MATHEMATICS

YEAR 4

TOPIC & LEARNING AREA	LEARNING OBJECTIVES & LEARNING OUTCOMES
1 WHOLE NUMBERS 1. Numbers to 100 000	Develop number sense involving numbers of up to 100 000. i. Name and write numbers up to 100 000. ii Determine the place value of digits in any whole number up to 100 000 iii Compare value of numbers to 100 000 iv Round off numbers to the nearest tens, hundreds and thousands.
2. Addition with the highest total of 100 000	Add numbers to the total of 100 000 i Add any two numbers to four numbers to 100 000 ii Solve addition problems.
3. Subtraction within the range of 100 000	Subtract numbers from a number less than 100 000 i Subtract one or two numbers from a bigger numbers less than 100 000 ii Solve subtraction problems.

4. Multiplication with the highest product of 100 000	Multiply any two numbers with the highest product of 100 000
	 i Multiply three-digit numbers with
	   a) 100
	   b) two-digit numbers
	 ii Multiply four-digit numbers with
	   a) one-digit numbers
	   b) 10
	   c) two-digit numbers
	 iii Multiply two-digit numbers with 1 000
	 iv Solve multiplication problems.

5. Division with the highest dividend of 100 00	Divide a number less than 100 000 by a two-digit numbers.
	 i Divide four-digit numbers by
	   a) one-digit numbers
	   b) 10, 100 and 1 000
	   c) two-digit numbers
	 ii Divide five-digit numbers by
	   a) one-digit numbers
	   b) 10, 100 and 1 000
	   c) two-digit numbers
	 iii Solve division problems.

6. Mixed operations	Perform mixed operation involving addition and subtraction
	    i Perform mixed operation involving addition and
	          subtraction with numbers less than
	          a) 100
	          b) 1 000
	          c) 10 000
	    ii Solve mixed operation problems

2 **FRACTIONS**	

1. Proper Fractions	Name and write proper fractions with denominators up to 10.
	    i Name and write proper fractions eith denominators up to 10
	    ii Compare the value of two proper fractions with
	          a) the same denominators
	          b) the numerator of 1 and different denominators up to
	              10.

2. Equivalent fractions	Express equivalent fractions for proper fractions.
	    i Express and write equivalent fractions for proper fractions.
	    ii Express equivalent fractions to its simplest form

3. Addition of fractions	Add two proper fractions with denominators up to 10
	    i Add two proper fractions with the same denominator up to 10
	       to its simplest form.
	          a) with 1 as the numerator for both fractions
	          b) with different numerators
	    ii Add two proper fractions with different denominators up to
	       10 to its simplest form.
	          a) with 1 as the numerator for both fractions
	          b) with different numerators
	    iii Solve problems involving addition of proper fractions.

4. Subtraction of fractions	Subtract proper fractions with denominators up to 10
	    i Subtract two proper fractions with the same denominator up
	       to 10 to its simplest form.
	          a) with 1 as the numerator for both fractions
	          b) with different numerators
	    ii Subtract two proper fractions with different denominators up
	       to 10 to its simplest form.
	          a) with 1 as the numerator for both fractions
	          b) with different numerators
	    iii Solve problems involving subtraction of proper fractions.

3 DECIMALS	

1. Decimal numbers	Understand decimal numbers
	  i Name and write decimals with
	      a) one decimal place
	      b) two decimal places
	  ii Recognise the place value of
	      a) tenths
	      b) hundredths
	      c) tenths and hundredths
	  iii Convert fraction to decimals of
	      a) tenths
	      b) hundredths
	      c) tenths and hundredths, and vice versa

2. Addition of decimal
    numbers
	Add decimals up to two places
	  i Add any two to four decimals of one decimal place involving
	      a) decimals only
	      b) whole numbers and decimals
	      c) mixed decimals
	  ii Add any two to four decimals of two decimal place involving
	      a) decimals only
	      b) whole numbers and decimals
	      c) mixed decimals
	  iii Solve problems involving addition of decimal numbers.

3. Subtraction of decimal
    numbers
	Subtract decimals up to two decimals places
	  i Subtract one to two decimals from decimal of one decimal place
	     involving
	      a) decimals only
	      b) mixed decimals
	      c) whole numbers and decimals (mixed decimals)
	  ii Subtract one to two decimals of one or two decimal places
	  iii Solve problems involving subtraction of decimals

4. Multiplication of
    decimal numbers
	Multiply decimals up to two decimal places with a whole number.
	  i Multiply any decimals of one decimal place with
	      a) one-digit number
	      b) 10, 100 and 1000
	  ii Multiply any decimals of two decimal places with
	      a) one-digit number
	      b) 10, 100 and 1000
	  iii Solve problems involving multiplication of decimals

5. Division of decimal numbers	Divide decimals up to two decimal places by a whole number.
	i Divide any decimals of one decimal place with
	    a) one-digit number
	    b) 10
	ii Divide decimals of two decimal places by one-digit number
	iii Divide decimals by a whole number with the dividend value of up to two decimal places
	iii Solve problems involving division of decimals

4 **MONEY** 1. Money up to RM10 000	Understand and use vocabulary related to money i Read and write the value of money up to RM10 000 ii Add money up to RM10 000 iii Subtract money from up to RM10 000 iv Multiply money to the highest product of RM10 000 v Divide money with divident not more than RM10 000 vi Perform mixed operation involving addition and subtraction involving money up to RM10 000 vii Round off money to the nearest "ringgit" viii Solve problems involving of up to RM10 000
5 **TIME** 1. Reading and writing time	Understand, read and write time in hours and minutes i Read time in hours and minutes accoding to the 12-hours system. ii Write time in hours and minutes according to the 12-hours system
2. Time schedule	Construct a simple schedule i Construct, read and extract information from a simple schedule ii Extract information from a calendar iii Solve simple real life problems involving reading the calendar

3. Relationship between units of time	Understand the relationship between units of time
	i State the relationship between units of time
	    a) 1 day = 24 hours
	    b) 1 year = 365 / 366 days
	    c) 1 decade = 10 years

	ii Convert
	    a) years to days, and vice versa
	    b) decades to years, and vice versa
	    c) years to months, and vice versa
	    d) hours to day, and vice versa
	
	iii Convert time from
	    a) hours to minutes, and vice versa
	    b) hours and minutes to minutes, and vice versa
	    c) minutes to hours and minutes, and vice versa

4. Basic operations
    involving time
	Add, subtract, multiply and divide units of time
	i Add time involving conversion of units with answers in compound units of :
	    a) hours and minutes
	    b) years and months
	    c) decades and years
	ii Subtract time involving conversion of units with answers in compound units of :
	    a) hours and minutes
	    b) years and months
	    c) decades and years
	iii Multiply time involving conversion of units with answers in compound units of :
	    a) hours and minutes
	    b) years and months
	    c) decades and years
	iv Divide time involving conversion of units with answers in compound units for time duration of :
	    a) hours and minutes
	    b) years and months
	    c) decades and years
	v Solve problems involving basic operations of time:
	    a) hours and minutes
	    b) years and months
	    c) decades and years

5. Time duration	Use and apply knowledge of time to find the duration
	i Read and state the start and end of an event from a schedule
	ii Calculate the duration of an event from a schedule in
	    a) minutes
	    b) hours
	    c) hours and minutes within a day and two consecutive live days
	iii Calculate the start or the end of an event from a given duration of time and read the start or end of an event

6 **LENGTH**	

1. Measuring length	Measure lengths using standard units
	  i Read measurement of length using units of milimetre
	  ii Write measurement of length to the nearest scales of tenth division for :
	      a) centimetre
	      b) metre
	  iii Measure and record lengths of objects using units of
	      a) milimetre
	      b) centimetre and milimetre
	      c) metre and centimetre
	  iv Estimate the lengths of objects in
	      a) milimetre
	      b) metre and milimetre
	      c) centimetre and milimetre

2. Relationship between units of length	Understand the relationship between unit of length
	  i State the relationship between centimetre and milimetre
	  ii Convert units of length from
	      a) milimetre to centimetre and vice versa
	      b) compound units to a single unit

3. Basic operation involving length	Add and subtract length
	  i Add units of length, involving conversion of units in:
	      a) milimetre
	      b) metre and milimetre
	      c) centimetre and milimetre
	  ii Subtract units of length involving conversion of units in:
	      a) milimetre
	      b) metre and milimetre
	      c) centimetre and milimetre
	
	Multiply and divide length
	  i Multiply units of length involving conversion of units by:
	      a) a one-digit number
	      b) 10, 100, 1000
	  ii Divide units of length, involving conversion of units by:
	      a) a one-digit number
	      b) 10, 100, 1000
	  iii Solve problems involving basic operation on length

7 **MASS**	

1. Measuring Mass	Measure mass using standard units
	   i Measure of masses using units of kilogram and gram
	   ii Read measurement of masses to the nearest scales division of kilograms and grams
	   iii Estimate the masses of objects using kilograms and grams

2. Relationship between units of mass	Understans the relationship between units of mass
	   i Convert units of mass from
	        a) kilograms to grams
	        b) kilograms and grams to grams
	        c) kilograms and grams to kilograms

3. Basic operations involving mass	Add and subtract involving units of mass.
	   i Add mass involving units of mass in:
	        a) kilograms
	        b) grams
	        c) kilograms and grams
	   ii Subtract mass involving unis of mass in:
	        a) kilograms
	        b) grams
	        c) kilograms and grams
	
	Multiply and divide units of mass
	   iii Multiply mass involving conversion of units with
	        a) a one-digit number
	        b) 10, 100, 1000
	   iv Divide mass involving conversion of units
	        a) a one-digit number
	        b) 10, 100, 1000
	   v Solve problems involving basic operations with mass

8 **VOLUME OF LIQUID**	

1. Measuring volume of liquid	Measure and compare volume of liquid using standard units
	   i Read measurement of volume of liquid in litres and mililitres
	   ii Write measurement of volume of liquid to the nearest scales of tenth division for
	        a) litre
	        b) mililitre
	   iii Measure and record the volume of liquid in litres and mililitres
	   iv Estimate the volume of liquid in litres and mililitres

2. Relationship between units of volume of liquid	Understand the relationship between units of volume of liquid
	  i Convert units of volume from:
	      a) litres to mililitres
	      b) mililitres to litres
	      c) litres and mililitres to litres
	      d) litres and mililitres to mililitres

3. Basic operation involving volume of liquid	Add and subtract units of volume
	  i Add volume of liquid involving conversion of units in:
	      a) litre
	      b) mililitre
	      c) litre and mililitre
	  ii Subtract volume of liquid involving conversion of units in:
	      a) litre
	      b) mililitre
	      c) litre and mililitre
	
	Multiply and divide units of volume
	  i Multiply volume of liquid involving conversion of units in:
	      a) one-digit number
	      b) 10, 100, 1000
	  ii Divide volume of liquid involving conversion of units by:
	      a) one-digit number
	      b) 10, 100, 1000
	  iii Solve problems involving volume of liquids

9
SHAPE AND SPACE
 	
1. Two-Dimensional shapes
	Understand the perimeter of a two-dimensional shape
	  i Identify the sides of a
	      a) square
	      b) rectangle
	      c) triangle
	  ii Measure and resord the perimeter of a
	      a) square
	      b) rectangle
	      c) triangle
	
	Understand the area of a two-dimensional shape
	  i Identify the dimension of a
	      a) square
	      b) rectangle
	  ii Compare with unit squares the size of a
	      a) square
	      b) rectangle
	  iii Measure and record the dimensional of squares and rectangles

	Find the area and perimeter two-dimensional shapes
	  i Calculate the area of squares and rectangles
	  ii Solve problems involving perimeter and area of two-dimensional shape

2. Three-Dimensional Shapes	Understand the volume for cubes and cuboids
	  i Identify the dimensions of cubes and cuboids
	  ii Compare with a unit cube
	       a) Cuboid
	       b) Cube
	  iii Measure and record the dimension of cubes and cuboids
	
	Find the volume for cubes and cuboids
	  i Calculate the volume of cubes and cuboids
	  ii Solve problems involving of cubes and cuboids

10
DATA HANDLING
 	
1. Pictograph
	Use a pictograph to read and display data
	  i Describe a pictograph featuring
	       a) the picture used to represent data,
	       b) the title of the graph
	       c) what the axes represent
	       d) what one unit of picture represent
	  ii Extract and interpret information from pictographs
	  iii Construct pictographs to illustrate given information
	  iv Solve a given problem by organising and interpreting numerical data in pictographs

2. Bar Graph	Use bar graph to read and display data
	  i Describe a bar graph featuring
	       a) the title of the graph
	       b) what the axes represent
	  ii Extract and interpret information from bar graphs
	  iii Construct bar graphs to illustrate given information
	  iv Solve a given problem by organising and interpreting numerical data in bar graphs