VICTORIOUS PRIMARY SCHOOLS

MATHEMATICS SCHEME OF WORK FOR PRIMARY SIX TERM I, 2018

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| **WK** | **PD** | **TOPIC** | **SUB-TOPIC** | **CONTENT** | **COMPETENCES** | | **METHODS/**  **TECHNIQUES** | **T/AIDS** | **LIFE SKILLS& VALUES** | **T/L ACTS** | **REFERENCE** | **REMARKS** |
| **LANGUAGE** | **SUBJECT** |  |
|  | 11and22 | SE  T  S  4  Wh  O  L  e n  umb  e  r  Wh  O  L  e  Numb  E  R  s | TYPES OF SETS | **Equal sets** - Have same type and number of members.  **Example**  A = {2 , 3, 4, 5}  B = {3 , 2, 5, 4}  Sets A and B are equal sets.  **Equivalent sets** – Have same number of element but may be of different type examples. A = {1, 2, 3, 4, 5}  B = {a , b, c, d,e}  Sets A and B are equivalent.  **Intersection Set** (U)  A set of members common to two or more given sets.  Example :  A = {0,2,4,6}  B = {1,2,3,5}  Set AnB = {2}  Union Set (U) – A set of all elements contained in given sets. | A learner reads the words such as equal , equivalent intersection and union connects.  Constructs oral sentences using the words above. | A learner   * Counts elements in given sets. * Forms new sets | Question and answer  Discussion  Explanation | Charts  Chalkboard illustration  Plastic bottles | Critical thing  Analitical thinking  Confidence | A learner   * Forms sets * Identifies sets | A new MK MTC bK 6 Pg 1 - 5 |  |
| 23 | TYPES OF SETS | Universal sets ( ∑)  Is the biggest set from which other small sets can be obtained.  Example :  A B  5 1 4  6 2  3  7  Find (i) ∑= 1,2,3,4,5,6,7}  (ii) A = {1,2,3,5,6}  (iii)B=(1,2,3,4)  iv) AnB={1,2,3}  v) AᴜB= {1,2,3,4,5,6} | A learner   * Scribes a universal set. * Identifies members of the universal set | A learner   * Reads the word universal * Uses the word universal in sentences. | Explanation  Chalk board illustrations.  Question and answer | Chart  Chalkboard illustration | Problem solving  Critical thing  fluenc | A learner  Draw venn diagram | A new MK MTC BK 6 Pg 4 – 5 |  |
| 3 | **Complement and difference of sets**  Complement of sets is a set of members found in the universal set but not in a given set.  **Example** :  P Q  C a b  E d g  F h  J k  Find  P1 = {b,g,h,j,k}  Q1 = {c,e,f,j,k}  P – Q={c,e,f}  Q – P = {b,g,h} | A learner   * Describes complement of sets * Identifies complement of sets. | A learner   * Reads the words the words difference and complement correct and uses them in sentences. | Question and answer  Explanation  Chalkboard illustration | Chart  Chalk board illustration | Problem solving  Creative thinking  appreciation | A learner   * Draws venn diagram * Identify elements * Forms new sets. | -do-  Pg 4 – 7 |  |
| 4  55 | TYPES OF SETS | Subsets – A subset is a small set obtained from a big set. Note: An empty set is sub set of any given set.  A given set is a sub set of itself.  Identifying and listing sub sets  Example:  A = {1,2} list the subset of set A={1}, {2} ,{ } and {1,2}  Finding number of subsets.  Subsets = 2n  Proper subsets = 2n – 1  Improper subset is the mother set  Forming subsets from the given sets and proper C. | A leaner   * Describe subsets * Identifies and lists subsets from given sets. * Calculates number of number of sub sets for given sets. | A learner   * Uses the word subsets in oral sentences. | Discussion  Explanation  Question and answer | A chart  Chalk board illustration | Problem solving  Creative thinking | A learner   * Describe some types of sets * Forms sub sets * Indentifies number elements | A new MK MTC pupils BK 6 Pg 8 - 10 |  |
|  | 66 | **Shading and describing shaded regions** | Shading and describing shaded regions  A B C D  P Q | A learner   * Identifies shaded parts. * Shades required regions of sets. | A learner  -describes the shaded region  -reads the questions confidence | Chalk board illustrations  Discussion  Explanation  Question and answer | A chart  Chalk board illustrations. | Problem solving  Critical thinking  confidence | A learner  -Draw venn diagram  -Shades required regions  -Identifies shaded regions | -do-  Pg 59 - 60 |  |
|  | 61 | Interpreting elements in terms of numbers | Interpreting elements in terms of Numbers  X Y  b f a g  C h  d e I j  n(x) n(y)  3 3 5  2  N(x) = 3 + 3 = 6  N(Y) = 3 + 5 = 8  N(xuy) = 3 + 3+5 =11  N() = 3 + 3 + 5 + 2 = 13  N(XUY)1 = 2 | A LEARNER   * Describes information. * Identifies number of elements on a given set * Explains the meaning of symbols. | A LEARNER   * Draws venn diagrams * Represents elements in terms of number. * Counts number of elements. * Adds up the number of elements. | * Discussion * Explanation * Discovery methods | * Chalk board illustrations * Charts | Problem solving  Creative thinking  Appreciation | Drawing venn  Diagram  Adding numbers | A new MK  Primary MTC 2000 BK 6 Pg 29 |  |
|  | 72 | Showing number of elements on a venn diagram | Showing number of elements on a venn diagram  Given that n(A) = 10  N(B) = 15 n (AnB) = 6  N(AUB)1 = 1  N(A) = 10 n(B) = 15  4 6 9  1  N(A only) = 10 – 6  N(A only ) = 4  N(B) only = 15 – 6  N(B)only = 9  Find (i) n(AuB) =  (ii) n (∑) =  (iii) n(AnB)1 = | * Explains the word complement * Spells the word complement. | A LEARNER   * Draws venn diagrams * Represents information * Interpret information | * Discussion * Explanation * Question and answer | Charts  Chalk board illustrations | Problem solving  Critical thinking  confidence | Drawing venn diagram  Adding numbers  Subtracting numbers | Mk bkpg 29 |  |
|  | 83 | Word problem in venn diagrams.  With simple probability | Application of sets  Example . In a class of 30 Pupils, 20 pupils like Mirinda (M) 15 like Fanta (F) and some like both while two (2) pupils like neither of the drinks.   1. Show the above information on a venn diagram.   Find ∑ = 30  N(M) = 20 n(F) = 15  20 – x x 15 – x  2   1. Find those who like both.   20 – x + x + 15 – x + 2 = 30  20 + 15 + 2 – x = 30  37 – x = 30  37 – 37 – x = 30 – 37  -x = -7  -1 -1  X = 7  If the teacher picked a pupil at random what is the chance that that pupil takes only one kind | * Reads and interprets information on venn diagrams | A LEARNER   * Draws venn diagrams * Represents information * Solve equations | Discussion  Explanation  Question and answer | Chart  Chalk board  Illustration | Critical thinking  Problem solving  Effective communication | Drawing venn diagram  Reading and interpreting  Information | A new MK Primary MTC 2000 (old edition)  Pgs  18 - 19 |  |
|  | 94 | Place values of whole numbers | Place values of whole numbers up to millions.  1 2 3 4 5 6 7  Ones  Tens  Hundreds  Thousands  Ten thousands  Hundred thousands  Millions | A LEARNER   * Read the different place values and uses them orally | A LEARNER   * Write place value of the required digits . | Discussion  Question and answer  Explanation | Chart  Chalk board illustration | Creative thinking  Effective communication  fluency | A LEARNER  Gives the place value of digits | -do-  34 - 35 |  |
|  | 5 | Forming numeral using given digits | Forming numbers using given digits.  Example :  Write down the largest numeral and smallest numeral using the digits 6 , 2 , 5 , 9  Largest numeral = 9,652  Smallest numerals = 2,569 | A LEARNER  Reads the numerals formed from digits | A LEARNER  Identifies digits in order | Discussion  Question and answer  Explanation | Chart  Chalk board illustrations | Effective communication  Critical thinking | Learners  Forms numeral | Mk bk pg36 |  |
|  | 6 | Values of whole number | Values of whole numbers  Find the value of 8 in the numeral 5482  Tens  8 x 10 = 80  Find the sum of the values of 4 abd 5 in the figure above (5482)  Value of 4 = 4 x 100 = 400  = 400  Value of 5 = 5 x 1000  = 5000  Sum = 5000  +400  5400 | A LEARNER  Reads place values of digits  Multiples digits by their place values | A LEARNER  Identifies place values of given digits  Multiplies digits by their respective place value | Discussion  Explanation  Questions answer | Chalk  Chalk board  Illustrations | Creative thinking  Interpersonal relationship | A LEARNER  Write place value of given digit (s)  Multiples numbers  Adds values of different digits | -do-  Pg  35  (New edition) |  |
|  | 11 | Expanding whole numbers | Expanding whole number   1. Using values   Example: 247 = 200 + 40+ 7   1. Using place values 2. 247 = (2 x 100)+(4 x 10) + (7 x 1) 3. Using powers (exponents) 4. 247 = (2 x 102) +(4 x 101) + (7x100) | A LEARNER  Assigns powers to digits in a numeral  Expands whole number | A LEARNER  Gives another name for powers | Discussion  Explanation  Question and answer | A chart  Chalk board illustration |  | A LEARNER  Expands whole numbers  Assigns power to different digits on a numeral | A new MK MTC BK 6 Pg 58 |  |
|  | 1 2 | Writing expanded numbers in short | Writing expanded numbers in short  What number has been expanded below.   1. 8000 + 400 + 2   8000  400  + 2  8,402   1. (7 x 100) + (3 x 1)   700  + 3  703   1. (5 x 103)+(2 x 101)+(4 x 1)   (5 x 10 x 10x10) + (2x10)+(4x1)  5000 + 20 + 4  5000  20  + 4  5,024 | A LEARNER  Uses the words powers , indices and exponents in questions | A LEARNER  Adds numbers  Arranges numerals vertically to carry out adding | Chalk board illustration  Explanation  Question and answer | Chart  Chalk board illustration | Critical thinking  Effective communication | A LEARNER  Expands numbers with powers  Get the value for expanded parts  Adds up values | Mk bkpg 59 |  |
|  | 3 | Writing whole numbers in words and figures | Writing in words and figures. Write 20 , 408 in words  TH UNITS  20 408  Twenty thousand, four hundred eight in figures  Twenty thousand 20,000  Four hundred 400  Eight + 8  20,408 | A LEARNER  Groups digits in a numeral  Writes given whole numerals in words | A LEARNER  Reads and used words like groups , units , place values correctly | Discussion  Question and answer  Explanation | counters  Chalk board illustration | Effective communication  Critical thinking  Appreciation | A LEARNER  Identifies place values of the required digit | Pg 59 |  |
|  |  | 4 | Rounding off whole numbers | Round off whole numbers  Round off 347 to the nearest tens.  H T O 340 347 = 350  3 4 7 +10  350  Round off the following to the nearest place value in brackets.   1. 34894 (hundreds) 2. 5433 (hundreds) | A LEARNER  Identifies digit in the given place value.  Adds borrowed digits to original digits. | A LEARNER  Read the place value given correctly and uses them to round of numbers | Discussion  Chalk board illustration | Chart  Chalk board illustrations | Problem solving  Critical thinking  Fluency | A LEARNER  Identifies the place value of the required digits | -do-  Pg  27 |  |
|  |  | 5 | Place values of decimal | Place values of decimal numbers.  2 4. 3 7 1  Ones thousands  Hundredths  Tens tenths | A learner  Identifies decimal place values |  | Discussion  Chalk board illustration | Chart  Chalk board illustrations |  | A LEARNER  Identifies the place value of the required digits |  |  |
|  |  | 6 | Values of decimals | Values of decimal digits  Find the value of 8 in the number 0 . 283  Hundredths  8 x 1 = 8= 0 . 08  100 100  Find the sum of the values of the digits 2 and 3 in 0.283.  Value of 2 = 2 x 1 = 2 = 0.2  10 10  Value of 3 = 3 x 1 = 3 = 0.2  1000 1000  Sum = 0.2 + 0.003 = 0.203 | A learner  Identify place value of required digits.  Multiplies digits by their place values | A learner  Reads the new words fluently  Writes figures correctly | Counters  Chart showing values | Discussion  Chalk board illustration | Problem solving  Interpersonal relationship  Fluency | A learner  Write place values of digits  Multiplies digits by fractions  Adds decimals |  |  |
|  |  | 1 | Expanding decimal numbers | Expanding decimal numbers.   1. Using values.   0.278= 0.2 + 0.07+0.008   1. Using place values   8.125 = (8x1)+(1x1/10)+(2x1/100)+ (5x1/1000)   1. Using powers (exponents)   0.481=(1x10-1)+(8x10-2)+(1x10-3) | A learner  Assigns power to decimal digits  Expands decimals number | A learner  Describes place values of digits  Uses the given vocabulary correctly | Chalk board illustrations | Discussion  Explanation  Question and answer | Problem solving  Effective communication  Appreciation | A learner  Expands decimal numbers | Mk pg 29 |  |
|  |  | 3 | Writing decimals in words | **Writing decimals in words**  The word “AND” implies a decimal point when writing decimals in words.  Examples” 8.125  Eight and one hundred twenty five thousandths.  Examples 2. 0.24  Twenty four hundredths | Identifies place values of digits | Spells the words used correctly  Pronounces fluently  Writes words correctly | Chart  Word cards | Discussion  Guided discovery | Effective communication  Critical thinking  Fluency | A learner  Writes figures in words correctly | Mk pg 29 |  |
|  |  | 4 | Rounding off decimal numbers | Rounding off decimal numbers  Round off numbers of the nearest place value in the brackets.  a) 0.4 (tenths)  + 0. 1  0.5  b) 3.432 (hundredths)  3.43  0.00  3.43 | Identifies the asked place value  Rounds off correctly | Reads the questions correctly | Flash cards work cards  counters | Guided discovery  Discussion  explanation | Critical thinking  Effective communication  confidence | Adding numbers correctly | Pg 30 |  |
|  |  | 5 | Hindu Arabic to roman numeral | Hindu Arabic to roman numerals  Some roman numerals can be repeated up to three times egI , X , C and MM such as XXX.  50 = L 237  60 = 50 + 10 200 + 30+7  = L + x CC + XXX+VII  = LX CCXXXVII | Learner  -Identifies roman numerals up to M  -Expands Hindu Arabic numerals using values.  -Changes Hindu Arabic to Roman numerals | A learner  -Read the words Hindu Arabic and Roman correctly  -Use | Discussion  Explanation  Question and answer | Chart  Chalk board illustration | Problem solving  Effective communication  confidence | Expanding hindu numerals  Writing roman numerals | MTC revision hand book pgs  28 - 30 |  |
|  |  | 6 | Roman numeral to Hindi Arabic | Roman numerals to Hindu Arabic numerals  1v = 5 – 1 = 4  v1 = 5+1=6  XLVlII = XL + VIII  = (50 - 10)+(8)  = 40 + 8  =48  CMLXXIX  CM + LXX +IX  900 + 70 + 9  979 | Learner  -Expands the given roman numerals  -Converts roman numerals to Hindu Arabic | A learner  -Reads the words Hindu Arabic and roman correctly  -Uses | Discussion  Explanation  Question and answer | Chart  Chalk board illustration | Effective communication | Expanding numbers  Writing hindu numerals | -do- |  |
|  | Bases1 | Whole numbers | Bases  Review of place values  Changing from non-decimal to decimal base | Place values of non-decimal bases  a) 1101two , b) 1213four and others  Converting from non-decimal to decimal base  a) 111two to base ten  b) 21three to base ten  Seven to base ten  Expand using the exponents of the given base and find a single value | Reads the words and structures correctly | Identifies the base given correctly  Expands the numbers correctly | Discussions  Guided discovery  Think pair share | Charts  Counters  Chalkboard illustrations | Confidence  Appreciation  Effective communication | Writing new words  Counting values  Reading new words | Mk bk 7 pg 45 |  |
|  |  | 2 | Changing a decimal to non - decimal | **Changing decimal base to non – decimal**  a) 12ten to base two  b) 213ten to base five  c) 34ten to base four  Divide the no. using the asked base only  Form groups and write on remainders from each group formed  **Change a non-decimal to a non decimal**  a) 12three to base five  b) 26seven to base four  Convert to decimal base the finally change the answer to the asked base | Pronounces the word fluently | Divides the figures correctly | Guided discovery  Discussion  Explanation | Counters  Work cards | Creative thinking  appreciation | Identifying the bases given  Converting the given base to base ten | Pg 45 |  |
|  |  | 3 | Addition of non-decimal bases | **Addition of non-decimal base**  The biggest digit in any base should always be smaller than base your operating  Regroup in the given base  Add: 2 4 1five b) 23four  1 2 4five 12four | Reads the answers after the correct operation | Adds the figures correctly  Subtracts the figure correctly | Guided discovery  Think pair share  Explanation | Charts  Counters | Confidence  Appreciation  Problem solving | Reading new words  Writing figures and new words  Counting  Adding numbers under a given base | Mkbk 7 pg 47 |  |
|  |  | 4 | Subtraction of non – decimal base | Subtraction of non – decimal bases  Follow the right place values  In case of borrowing, use the given base  a) 32five b) Subtract 52seven  14five from 66seven | Reads the answers after the correct operation | Subtracts the figures correctly  Subtracts the figure correctly | Guided discovery  Think pair share  Explanation | Charts  Counters | Confidence  Appreciation  Problem solving | Reading questions  Subtracting figures | Pg 47 |  |
|  |  | Whole numbers | Bases, Multiplication of non – decimal bases | Multiplication of non – decimal bases  The answers written should have digits less than the base given  If the figure is greater than the base, use the base to divide and write the remainder than carry the number of groups, continue normally  +3  34five  x4five  301five | Reads the figures in correctly in the given base  Spells the words in their right way | Multiplies the figures correctly | Explanation  Demonstration  Group discussion | Charts  Counters  Work cards | Critical thinking  Problem solving | Counting  Reading new words  Writing new words  Multiplying the figures in the bases given | Km bk 7 pg 48 |  |
|  |  | OP  E  R  A  T  I  O  N  O  F  N  UMB  E  R  S | Addition of whole number | Addition of large whole numbers up to 7 digits  3058768 (2) 4821481  + 431231 +3149353  3489999 7970834 | Reads the new words | Arranges figures vertically  Adds the numbers correctly | Discussion  Explanation  Question and answer | Chart  Chalk board illustration | Problem solving  Effective communication | Writes an exercise by adding whole numbers  A arranging digits vertically  Adding figures | Mk bkpg 49 |  |
|  |  | Subtraction of large numbers. | Subtraction of large numbers  a) 3241780 b) 3241784  -1120420 - 34525  21210420 3207259 | Reads the new words confidently  Forms simple structures from the give words | Arranges the digits correctly  Subtracts figures correctly | Discussion  Explanation  Question and answer | Chart  Chalk board illustration | Interpersonal relation ship | Learners  -Write and exercise by adding whole   |  | | --- | | numbers correctly | | Pg 56 |  |
|  |  | Multiplication of large numbers | Multiplication by 2 and 3 digit numbers  1) 1432 b) 5640  X 132 x 15  2864 28200  4296 +5640  + 1432 84600  189024 | Pronounces new words fluently  Writes digits in right place values | Arranges figures vertically  Multiplies figures correctly | Discussion  Explanation  Question and answer | Chart  Chalk board illustration | Effective communication  Creative thinking | Multiplying numbers correctly  Writing digitsin right places | Mk bk 7pg 57 |  |
|  |  | 6 | Addition and multiplication | Addition and multiplication on numbers and division  Combined operation  1) 5 + 4 x 3 = 5 + (4 x 3)  = 5 + 12  = 17 | Writes numbers  Reads numbers | A learner  -adds numbers as per BODMAS rule | Discussion  Explanation  Question and answer | Chart  Chalk board illustration | Creative thinking  Interpersonal relationship | Adds,Multiplies and divides numbers |  |  |
|  |  | 1 |  | Division of whole number by long division  120 6360  1 2 3 4 5 6 7 8 9  M120 , 240,360,450,600,720,840,960,1080  53  120 6360  -600 = 53  360 | A learner  -Identifies the 9 multiples of the divided  -Divides large numbers by long division. | Learner  -Read words like multiples, long Division and uses them in sentences correctly | Discussion  Explanation  Question and answer | Chart  Chalk board illustration | Effective communication  Critical thinking | Dividing the numbers correctly | MK MTC BK 6 page 60 |  |
|  |  | 2 |  | Types of numbers  1.Odd nos 1,3,5,7,9 - - - -  2.Even nos 0,2,4,6,8,10  3.Squarenos 1,4,9,16,25,36  4. Cube no,1,8,27,64,125  5.Prime nos 2,3,5,7,11,13  6.composite. 4,6,8,9,10,12,14,15  7.Tangular nosn(n+1)eg 1,3,6,10,15,21 - - - - 2 2 | A leaner  -Identifies the different types of numbers.  -Members examples of each type of number. | Learner;  -Reads the new words  -Spells the new words | Discussion  Explanation  Question and answer | Chart  Chalk board illustration | Effective communication  Creative thinking | Identifying the different types of numbers  Finding the next number in the sequence | -do-  Page 57 - 59 |  |
|  |  | 3 |  | Consecutive numbers  a)Counting numbers  1 2 3 4 5  +1  +2  +3  +4  X , x+1, , x+2 , x +3  b) Odd and even numbers  0 2 4 6 1 3 5 7  +2 +4 +6 +2 +4 +6  X1 , x+1 , x +4, x+6  The sum of three consecutive numbers is 36. Find the numbers. | A learner  -Describes consecutive odd and even numbers.  -Identifies a list of consecutive odd and even numbers | Learner;  -Pronounces the words correctly  -Forming simple phrases | Guided discovery  Demonstration  Discussion | Illustrated chart  Chalkboard illustration | Interpersonal relationship  Critical thinking | Identifying the types of numbers  Forming equations | -do-  Page  76 |  |
|  |  | 4 | Divisibility test for 2,3,4,5 | 1. A number is divided by 2 if the last digit is 0,2,4,6, or 8.  2. A number is divisible by the ends with 0 or 5. | Checks for divisibility tests  Dividing the numbers | Reads the given statements  Interpretes the given statements | Discussion  Explanation  Question and answer | Chart  Chalk board illustration | Creative thinking  Problem solving | Checking for divisibility tests  Dividing the numbers | MK MTC BK 6 Pages |  |
|  |  | 5 | Factors and G.C.F | Factors and greatest common factor  F8 = 1x8 F12 = 1 x 12  = 2x4 = 2x6  = {1,2,4,8} = 3x6  {1,2,3,4,6,12}  Common factors {1 , 2, 4}  The greatest common multiple of 8 and 12 is 4. | Identifies he factors  Identifies the common factors  States the GCF | Reads the given statements  Pronounces the words correctly | Discussion  Explanation  Question and answer | Chart  Chalk board illustration | Critical thinking  Creative thinking | Pronouncing words fluently  Identifying the factors  Finding the GCF | MK MTC BK 6 Pages |  |
|  |  | Prime factorize of numbers | Prime factorization  2 12 12 = 2 x 2 x 3  2 6 (Multiplication form)  3 3 12 = 21 x 21 x 31  (Subscript form)  12 = 22 x 31(power form)  12= {21 , 22, 31} set form | Divides numbers by prime factors  Writes prime factors in the different forms | Reads in words confidently  Pronounces prime factors | Guided discovery  Discussion | Work cards  Chalkboard illustrations | Creative thinking  Critical thinking | Prime factorizing numbers  Writing prime factors in the different forms | MK  MTC  BK 6  Pages |  |
|  |  | Use of venn diagram to show prime factors | Use of venn diagrams to show prime factors.  F 8 PF 12 { 21 , 22, 31 }  2 8 2 12  2 4 2 6  2 2 3 3  1 1  (21 , 22, 23)  F 8 F 12  21  23 22 31 | Prime factorises numbers  Represents the prime factors | Reads the question correctly  Writes prime factors in avenn diagram | Demonstration  Discussion  Guided discussion | Work cards  Chalkboard illustration | Problem solving  Effective communication  fluency | Reading questions fluently  Representing prime factors | Mk bk6 page |  |
|  |  | 2 | Finding unknown in | Finding unknowns in venn diagrams  FA F 18  21  22 31 x  A = {21,22,31} 18={x,2,3}  A = 2 x 2 x 3 18 = x x 2 x3  A = 12 18 = 16x  6 6  X = 3 | Identifies the given factors  Finds the unknown value | Reads the prime factors correctly  Forms the right equations | DISCUSSION  GUIDED DISCOVERY | Illustrate charts  Counters  Chalkboard illustrations | Problem solving  Critical thinking | Identifying the prime factors  Finding unknown values | Mk bk6 pages |  |
|  |  | 3 | Application of LCM | Application of LCM  1. Two bells rings at intervals of 30 Min and 40 minutes respectively if thy rang for the first time at 8:30 am (a) After how long will they ring together again?  b) At what time did they ring together again?  c) Find the least number of books that can be given to 5 or 6 boys leaving a remainder of 3 books? | Prime factories numbers correctly  Finds the LCM from the prime factors | Reads the question confidently  Forms simple structures from the words | Demonstration  Guided discovery  explanation | Counters  Illustrate chart | Inter personal relationship  Problem solving  cofidence | Prime factorizing  Finding the LCM | Mk bkpg 56 |  |
|  |  | 4 | Application of LCM and GCF | Application oof GCF and LCM  1st number x 2nd number = LCM x GCF of two numbers are 24 and 4.  Find the second number given that the first number is 12. | Compares the product of lcm and gcf with give numbers | Pronounces new words | Explanation  Guided discovery | counters | Problem solving  Effective communication  fluency | Multiplying and dividing figures correctly |  |  |
|  |  | Pa  T  T  E  R  N  s  a  n  d  s  e  q  u  e  n  c  e  s | Square roots of whole numbers | Square roots of whole numbers  36  2 36 (2x2) x (3x3)  2 18 2 x 3  3 9 6  3 3  1 | Prime factorizes the given numbers  Multiplies the prime factors correctly | Writes the prime factors correctly | Discussion  Demonstration  Guided discovery | counters | Problem solving  Creative thinking  fluency | Prime factorizing numbers  Multiplying prime factors |  |  |
|  |  | Square roots decimals | Square roots of decimals  0.09 3 9 2 100  9 3 3 2 50  100 1 5 25  5  ( 3x3) = 3 = 3 = 0.3  2x2x2(5x5) 2x3 10  25 5 25 2 36  36 5 5 2 18  1 3 9  3 3  1  5x5 = 5 = 5  (2x2)x(3x3) 2x3 6 | Identifies the place values given in a decimal  Finds the square roots of all parts correctly | Reads the questions confidently | Guided discovery  Discussion  explanation | counters | Critical thinking  Problem solving  fluency | Identifying the place values given  Finding the square roots | Mk bkpg |  |
|  |  | Application of square numbers | Application of square number  1. What is the square of  a) 5 b) 2/3 c) 2 ½ d) 0.3  2. The area of a square is given below. Find the side length.  a)100cm2 b)9m2 c) 1.44m2  25 | Applies the concept of square roots correctly  Finds the square root of the given numbers | Reads the questions confidently  Writes the units on answers if applied | Guided discovery  Discussion  Demonstration  Explanation | Counters  Illustrate chart | Logical thinking  Creative thinking  Confidence | Reading questions confidently  Finding the square roots correctly | Mk bk 57pg |  |
|  |  | Integers | The number ordering and comparing integers | The horizontal and vertical number lines showing integers on the horizontal and vertical number lines.  The vertical  Towards the north positives  Towards the south negatives  **The Horizontal**  Towards the right positives  Towards the left negatives  Writes 1 , -1 , 0 , 5 , -4 , -3 and -2 in ascending order  -4 , -3 , -2 , -1 , 0 , 1 , 5  Use < , > or = to complete below correctly  - 6 > 10 | Reads and tells meaning of used vocabulary e.g. horizontal vertical interger | Draws and labels integers on the horizontal and vertical numberline  Writes integers in ascending and descending order  Compares intergers using the comparison symbols < , > or = | Guided discovery  Guided discussion | Charts showing vertical and horizontal number line | Logical flow of ideas | Drawing  Ordering  Comparing | Mk bk6 pg |  |
|  |  | 6 | Addition of integers using number line and writing addition mathematical statements on a number line | Arrows and direction on a numberline  Write the integers shown on the numberline below  a = +5 ,b = +5, c = +3 , d = +3, e= -5  Add +2 + -5 using a numberline  +2 +-5 = -3  Writes the mathematical statements shown on the numberline.  Writes the integers shown by a , b write the mathematical statement. | Read the arrows correctly  Reads given integers correctly | Shows arrows on numberline  Writes integers shown by arrows  Adds using a number line  Writes mathematical statements shown on a number line | Guided discussion  Guided discovery | A chart showing arrows on a number line and addition | Analytical thinking  Effective communication | Drawing  Writing integers |  |  |
|  |  | 1 | Subtraction of integers using a number line and writing subtraction of mathematical statements shown on number lines | Subtract -3 - +4 using a number line  -3 - +4 = -7  Write the mathematical statement shown on the number line below.  q – p = r  3 - -4 = +7 | Reads the given integers correctly  Reads arrows on the number line | Subtracts using the number line correctly  Writes subtraction statements shown on the number line correctly | Problem solving  Guided discussion | Charts showing | Logical flow of ideas | Drawing and representing arrows |  |  |
|  |  | 2 | Multiplication of integers using a number line | Multiplying 2 x 3 using a number line 2 groups of 3 | Reads given statements correctly | Multiplier integers using a number line correctly | Guided discovery  Guided discussion | Charts showing multiplication of integers using a number line | Critical thinking | Drawing  Multiplying |  |  |
|  |  | 3 | Addition and subtraction of integers without a number line | Multiplier rules of signs  - x + = -  - x - = +  + x - = -  + x + = +  Work out: -6—9  -6-(-9)  -6 + 9  9 – 6  = 3  Work out: -5 + -2  -5 + (-2)  -5 – 2  -7 | Reads multipliers rules of signs  Reads given integers correctly | Adds and subtracts given integers correctly | Problem solving  Group work | A chart showing addition and subtraction of integers | Creative thinking  Logical reasoning  Logical flow of ideas | Adding and subtracting integers |  |  |
|  |  | 4 | Multiplication and division of integers | Work out:  -6 x -3  = +18  Divide  -16 ÷ +8  = -2 | Reads given statements correctly | Multipliers and divides integers without a number line correctly | Guided discovery  Guided discussion | Chart showing multiplication and division of integers | Critical thinking  Logical flow of ideas | Multiplying  Dividing |  |  |
|  |  | 5 | Application of integers | The temporary was 20oF and dropped by 23oF. Find the new temperature  20oF – 23oF  -3oF | Reads given information correctly | Computes relevant information and answers correctly | Problem solving  Guided discussion | Board illustration | Creative thinking  Logical reasoning | Reading  Working out |  |  |
|  |  | 6 |  | Co – ordinate graphs  -Is made up of two times verticals and horizontal.  -A co – ordinate is an ordered pair of numbers which is used to locate a point on the graph  - A co – ordinate graph has two parallel lines the x and y axis | do | do | Explanation  demonstration | Illustrated chart | Critical thinking | Identifying the axes correctly | Mk bkpg 59 |  |
|  |  | 1 | Potting Co – ordinates in a graph | Plotting co – ordinates in the graph. Eg A (1,1) B (2, -1) C (-2, -1) D(1,3)  Y   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  | 4 |  |  |  |  |  | |  |  |  |  | 3 |  |  |  |  |  | |  |  |  |  | 2 |  |  |  |  |  | |  |  |  |  | 1 |  |  |  |  |  | | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | |  |  |  |  | -1 |  |  |  |  |  | |  |  |  |  | -2 |  |  |  |  |  | |  |  |  |  | -3 |  |  |  |  |  | |  |  |  |  | -4 |  |  |  |  |  | | \_Draws a graph  -Plot co – ordinates  -Identifies the co – ordinates correctly | Leaner reads pronouns plots the co – ordinates correctly | Demonstration  Explanation  Guided discovery | Illustrate chart  Chalkboard illustration | Logical thinking  Creative thinking  appreciation | Drawing graphs  Pronouncing co-ordinates | mm  mkbkpg 136 |  |
|  |  | 2 | Plotting and forming figures on a graph | Plot the following A (3,4) B(0,1) C(5,1) and join the points. Name the figure formed.  Y   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  | 3 |  |  |  |  | |  |  |  |  | 2 |  |  |  |  | |  |  |  |  | 1 |  |  |  |  | | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | |  |  |  |  | -1 |  |  |  |  | |  |  |  |  | -2 |  |  |  |  | |  |  |  |  | -3 |  |  |  |  | | -Joins the points  -Names the figures  -Finds the areas of the figure forming | -Describes the formed figures.  -Masters the area of the formed figures | Explanation demonstration discussion | Illustrate chart  Chalk board illustration | Problem solving  Critical thinking  fluency | Joining points  Naming shapes formed  Finding area of figures | m |  |
|  |  | 3 |  | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  | 4 |  |  |  |  |  | |  |  |  |  | 3 |  |  |  |  |  | |  |  |  |  | 2 |  |  |  |  |  | |  |  |  |  | 1 |  |  |  |  |  | | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | |  |  |  |  | -1 |  |  |  |  |  | |  |  |  |  | -2 |  |  |  |  |  | |  |  |  |  | -3 |  |  |  |  |  | |  |  |  |  | -4 |  |  |  |  |  | | -Draws squares  -Names x any y co – ordinates  -Plots co – ordinates on a graph | -Reads , spells , writes and describes and describes co – ordinates graphs | Questions and answer  Demonstration discovery | Chalk board illstration |  | Plotting co – ordinates on a graph | Mk bkpg 176 |  |
|  |  | 4 |  | When naming co – ordinates , begin with x – axis then y –axis   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  | 4 |  |  |  |  |  | |  |  |  |  | 3 |  |  |  |  |  | |  |  |  |  | 2 |  |  |  |  |  | |  |  |  |  | 1 |  |  |  |  |  | | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | |  |  |  |  | -1 |  |  |  |  |  | |  |  |  |  | -2 |  |  |  |  |  | |  |  |  |  | -3 |  |  |  |  |  | |  |  |  |  | -4 |  |  |  |  |  | | Identifies the co-ordinates given  Plots co-ordinates given correctly | Reads the co-ordinates fluently  Writes the co-ordinates correctly | Demonstration  Explanation  Guided discovery | Chalkboard  Illustration |  | Naming co-ordinates | Mk bk 7pg 178 |  |
|  |  | Finite system | Addition of numbers in finite system | Counting numbers in finite system;  Finite 4: {0 , 1 , 2 , 3} four digits used  Finite 5: {0,1,2,3,4} five digits used  **Addition in finite system.**  Consider the finite given  Sum should be less than one given finite  Incase of equality or above the finite, form groups of the finite and write the reminder as the answer  3 + 4 = \_\_\_(finite 7) use a dial | Describes the digits under the given finite | Counts the digits in the given finite  Adds the figures in the given finite | Think pair share  Group discussion | Charts | Critical thinking  Effective communication | Describing digits in given finite  Adding the figures given | Mk bk 7 pg 178 |  |
|  |  | 6 | Subtraction on numbers in finite system | **Subtraction of numbers in finite system**  Subtract 3 – 4 = \_\_\_\_\_(finite 7)  (3+7) – 4 =  10 – 4 = 6  :. 3 – 4 = 6 (finite 7)  Variety of examples to be used  Use of a dial | Reads the words and figures confidently | Identifies the finites used  Subtracts the figure used correctly in consideration of the finite | Think pair share  Group discussion | Charts | Critical thinking  Effective communication | Reading the new words given  Identifying the finite  Subtracting the figures given |  |  |
|  |  | 1 | Mixed operation in finite system | Addition and subtraction in finite  Workout: 23 – 3 + 2 = \_\_\_\_(finite 7)  Simplify: 2 + 1 – 3 = \_\_\_\_(finite 5)  Workout: 5 – 7 + 2 = \_\_\_\_(finite 5)  Application of BODMAS rule is used  Use of a dial | Describes the integers given correctly | Uses the rule of BODMAS correctly to solve | Demonstration  Group discussion | Charts  Work cards | Confidence  Problem solving | Writing new words  Counting numbers or values  Using the rule of BODMAS correctly  Multiplying the given values under the stated finite | Mk bk 6 pg 50 |  |
|  |  | 2 | Multiplication of numbers in finite system | **Multiplication in finite system**  Multiply: 2 x 3 = \_\_\_\_\_(finite 5)  2 x 3 = 6  6 ÷ 5 = 1r1  2 x 3 = 1 (finite 5)  Use of a dial | Describes the given finite | Multiplies the figure in respect to the finite given | Guided discovery  Group discussion | Chalk boar illustration | Problem solving creative thinking | Mk bk 6 pg 50 |  |
|  |  | 3 | Division | **Division in finite system**  Work out:7 ÷ 8 = \_\_\_\_(finite 4)  (7 + 4) = 11  11 ÷ 8 = 1 r 3  7 ÷ 8 = 3 (finite 4) | Reads the words confidently | Divides numbers correctly | Explanation | Chalkboard illustratioin | Creative thinking  Problem solving  confedence | Dividing numbers under a stated finite | Pg 48 |  |
|  |  | 4 | Unknown value in finite system | **Finding unknown value in finite system**  Solve for x  3x = 4 (finite 7)  4 + 7 = 11 (finite 7)  11 + 7 = 18 (finite7)  3x/3 = 18/3  X = 6 (finite 7) | Describes the given finite  Pronounces words correctly | Carries out basic operations  Solves the statement according to the finite | Explanation  Demonstration  Group work | Charts  Chalkboard illustration | Problem solving  Critical thinking | Counting values of numbers  Reading new words give fluently | Pg49 |  |
|  |  | 5 | Finite system Word problem | **Application of finite system**  Application of clock arithmetic of mode 7. Applied in counting days of the week  0 = Sunday 4 = Thursday  1 = Monday 5 = Friday  2 = Tuesday 6 = Saturday  3 = Wednesday  Application of finite 12. Applied when counting months of the year.  Jan Feb Mar Apr May Jun Jul  1 2 3 4 5 6 7  Aug Sept Oct Nov Dec  8 9 10 11 12 | Reads the words and structure fluently  Describes the mode used | Carries the basic operation correctly  Solves the word problem involving the finite given | Guided discovery  Group discussion  Think pair share | Charts  Counter  Chalkboard illustrations | Confidence  Fluency  Problem solving  Critical Thinking | Reading new words  Writing new words  Counting values  Solving problem involving finite | Mk bk 6 pg 56 |  |
|  |  |  | TERM TWO 2017 | | | | | | | | |  |
|  |  | ALGEBRA | Collecting like terms | Example;  Simplify: r + r + n  3n  Example  Simplify: 3x + 6  + - x -2y  3x – x + 6y – 2y  2x + 4y | Learners  Define like terms  Collect like terms | Learners;  Need write, spell new words like collect, like, term | Problem solving  Guided discovery | Critical thinking  Creative thinking  Effective communication | Real objects like leaves, stones, bottle tops | Learner sort objects and collect like terms |  |  |
|  |  |  | Substitution | Example given that  P = -6  Find P + 2  -6 + 2  -4 | Learner;  Substitute correctly  Work out member correctly | Learners read; write, spell words like substitute, replace | Guided discussion  Explanation  Discussion | Effective communication  Problem solving | Real objects like leaves, stones, bottle tops | Learner substitute |  |  |
|  |  |  | Removing brackets | Example simplify  3(b + 4)  X  3 x 6 + 4 x 3  3b + 12 | Learner;  Remove brackets  Simplify algebraic | Learners read, write, spell new words brackets, simplify | Guided discovery  Explanation  Discussion  Brain storming | Problem solving  Critical thinking | Chalkboard illustration | Learners remove bracket simplify |  |  |
|  |  |  | More about removing brackets | Example  Simplify  3(x + 3) – 2(x – 1)  3x + 9 – 2x +2  3x – 2x + 9 + 2  X + 11 | Learners;  Remove bracket  Simplify algebraics | Learners read, write, spell new words brackets, simplify | Brain storming  Guided discussion  Guided discovery | Creative thinking  Critical thinking | Chalkboard illustration | Learner remove bracket and simplify |  |  |
|  |  |  | Indices | Simplify m3 x m2  Mxmxmxmxm – m5  Or  M(2+2) = m5  Example  Sin/Simplify:  P5 ÷ P3 | Learners;  State laws of indices  Multiply power of the same base | Learners read, spell, pronounce indices, index exponent, base, product | Problem solving  Brain storming  Explanation  Guided discussion | Critical thinking  Analytical thinking | Chalkboard illustration  A chart showing indices | Simplify indices |  |  |
|  |  |  | Solving simple equation | Example;  Solve x + 3 = 9  X + 3 – 3 = 9 – 3  X = 6 | Learner;  Solve simple equations  Collect like terms correctly | Learners read, spell, pronounces equations, like terms | Problem solving  Guided discussion  Explanation | Effective communication  Creative thinking | Chalkboard illustration | Solving equation |  |  |
|  |  |  | Forming and solving equation | Example  Moses has 8 more cows than Kato  If both have 16 cows. How many cows does Moses have?  Let Kato’s no. of cows be y | Learners will  Form equations  Solve equations | Learners spell, pronounce, equation solve | Problem solving  Guided discussion  Explanation | Effective communication  Creative thinking | Chalkboard illustration | Learners practice forming solving equation |  |  |
|  |  |  | Solving fraction equation | Example  Solve  2p/4 + 5 = 17  2p/4 = +5 – 5 = 17- 5  2p/2 = 12.4/2  P = 6 x 4  P = 24 | Learners;  Identify equation  Solve equation with fractions | Learners read, spell, pronounce, new words, fraction, equations. | Brain storming  Problem solving  Discussion | Critical thinking creative thinking | Learners practice solving equations | A chart showing solving fraction equation |  |  |
|  |  |  | More about forming and solving equations | Example Okello is 8 years older than John. If their total age is 20 years, how old is each person? Let John’s age be k  K+ k + 8 = 20  2k + 8 – 8 = 20 -8  2k/2 = 12/2  Okullo  K + 8  6 + 8  144years  John  6 years | Learners;  Read and interpret questions  Solve equations | Learners read, spell, pronounce new words equation | Guided discovery  Explanation  Brain storming | Critical thinking  Effective communication | Learners practice  Solving equations | A chart showing solving equations |  |  |
|  |  |  | Solving equation involving brackets | Solve:  3(y +4) = 12  3y + 12 = 21  3y + 12 – 12  = 21 – 12  3x/3 = 9/3  X = 3 | Learners;  Remove brackets  Solve equations | Learners read, spell, pronounce words equation, brackets etc | Explanation  Guided discovery  Guided discussion | Critical thinking  Effective communication | Chalkboard illustration | Learners practice solving equation |  |  |
|  |  |  | More about equation | Solve:  3(y + 4) = 12  3y + 12 = 21  3y + 12 – 12  = 21 – 12  3y/3 = 9/3  Y = 3 | Learner;  Collects like terms  Solves for the unknown | Learners read, spell, unknown, equation | Explanation  Guided discovery  Guided discussion | Critical thinking  Effective communication | Chalkboard illustration | Learners practice solving equation |  |  |
|  |  |  | Application of algebra | The length of a rectangle is twice its width and its perimeter is 24cm  Let the width be x  2x  Calculate the actual length and width  2(L+W) = P  2(zx + x) = 24  4x + 2x = 24  6x/6 = 24c/6  Length  2x = 2 x 4c = 8c  Width  X = 4 | Learners;  Identify equations  Form equations  Solve equations | Learners read, spell, equations, unknown |  |  |  |  |  |  |
|  |  | Algebra (inequality) | Solve and form (write) solution sets | Give the solution set for: x < 5  X = {1 , 2 , 3 , 4}  X = {4,3,2,1} | Learners;  Solve inequalities  Write solution sets | Learners read, write, spell new words like inequalities, solve, equations | Guided discussion  Problem solving  Guided discovery | Creative thinking  Analytical thinking  Effective communication | Chalkboard illustration | Learners practice solving and writing solution set |  |  |