. 4,000</td>
<td>Guided discussion</td>
<td>Tr./learner Participation in lesson
-Learners will do exerciseB 15 in the lesson notes</td>
<td>Chalk board illustration.</td>
<td>New Mk Mtc pg 243</td>
<td></td>
</tr>
</table>

5	**7 & 8**	**MEASURES**	**BILLS**	**TRANSPORT CHARGES (TABLES)**	Problem solving.	**The leaner:** 1. Interprets transport charges using a table. 2. Solves problems related to the table.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**TRANSPORT CHARGES (TABLE)** Example The table below shows transport charges by bus between different towns in Uganda. Use it to answer the questions that follow: TOWN – CHARGES KAMPALA – KASESE 3,500 KASESE – TORORO 5,500 KAMPALA – LUGAZI 1,500 MUTUKULA – K'LA 3,000 a) How much will 3 people pay from Kampala to Kasese? 1person = 3,500 3people = 3 x 3,500 = 10,500 3 People will pay sh. 10,500	Discovery Discussion	-Learners participation in lesson	Chalk board illustration.	Mk (new) Bk. 5 pg. 243.	
5	**9 & 10**	**MEASURES**	**BILLS**	**TRANSPORT CHARGES (GAPHS)**	Problem solving	**The leaner:** 1. Interprets the cost charges from the graph in relation to the distance. 2. Solves problems in relation to the cost and distance on the graph.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**TRANSPORT CHARGES (GRAPH)** Example The Graph below shows bus transport charges along Mukono – Kampala road: **(Refer to the graph in the lesson notes pg 27)** a) How much will one pay for a distance of 15Km? b) What distance will require me to pay sh. 400? c) What is the difference in the cost of a journey of 15Km and 5Km?	Discovery Discussion	Interpreting a transport graph Learners will do exercise B16 in the lesson notes	Chalk board illustration	Mk (new) Bk. 5 pg. 244	

6	**1 & 2**	**MEASURES**	**TIME**	**UNITS OPF TIME**	Critical thinking and problem solving.	**The leaner:** 1. Mentions the units of time. 2. Converts hours to minutes. Converts minutes to hours.	**The leaner:** **The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**UNITS OF TIME** 1 Hour - 60 minutes 1 Minute – 60 seconds 1 Hour – 3,600 seconds Converting from one unit to another. Example I Convert 2 hours to minutes 1 hour = 60 minutes 2 hours = 2 x 60 = 120 2 Hours = 120 minutes Example II Convert 240 minutes to hours 1 minute = 1/60 hours 240minutes = 1/60 x 240 = 4 240 minutes = 4hours.	Discussio n	Learner/ Tr. Participati on in the lesson. Learners will do exerciseB 17 in the lesson notes	Chalk board illustration.	•(old) Mk 2000 Pupils Bk.5 pg. 226 – 7. •(new) Pupils Bk5 pg. 250 –3; •(new) Understanding MTh BkF Pg. 228 – 240; •(old) pg.	
6	**3 & 4**	**MEASURES**	**TIME**	**TELLING TIME USING AM AND PM**	Critical thinking and problem solving.	**The leaner:** 1. Tells time using Am and PM. 2. Reads time using quarter past or to. 3. Draws a clock face showing time.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**TELLING TIME USING AM. AND PM** **Example** **(Refer to clock faces on page 40 of the lesson notes)** It is 2 O'clock in the morning or 2.00 am. **Telling time using ½, ¼, "Past" or"To"**	Guided discussion	Reading time from a clock face Learners will do exercise B18 in the lesson notes	Clock face Chalk board illustr ation	Mk MTh (new) Bk. 5 pg. 250 – 3 (old) 226-7.	
6	**5**	**MEASURES**	**TIME**	**ADDITION OF TIME**	Problem solving	**The leaner:** Adds time using finite system.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	ADDITION OF TIME Example Workout: Hours Min 10 50 + 2 30 13 20 { 80 =1 r 20} 60 = **13 Hours 20 Minutes.**	Guided discussion	Tr./ Learner participati on in the discussion Learners will do exercise B19 in the lesson notes	Chalk board illustr ation	Underst anding MTh Pupils Bk. 5 Pg. 228-240	

6	**6**	**MEASURES**	**TIME**	**SUBTRACTION ON TIME**	Problem solving	**The leaner:** 1. Subtracts time. 2. Regroups correctly in finite system when borrowing.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**SUBTRACTION OF TIME** Example Hrs. M 9 ~~10~~ 30+60 2 45 7 45 (90-45=45) 7 Hours 45Minutes	Guided discussion	Learners' participation in discussion Learners will do exercise B20 in the lesson notes	Chalk board illustration	Understanding MTh Pupils Bk. 5 Pg 240	
6	**7**	**MEASURES**	**TIME**	**FINDING DURATION INVOLVING AM AND PM; PM AND AM.**	Critical thinking and problem solving	**The leaner:** 1. Finds the duration involving AM and PM. 2. Solves problems of duration by subtraction.	**The leaner:** **The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**FINDING DURATION INVOLVING "AM" AND "AM"; "PM" AND "PM"** **Example** **Luyiga started walking from her home at 7.15 am and reached the town at 9.15 am. How long did it take her?** Hours Minutes Reached 9 : 15 am Stared – 7 : 05 am 2 : 10 It took her 2Hours 10 Minutes	Guided discussion	Finding the duration by subtracting Learners will do exercise B21 in the lesson notes	Chalk board illustration	(New) Mk Bk. 5 pg. 252	

6	**8**	**MEASURES**	**TIME**	**FINDING DURATION INVOLVING AM AND PM .**	Problem solving.	**The leaner:** 1. Finds duration of activities involved the Am and PM. 2. Subtracts and add to find time duration.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**FINDING DURATION INVOLVING "AM AND "PM"** **Example** The bus started its journey to Mbale at 9 : 00 am and reached its destination at 1 : 30 p.m. How long did the journey take? **Subtract** 12 : 00 noon - 9 : 00 am **3 Hours** **Next add** 3 Hours 00min + 1 Hour 30 min **4 Hours 30 min**	Guided discussion	Finding the duration involving am /p.m. Learners will do exercise B22 in the lesson notes	Chalk board illustration	(New Mk) Bk. 5 page 252	
6	**9 & 10**	**MEASURES**	**TIME**	**TIME TABLE**	Problem solving	**The leaner:** 1. Interprets the distance on the timetable. 2. Solves problems related to the timetable. 3. Comprehends the distance timetable and solve the given problems.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**TIME TABLES** Example The table below is a distance timetable for a bus travelling from Masindi to Kitgum. Use it to answer questions that follow. **(Refer to table on page 35 of the lesson notes)** a) At what time did the bus reach Kamudni? b) What time did the bus leave Lira?	Guided discussion Discovery	Drawing and interpreting tables Learners will do exercise B23 in the lesson notes	Chalk board illustration	(new) Mk Bk. 5 pg. 253	
7	**1 & 2**	**MEASURES**	**TIME**	**12 HOUR CLOCK SYSTEM UNITS**	Critical thinking. and problem	**The leaner:** 1. Reads time in the 12-hour clock system. 2. Uses pm and am correctly.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**12 Hour clock system Units** • Morning am (anti meridian) • Afternoon p.m. (Post meridian) • The use of "to" and "past" • A new day begins at midnight • A day has 24 hours	Guided discussion	Reading time in 12 hour time. Learners will do exercise B24 in the lesson notes	Chalk board illustration Clock face	Understanding MTh Pupils Bk. 5 Pg 250	

<table>
<tr>
<td>7</td>
<td>3
&
4</td>
<td>MEASURES</td>
<td>TIME</td>
<td>24 HOUR CLOCK</td>
<td>Critical thinking and problem solving</td>
<td>The leaner:
1. Reads time in the 24-hour system.
2. Uses hours correctly.</td>
<td>The leaner:
1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation.
2. Spells the vocabularies correctly.</td>
<td>24 Hour Clock
i) Units used “Hours”
<table>
<tr><th>12 Hr Clock</th><th>24 Hr Clock</th></tr>
<tr><td>12:00am (midnight)</td><td>0000Hrs</td></tr>
<tr><td>1:00 am</td><td>0100 Hrs</td></tr>
<tr><td>2:00 am</td><td>0200 Hrs</td></tr>
<tr><td>3:00 am</td><td>0300 Hrs</td></tr>
<tr><td>4:00 am</td><td>0400 Hrs</td></tr>
<tr><td>5:00 am</td><td>0500 Hrs</td></tr>
<tr><td>6:00 am</td><td>0600 Hrs</td></tr>
<tr><td>7:00 am</td><td>0700 Hrs</td></tr>
<tr><td>8:00 am</td><td>0800 Hrs</td></tr>
<tr><td>9:00 am</td><td>0900 Hrs</td></tr>
<tr><td>10:00 am</td><td>1000 Hrs</td></tr>
<tr><td>11:00 am</td><td>1100 Hrs</td></tr>
<tr><td>12:00 p.m. (mid day)</td><td>1200 Hrs</td></tr>
<tr><td>1:00 p.m.</td><td>1300 Hrs etc.</td></tr>
</table></td>
<td>Guided discussion</td>
<td>Learners participation in lesson</td>
<td>Chalk board illustration Clock face</td>
<td>Understanding MTh Pupils Bk. 5 Pg 250-1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>MEASURES</td>
<td>TIME</td>
<td>12 HOUR CLOCK TO 24 HOUR CLOCK TIME</td>
<td>Problem solving</td>
<td>The leaner:
1. Converts 12-hour clock time to 24-hour clock time.
2. Writes 24-hour clock time using hours without using points.</td>
<td>The leaner:
1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation.
2. Spells the vocabularies correctly.</td>
<td><u>CONVERTING 12 HR TIME TO 24 HR TIME</u>
<u>Example</u>
What is 1.00pm in 24hour time?
1.00
+<u>12.00</u>
<u>1300 hours</u>

<u>So 1.00pm = 1300hours</u></td>
<td>Guided discussion Observation.</td>
<td>Learners participation in lesson Learners will do exercise B25 in the lesson notes</td>
<td>Chalk board illustration Clock face</td>
<td>Understanding MTh Pupils Bk. 5 Pg 182</td>
<td></td>
</tr>
</table>

7	**6**	**MEASURES**	**TIME**	**24 HOUR CLOCK TO 12 HOUR CLOCK TIME**	Problem solving	**The leaner:** 1. Converts 24 hours to 12 hours. 2. Writes 12 hours in am or pm.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**CONVERTING 12 HR TIME TO 24 HR TIME** **Example** Change 1545hours to 12 hour time 15.45 -12.00 **3.45pm** **So 1545hours = 3.45pm.**	Guided discussion Observation.	Learners participation in lesson Learners will do exercise B26 in the lesson notes	Chalk board illustration Clock face	Understanding MTh Pupils Bk. 5 Pg 183	
7	**7 & 8**	**MEASURES**	**RATES OF CHARGES**	**DISTANCE TIME AND SPEED**	Problem solving	**The leaner:** 1. Finds the distance. 2. Calculates the speed.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**DISTANCE, TIME AND SPEED** **DISTANCE:** Distance = Speed x Time Example: Find the distance covered by a driver for 2 hours at a speed of 60 km/hr Distance = Speed x Time = 60km/hr x 2 hrs = 60 km x 2 = 120km He covered 120 km.	Guided discussion	Learner / Tr. participation in the lesson. Learners will do exercise B27 in the lesson notes Learners will do exercise B28 in the lesson notes	Chalk board illustration	(new) Mk Bk. 5 Pg. 254 – 258	

7	**9**	**MEASURES**	**SPEED**	**SPEED AND SPEED**	Problem solving.	**The leaner:** 1. Finds the distance. 2. Calculates the speed.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**SPEED** Speed = Distance / Time **Example:** **At what speed does a cyclist travel if he completes a distance of 150km in 3 hrs?** Speed = Distance / Time = 50 = ~~150~~km / ~~3~~hrs = 1 = **50km/hr**	Guided discussion	Learner / Tr. participation in the lesson. Learners will do exercise B27 in the lesson notes	Chalk board illustration	(new) Mk Bk. 5 Pg. 254 – 258	
7	**10**	**MEASURES**	**TIME**	**TIME**	Critical thinking and problem solving	**The leaner:** Calculates the time taken by a moving object to cover a given distance..	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**TIME** Time = Distance / Speed **Example:** Calculate the time taken by a car travelling at 60km/hr to cover a journey of 480 km. Time = Distance / Speed = ~~480 km~~ / 60~~km~~/hr = 8 = ~~48~~ / ~~6~~hr = **8hrs**	Guided discussion	Learner / Tr. participation in the lesson. Learners will do exercise B29 in the lesson notes	Chalk board illustration	(new) Mk Bk. 5 Pg. 254 – 258	
8	**1**	**MEASURES**	**CAPACITY**	**MEASURES IN LITERS AND MILLILITRES**	Critical thinking and problem solving.	**The leaner:** 1. Uses ml or cc as the same units for measuring liquids. 2. Compares cc to ml.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**MEASURING IN LITRES AND MILLILITRES.** ii) **Comparing soda bottles** 300ml 300cc 500ml 500cc **iii) Comparing milk packets** 1litre and 1000 ml (Refer to diagrams in the lesson notes Pg.55)	Guided discussion	Learner / Tr. participation in the lesson. Comparing cc to ml Learners will do exercise B30 in the lesson notes	Chalk board illustration Empty soda bottles tins bottles.	(New) Mk 5 pg. 260-new) Mk Bk. 5 pg. 259 –64.3	

8	**2 & 3**	**MEASURES**	**CAPACITY**	**CHANGING LITRES TO MI**	Critical thinking and problem solving.	**The leaner:** 1. Changes litres to mi. 2. Converts litres to ml with fractions or decimals.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**CHANGING LITRES TO ML.** **Example** Change 7 litres to ml 1litre = 1000ml 7litres = 7 x 1000 **= 7000 ml**	Guided class discussion	Learner / Tr. Participation in class -Learners will do exercise B31 in the lesson	Chalk board illustration	(New) Mk 5 pg. 263	
8	**4 & 5**	**MEASURES.**	**CAPACITY**	**ML TO LITRES**	Critical thinking and problem solving.	**The leaner:** 1. Expresses ml to litres. 2. Reduces fractions by cancelling then with the LDC.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**EXPRESSING MILLILITRES AS LITRES** **Example** Change 4200 ml to litres 1000Ml = 1Litre 1Ml = 1 litre 1000 4200ml = 1 x 4200 1000 $= \frac{42 \text{ litres}}{10}$ **= 4.2 litres**	Guided discussion	Learners participation in lesson -Learners will do exercise B32 in the lesson	Chalk board illustration.	(New) Mk 5 pg. 263	

8	**6,** **7** **&** **8**	**MEASURES**	**CAPACITY**	**COMPARING METRIC UNITS**	Critical thinking and problem solving.	**The leaner:** 1. States the meaning of the given metric names. 2. Names the basic units for weight, length and capacity. 3. Recites the standard ordering of given measures. 4. Compares units with standard units.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**<u>COMPARING METRIC UNITS</u>** **<u>Meaning of metric names</u>** • **Place value** b) **Meaning** Kilo 1000m Hecto 100m Deca 10m Deci $^{1}/_{10}$m Centi $^{1}/_{100}$m milli $^{1}/_{1000}$m Basic measure units for: • Weight – Gram • Length – Metre • Capacity – Litres <u>Ordering Weight, length, capacity</u> Km Hm Dm **M** dm Cm Mm Kg Hg Dg **G** dg Cg Mg Kl Hl Dl **L** dl Cl Ml Comparing Units with standard units 1Km – 1000m 1Kg – 1000g 1Hm – 100m 1Hg – 100g 1Dm – 10m 1Dg – 10g 1M - 1m 1G – 1g 1dm - 0.1m 1dg – 0.1g 1Cm - 0.01 1Cg – 0.01g **1Mm - 0.001 1Mg – 0.001g** 1Kltr - 1000ltr 1Hltr - 100ltr 1Dltr - 10ltr 1ltr - 1ltr 1dltr - 0.1ltr 1Cltr - 0.01ltr 1Mltr - 0.001ltr	Guided discussion Discovery	Comparing metric units -Learners will do exercise B33 in the lesson	Chalk board illustration	(new) Mk Bk. 5 pg. 261	

8	**9 & 10**	**MEASURES**	**MASS**	**CHANGING KG TO GMS**	Critical thinking and problem solving.	**The leaner:** 1. Converts KG to grams. 2. Performs calculations involving fractions.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**CHANGING KG TO GMS** **Example** Express 5kg to grams 1kg = 1000gm 5kg = 5 x 1000 gms **= 5000gms**	Guided discussion	Learner/Tr .participation in the lesson. -Learners will do exercise B34 in the lesson	Chalk board illustration	(new) Mk bk. 5 pg. 262	
9	**1**	**MEASURES**	**MASS**	**GMS TO KMS**	Problem solving.	**The leaner:** 1. Expresses grams to Kg. 2. Expresses grams to Kg using fractions.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**EXPRESSING GRAMS TO KG** Example Express 4000g in Kg 1000g = 1kg 1g = 1/1000 kg 4000g = 1/1000 x 4000 **4000 g = 4kg**	Guided class discussion	Learners participation in class -Learners will do exercise B35 in the lesson	Chalk board illustration	(New) Mk Bk. 5 Pg. 262	
9	**2 3**	**GEOMETRY**	**LINES**	**LINES**	Critical and creative thinking	**The leaner:** 1. Defines a line. 2. Defines a line segment. 3. Names the types of lines. 4. Draws each type. 5. Identify the types of lines.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	LINES 5. Definition of a line. 6. Definition of a line segment. 7. Naming the types of lines. 8. Describing each type of line. 9. Drawing each type of line. 10. Identifying the types of lines.	Guided discussion.	Learners' participation in the lesson.	M,Chalkboard illustration Desks Walls	A new Mk Math page 175-176	

9	**4**	**GEOMETRY**	**LINES**	**INTERSECTING LINES**	Problem solving.	**The leaner:** 1. Defines intersecting lines. 2. Forms intersecting lines. 3. Identifies points of intersection of a given line . 4. Names the points of intersection.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	INTERSECTING LINES 5. Definition of intersecting lines. 6. Forming intersecting lines using straight objects. 7. Identifying points of intersection. 8. Naming the points of intersection.	Guided discussion.	Drawing intersecting lines. Learners will do Exercise C1	Pencils Rubber Bands Chalkboard illustration	A new Mk Math page 179	
9	**5**	**GEOMETRY**	**LINES**	**PARALLEL LINES.**	Critical thinking and problem solving.	**The leaner:** 1. Defines a parallel line. 2. Draws the symbol for parallel lines. 3. Draws parallel lines. 4. Identifies parallel lines from a set of a given lines.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	PARALLEL LINES • Definition of parallel lines. • The symbol for parallel lines. • Drawing parallel lines. • Identifying parallel lines.	-Guided discussion. observation	Drawing parallel lines. Identifying parallel lines from immediate surrounding.	Objects in and out of the classrooms eg desks,	A new Mk Math page 175-176	
9	**6 & 7**	**GEOMETRY**	**LINES**	**PERPENDICULAR LINES.**	Critical thinking and problem solving	**The leaner:** 3. Describe perpendicular lines. 4. Draw a symbol for perpendicular lines. 5. Name some shapes with perpendicular lines.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	PERPENDICULAR LINES 1) Description of perpendicular lines. 2) The symbol for perpendicular lines. 3) Identifying perpendicular lines. 4) Identifying perpendicular lines. 5) Naming some shapes with perpendicular lines.	-Guided discussion. - observation	Learners will do Exercise C 3	Objects in and out of the classrooms eg desks, walls, books, sets, rulers, etc.	A new Mk Math page 180-185	

9	**8 & 9**	**GEOMETRY**	**LINES**	**LINES OF SYMETRY**	Critical thinking and problem solving.	**The leaner:** 1. Defines folding lines of symmetry. 2. Identifies symmetric and non-symmetric shapes. 3. Uses the given shapes to find out the number of folding symmetry.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	LINES OF SYMETRY 4. Definition of line of symmetry. 5. Meaning of symmetric and non-symmetric figures. 6. Figures and lines of symmetry. 7. The number of folding symmetry in different shapes.	-Practical lesson - Discussion	Learners will do Exercise C4	Pairs of scissors, sheets of rectangular paper.	A new Mk Math page 184-185	
9	**10**	**GEOMETRY**	**LINES**	**CIRCLES**	Problem solving.	**The leaner:** 1. Defines a circle. 2. Names parts of the circle. 3. Identifies the types of a circle.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	A CIRCLE 3. Definition of a circle. 4. Naming parts of a circle. 5. Identifying the parts of a circle.	-Guided discussion.	Learners will write some information about the Circle in their notes.	Chalk board illustration	A new Mk Math page 186	
10	**1 & 2**	**GEOMETRY**	**FINDING RADIUS WHEN DIMETER IS GIVEN**	**RADIUS WHEN DIAMETER IS GIVEN.**	Critical thinking and problem solving.	**The leaner:** 1. Defines radius. 2. Identifies radius on a circle. 3. Calculates the radius of a circle when diameter is given.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**FINDING RADIUS WHEN DIAMETER IS GIVEN** Definition of radius. **Example** Calculating the radius o f a circle when diameter given is 8cm. Radius = Diameter / 2 = 8cm / 2 Radius = 4cm	-Guided discussion. - observation	Learners will do Exercise C5	Chalk board illustration	Understanding mtc pg 184	

10	**3**	**GEOMETRY**	**FIND DIAMETER WHEN RADIUS IS GIVEN**		Problem solving.	**The leaner:** 1. States the relationship between the radius and the diameter. 2. Calculates the radius of a circle when diameter is given. 3. Applies the right units for the answer.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**FINDING DIAMETER WHEN RADIUS IS GIVEN** 3. Definition of diameter. 4. Identifying diameter from a circle. 5. The relationship between the diameter and the radius. Example Calculating the diameter o f a circle when radius given is 13cm. Diameter = 2r = 2 x r = 2 x 13cm Diameter = 26cm	-Guided discussion. - observation	Learners will do Exercise C6	Chalk board illustration	Understanding mtc pg 185	
10	**4 & 5**	**GEOMETRY**	**CIRCLES**	**CONSTRUCTING CIRCLES**	Drawing	**The leaner:** 1. Constructs a circle when radius is given. 2. Constructs a circle when diameter is given.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**CONSTUCTING A CIRCLE** 6. Constructing a circle when radius is given. 7. Constructing a circle when diameter is given.	Demonstration Observation	Learners will do Exercise C7& C8	- ruler - pair of compasses chalk board illustration	A new Mk Math page 186	
10	**6**	**GEOMETRY**	**EQUILATERALS**	**CONSTRUCTING EQUILATERALS**	Drawing	**The leaner:** 1. Constructs an equilateral triangle using a ruler and a pair of compasses. 2. Constructs an equilateral triangle in a circle.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**CONSTRUCTING EQUILATERAL TRIANGLE** 4. Constructing equilateral triangles using a ruler and pair of compasses only. 5. Constructing an equilateral triangle in a circle.	Demonstration Observation	Learners will do Exercise C9 &C10	- ruler - pair of compasses - chalk board illustration	A new Mk Math page 186-189	

10	**7 & 8**	**GEOMETRY**	**HEXAGON**	**A REGULAR HEXAGON**	Critical thinking and problem solving	**The leaner:** 1. Constructs a regular hexagon in a circle. 2. Carries out accurate measurement.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**A REGULAR HEXAGON IN A CIRCLE** Constructing a regular hexagon in a circle	Demonstration Observation	Learners will do Exercise C11	- ruler - pair of compasses chalk board illustration	A new Mk Math page 188	
10	**9**	**GEOMETRY**	**ANGLES**	**TYPES OF ANGLES**	Critical thinking and problem solving.	**The leaner:** 1. Defines an angle. 2. Describes the relation and revolution. 3. Relates angles made to each turn.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**ANGLES.** 3. Definition of an angle. 4. Description of a rotation and revolution. 5. Demonstration of rotation and revolution.	Demonstration Observation	Learners will do Exercise C12	Chalk board illustration. Body movements	A new Mk Math page 189-190	
10	**10**	**GEOMETRY**	**COMPASS**	**DIRECTION**	Critical thinking and problem solving.	**The leaner:** 1. Names parts of a compass. 2. Estimate angles between two given directions. 3. Establishes small and big angles between two given directions.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	COMPASS DIRECTION 3. Naming parts of a compass. 4. Estimating angles between two given directions. 5. Establishing smaller and bigger angles between two given directions.	Demonstration Observation	Learners will do Exercise C13	-Chart showing compass direction.	A new Mk Math page 191-192	

11	**1**	**GEOMETRY**	**COMPASS DIRECTION**	**TURNS**	Critical thinking and problem solving.	**The leaner:** 1. Finds angles made on a compass direction on making a turn. 2. Finds direction made on a compass from an angle of turn.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**CLOCKWISE AND ANTICLOCKWISE TURNS** 1. Finding angles made on a compass direction on making a turn. 2. Finding directions made on a compass direction from an angle of turn.	Demonstration Observation	Learners will do Exercise C14	Chalk board illustration. Body movements	A new Mk Math page 192	
11	**2**	**GEOMETRY**	**ANGLES**	**TYPES OF ANGLES**	Problem solving.	**The leaner:** 1. Names types of angles. 2. Describes each type of angles. 3. Draw each type of angles.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	TYPES OF ANGLES 4. Naming types of angles. 5. Describing each type of angle. 6. Drawing each type of angle. 7. Identifying each type of angle.	Demonstration Observation	Learners will do Exercise C15	Chalk board illustration	A new Mk Math page 193	
11	**3**	**GEOMETRY**	**ANGLES**	**MEASURING ANGLES USING A SCALE**	Problem solving.	**The leaner:** 1. Names the two types of scales. 2. States when each scale is used.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**MEASURING ANGLES USING A PROTRACTOR.** 4. The inner and outer scale of a protractor. 5. When the outer scale is used. 6. When the inner scale is used. 7. Using a protractor to measure given angles.	- Discussion - Observation	Learners will do Exercise C16	- Protractor - Pencil	A new Mk Math page 194-196	

11	**4**	**GEOMETRY**	**ANGLES**	**CONSTRUCTING ANGLES**	Problem solving	**The leaner:** 1. Constructs angles using a protractor. 2. Labels and name the constructed angles.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**CONSTRUCTING ANGLES.** Constructing angles using a protractor.	Discussion - Observation	Learners will do Exercise C17	-Protractor -Ruler - Pencil	A new Mk Math page 197	
11	**5**	**GEOMETRY**	**ANGLES**	**MEASURING ANGLES**	Problem solving.	**The leaner:** 1. Measures angles on a straight line using a protractor. 2. Uses inner and outer scale of a protractor to measure angels on both sides of a straight line	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	MEASURING ANGLES 5. Measuring angles on a straight line using a protractor. 6. Use of the inner and outer scales.	- Discussion - Observation	Learners will do Exercise C18	Protractor	A new Mk Math page 198	
11	**6**	**GEOMETRY**	**ANGLES**	**FINDING ANGLES MARKED BY LETTERS**	Critical thinking and problem solving.	**The leaner:** 1. Finds the value of the unknown angles. 2. Collects like terms.	**The leaner:** 1. Reads the involved vocabularies in the lesson correctly in correct intonation and pronunciation. 2. Spells the vocabularies correctly.	**FINDING ANGLES MARKED BY LETTERS** Example 45^0 m^0 $m + 45^0 = 180^0$ (supl. Angles) $m + 45^0 - 45^0 = 180^0 - 45^0$ **$m = 135^0$.**	Discussion Observation	Learners will do Exercise C19	Chalk board illustration	A new Mk Math page 200	