



Elementary School

Grade Four Math Level Requirements
2018-9

By the end of grade four, learners will:

Data handling

- A. *collect, organize data and display the data using charts and graphs, and double graphs*
 - B. *read ,describe and interpret data presented in charts ,graphs and double bar graphs*
 - C. *Describe probability in everyday situations and simple games*
1. Design a survey, collect, organize, record and display the data using charts, graphs, and double bar graphs
 2. Analyze and interpret data displays: pictographs, charts and graphs
 3. Use graphs to ask and answer questions
 4. Use proper terminology related to graphs
 5. Explore the likelihood of events through games and activities and experiments to describe probability(impossible, less likely ,unlikely, more likely, possible, certain)

Measurement

- *Estimate, measure and record length, ,perimeter, area, mass, , capacity and elapsed time using standards units and a variety of strategies*
- *Determine the relationships among units and measurable attributes including area and perimeter of rectangles*

1. Estimate, measure and record length, mass, capacity and time using standard units
2. Construct a segment or draw a specific object given a certain length millimeters or centimeters
3. Use the metric system chart to read, understand, compare, and convert linear measurements
4. Determine through investigation the relationship between the side lengths of a rectangle and its perimeter and area
5. Estimate, measure using a variety of tools and strategies and record the perimeter and area of polygons
6. Distinguish perimeter and area of polygons in a problem solving context
7. Estimate, measure and represent time intervals to the nearest minute
8. Estimate and determine elapsed time with and without using time intervals
9. Understand, Interpret and analyze time relationships in a problem solving context
10. Compare and order a variety of collections using standard units of mass and capacity
11. Determine through investigation the relationship between grams and kilograms, and between milliliters and liters
12. Select and justify the most appropriate standard unit and tools of measurement for various measurements

Shape and space

By the end of grade four, learners will:

- A. Identify quadrilaterals and three dimensional figures and classify them b their geometric properties and compare various angles to benchmarks.*
- B. Construct three dimensional figures using two dimensional shapes*
- C. Identify and describe the location of an object using a grid map and reflect two dimensional shapes*

1. Identify and draw lines symmetry for two dimensional shapes²
2. Identify, classify and label different quadrilaterals and sort them according to their geometric properties such as parallel sides; symmetry; number of right angles.
3. Identify and label parts of a circle
4. Identify and classify different types of angles (according to their shape and measurement such as right angle 90 degrees)
5. Measure and construct angles using a protractor
6. Identify and describe prisms and pyramids, and classify them by their geometric properties such as number of vertices or faces
7. Construct a three dimensional figure using a variety of strategies (from a picture or a model of the figure and using only congruent shapes)
8. Construct pyramids and prisms from given nets
9. Identify and differentiate between points, rays, segments and lines
10. Identify the relationship between lines such as parallel or intersecting.
11. Use mathematical language to describe, sort and model geometric ideas
12. Identify, locate and describe the general location of an object using a grid system
13. Demonstrate an understanding of reflection by creating and analyzing symmetrical designs using a variety of tools

Pattern and function

By the end of grade four, learners will:

- *Describe, extend and create a variety of numeric patterns, make predictions related to patterns and investigate repeating patterns*
 - *Demonstrate an understanding of the concept of equality pairs of expressions using addition, subtraction and multiplication.*
1. Describe, extend, create a variety of numeric patterns and make predictions
 2. Demonstrate an understanding of the concept of equality pairs of expressions using addition, subtraction and multiplication
 3. Understand and apply the operations relationship

4. Use operation relationships to find the missing variable in addition, subtraction and multiplication , and to solve problems
5. Understand the properties of zero and one in multiplication and division
6. Model and explain number and geometric patterns
7. Use the pattern to find the multiples of number
8. Interpret pattern to understand divisibility rules of 2,3,5, 9 and 10
9. Understand and apply mental math strategies using operation relations

NUMBER

By the end of grade four, learners will:

- *Read, represent, compare and order whole numbers to the thousands, decimal numbers and simple fractions.*
- *Demonstrate an understanding of numbers by counting forward and backwards by 0.1 and by fractional amounts*
- *Solve problems involving the addition and subtraction multiplication and division of single and multi-digit whole numbers and involving addition and subtraction of decimals numbers to the tenths using a variety of strategies*

Whole Numbers

1. Read, represent, compare and order whole numbers to the thousands using base ten system using a variety of tools
2. Round, estimate the sum, difference, and product up to a 1000
3. Using the standard algorithm, add and subtract multiply by a two digit whole number and divide by a one digit whole number
4. Apply operation properties and relationships to solve problems.5.
5. Select the appropriate method (estimation, written or mental strategies) for solving single and multi-steps word problems involving addition, subtraction, multiplication and division of single and multi-digit whole number , and involving addition and subtraction of decimal to the tenths

6. Use estimation to check the reasonableness of a solution in operations and word problems involving addition, subtraction and multiplication
7. Use divisibility rules for 2,3,5, and 10 to identify prime and composite numbers up to a 100
8. Use the language of multiplication and division (factor, multiple, product ,quotient, divisor, dividend, prime and composite)

Fractions and Decimals

1. Read, represent, compare and order decimal numbers to the tenths
2. Read, represent, compare and order simple fractions as fraction as part of a whole and/or a set
3. Add and subtract like fractions with common denominators or numerators
4. Model and explain equivalent fractions: $\frac{1}{2}$ - $\frac{2}{4}$ - using concrete materials
5. Convert improper fraction to mixed numbers and vica versa
6. Explore and relate fractions to decimals using a variety of tools and strategies
7. Read ,represent and model the addition and subtraction of decimals to the tenths