International College

Elementary School

Grade Five Math Level Requirements
2018-9

By the end of grade five, learners will:

Data handling

A. *collect, organize data and display the data using charts, graphs, and line graphs*
B. *read ,describe and interpret data presented in charts ,graphs including line graphs*
C. *Predict and investigate the frequency of a specific outcome in a simple probability experiment*

1. Collect data using observations, surveys, and experiments and represent the data using charts, graphs, and line graphs.

2. Read ,describe and interpret data presented in charts ,graphs including line graphs

3. Propose or justify conclusions and predictions that are based on data

4. Choose the appropriate graph for a given set of data

5. Predict and investigate the frequency of a specific o outcome in a simple probability using concrete materials.

Measurement

By the end of grade five, learners will:

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

1. Estimate and measure the perimeter of regular and irregular polygons using a variety of tools
2. Use the metric system chart to read, understand, compare, and convert linear measurements in a problem solving context

3. Investigates and apply procedures for finding perimeter of a polygons (triangle, and rectangles)
4. Apply formulas for finding area of a square and rectangle using the respective algorithms

5. Calculate and estimate perimeter in a problem solving context

6. Estimate, measure(using analogue clock) and determine elapsed time
7. Interpret and analyze time relationships in a problem solving context using a 12 and 24 hour clock
8. Select and justify the most appropriate standard unit and tools of measurement for various measurements

Shape and space

BY the end of grade5, learners will:

- *Identify and classify two dimensional shapes by side and angle properties and compare and sort two dimensional figures*
- *Identify nets of prism and pyramids using concrete materials*
- *Identify and describe the location of objects using cardinal direction and reflect two dimensional shapes*

1. Distinguish among polygons, regular polygons and other two dimensional shapes
2. Distinguish among prisms, right prisms, pyramids and other three dimensional figures.
3. Identify prisms and pyramids from their nets

4. Identify and classify acute, right, obtuse, and straight angles.
5. Measure and construct angles using a protractor.
6. Identify triangles and classify them according to angle and side properties.
7. 6. Construct triangles, using a variety of tools (protractor, ruler or dynamic GEOGEBRA) given an angle and side measurement.
8. Construct a circle using a compass

9. Construct parallel and perpendicular lines using a ruler and set square
10. Use proper terminology and symbols to identify the relationship between lines such as parallel or intersection(including European symbols)
11. Use mathematical language to describe, analyze, classify and visualize geometric ideas and figures
12. Apply knowledge of geometric properties to construct simple geometric figures13.
13. Locate an object using the cardinal directions and coordinate system
14. Compare grid systems used on maps(numbers/letter or coordinate system)
15. Identify and draw lines symmetry for two dimensional shapes

16. Identify and perform and describe reflections using a variety of tools
17. Create and analyze symmetrical designs by reflecting a shape/s using a variety of tools

Pattern and function

By the end of grade five, learners will:

- *Determine through investigation using a table of values, relationship in growing and shrinking patterns, and investigate repeating patterns*
- *Demonstrate through investigation an understanding of the use of variables in equations*

1. Determine through investigation using a table of values, relationship in growing and shrinking patterns, and investigate repeating patterns
2. Demonstrate through investigation an understanding of the use of variables (changing quantities and unknown) in equations
3. Determine the missing variable in all operations
4. Develop, explain and model simple expression and equations
5. Use the pattern to find multiples of a number
6. Interpret pattern to understand the divisibility rules for 2, 3, 5, 9 and 10
7. Understand and apply mental math strategies using operation relations

Number

Whole Numbers
By the end of grade five, learners will:

- *Read, represent, compare and order whole numbers to millions, decimal numbers to hundredth, proper and improper fractions , and mixed numbers*

- *Demonstrate an understanding of numbers by counting forward and backwards by 0.01*
- *Solve problems involving multiplication and division of multi-digit whole numbers, and involving addition and subtraction of decimals numbers to the hundredths using a variety of strategies*

1. Read, represent model, compare and order numbers, using the base 10 system to millions
2. Estimate the sum, difference, product, and quotient
3. Multiply by a three digit number
4. Divide by a two digit number divisor with and without remainder
5. Use operation relationships to find the missing variable
6. Use estimation to check the reasonableness of a solution in operations and word problems involving all operations

7. Read, represent, compare and order proper and improper fractions and mixed numbers
8. Model equivalent fractions9.
9. Compare and order like and unlike fractions using a variety of tools

10. Add and subtract like and unlike fractions
11. Multiply fractions by a whole number
12. Relate decimals to fractions with denominator of 10 and 100 and vica versa
13. Read, represent model, compare, order, add, subtract and round decimals to the hundredths
14. Estimate sums and difference involving decimals to the hundredths
15. Multiply and divide decimals by a single digit whole number