# International College

## Elementary School
## Grade Three Math Level Requirements
## 2018-9

**By the end of grade three, learners will:**

> ### Data handling

A. *Read, collect, organize interpret and display the data using charts and graphs, including vertical and horizontal bar graphs with labels ordered appropriately along horizontal axis needed.*
B. *Describe the likelihood that everyday events will happen*

1. Read, interpret and analyze data represented in a line ,bar(vertical and horizontal) and pictograph form
2. Collect, organize, record and display the data in bar( vertical and horizontal) graph form, charts, and table form
3. Use graphs to ask and answer questions
4. Use proper terminology related to graphs (pictograph, line graph and bar graph, vertical and horizontal, ordered pair)
5. Describe the likelihood that everyday events will happen (impossible, less likely ,unlikely, more likely, possible, certain)

> ### Measurement

**By the end of grade three, learners will:**

- *Estimate, measure and record length, ,perimeter , mass, time, capacity and using standards units*
- *Compare describe and order events using attributes measured in standards units*

1. Estimate ,and measure  lengths heights and distances using standard units  (millimeter centimeter, kilometer)
2. Construct  a  segment or draw a specific object given a certain length(cm)
3. Compare  standards units of length (cm, m, km) and select and  justify the most appropriate standard unit  to measure length
4. Compare and order objects of a given length in centimeters and meters in problem solving context
5. Estimate , measure, and record the distance around objects using standard units
6. Estimate , measure,  and record  the perimeter around two  dimensional  shapes using standard units
7. Choose a benchmark for a kilogram and liter to help perform measurement tasks
8. Estimate , measure,  and record   the measure of object using standard units of kilograms and parts of a kilograms(half, quarter)
9. Estimate , measure,  and record  the capacity of containers using standard units of liter or parts of a liter(half quarter)
10. Compare and order objects of a using standard units of mass and /or capacity
11. Understand the relationship between digital and analogue time.
12. Read, represent and estimate time using analogue and digital clocks.
13. Understand and apply the relationship between different time(minutes/hours, hours/days, days/weeks, and weeks and months)units in problem solving contexts using a variety of tools

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**Shape  and  space**

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**By the end of grade 3, learners will:**
- *Compare  two dimensional shapes and three dimensional figures and sort them  by their geometric  properties*
- *Describe relationships between  two dimensional shapes and between two dimensional shapes and  three dimensional figures*
- I*dentify and describe  the  location  and movements of  shapes and objects*

1. Identify, classify and compare (quadrilaterals) different polygons and sort them according to their geometric properties.
2. Identify a right angle and compare other angles to it by using math vocabulary such as smaller than or greater than.

3. Identify and describe prisms and pyramids, and classify them by their geometric properties such as number of vertices or faces using concrete material.
4. Recognize lines, parts of lines and relationships between lines**.**
5. Identify and describe two dimensional shapes that are found in three dimensional figures
6. Use mathematical language to describe geometric ideas.
7. Describe movement from one location to another using a grid map.
8. Identify using concrete materials the line of symmetry in geometric figures
9. Complete and describe designs and pictures of images that have vertical horizontal or diagonal line of symmetry.

| Pattern  and function |
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**By the end of grade 3, learners will :**

- *Describe, extend and create a variety of numeric and geometric patterns*
- *Demonstrate an understanding of the concept of equality pairs of expressions using addition and subtraction of one and two digit numbers.*

1. Describe, extend, create a variety of numeric and geometric patterns
2. Demonstrate an understanding of equality between pairs of expressions using addition and subtraction of one and two digit numbers
3. Understand the apply operation relationships
4. Determine the missing numbers in addition  and subtraction (of one and two digit numbers) and in multiplication  (of one digit number ) and solve problems
5. Understand the properties of zero and one  in multiplication
6. Understand and apply mental math strategies using operation relations

| Number |
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**By the end of grade 3, learners will :**

- *Read, represent, compare and order whole numbers to 1000 and use concrete materials to represent fractions.*
- *Demonstrate an understanding of numbers by counting  forward and backwards by various numbers and from various starting points*

- *Solve problems involving the addition and subtraction of one and multi digit whole numbers using a variety of strategies and demonstrate an understanding of multiplication and division*

1. Read, represent, compare and order whole numbers to 1000 using the base 10 system using a variety of tools
2. Compose and decompose three digit numbers into hundreds, tens, and ones and in a variety of ways
3. Count forward and backwards from and to a 100 from various starting points.
4. Using the standard algorithm, add and subtract three digit numbers , and multiply and divide on by single digit whole number
5. Understand operation properties for addition, and multiplication**,** and their relationship with subtraction and division
6. Round numbers to the nearest tens, and hundreds
7. Estimate sums and differences
8. Select the appropriate method ( estimation, written or mental strategies ) for solving single and multi-steps word problems
9. Use estimation in addition and subtraction to check the reasonableness of a solution.
10. Read, represent simple fractions using concrete materials