COURSE OUTLINE

SUBJECT: Mathematics   **GRADE**: 7

Course Description:

The mathematics course for seventh grade will provide students with the opportunity to learn mathematics with understanding and to acquire the skills needed to solve mathematical problems. Students should enter the grade with an in-depth knowledge of the traditional basics of mathematics of grade 6.

Anticipated student outcomes:

Concepts are outlined in the Next Generation Learning Standards on EngageNY.org. The seventh grade curriculum builds upon the concepts previously mastered in the sixth grade.

Mastery of the following units is expected:

Ratios and Proportional Relationships
> • Analyze proportional relationships and use them to solve real-world and mathematical problems.
> _Statements of Inquiry:_
> _Understanding how different **representations** can **change** the way we interpret the world around us._
> _**Changes** in **quantity** allow us to determine meaningful **relationships.**_

The Number System
> • Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
> _Statement of Inquiry:_ Establishing **patterns** and forming **generalizations** in the natural world can help in understanding **relationships**.

Expressions and Equations (Inequalities)
> • Use properties of operations to generate equivalent expressions.
> • Solve real-life and mathematical problems using numerical and algebraic expressions, equations and inequalities.
> _Statement of Inquiry_**:** _Creating **equivalent** and **simplified forms** of situations helps us understand the interconnectedness of the world in which we live._

Statistics and Probability

• Use random sampling to draw inferences about a population.
• Draw informal comparative inferences about two populations.
• Investigate chance processes and develop, use, and evaluate probability models.
*Statement of Inquiry: **Logic** is a powerful tool for **justifying** and **modeling** what we discover through measurement and observation.*

Geometry
• Describe the relationships between the diameter, circumference and area of a circle.
• Use facts about supplementary, complementary, vertical and adjacent angles to write and solve simple equations for an unknown angle in a figure.
*Statement of Inquiry: **Logic** is a powerful tool for **justifying** what we discover through measurement and observation.*

Materials required:

1. Three-subject spiral notebook with pockets
2. Two Folders
3. Composition notebook
4. Scientific calculator *[Suggested calculator: TI-30XB MultiView (Texas Instruments)]*
5. Mechanical pencils/ pencils with sharpener
6. Red pens
7. Highlighters

Criteria for grading:

Grades will be determined by the percentage of *points earned* out of the *total number of possible points*. These points will be earned by student performance in the following areas: assessments (65% - classroom tests and MYP assessments), Independent Practice /Homework (15%), and class participation (20%) based on the Approaches to Learning (ATL) skills rubric.

All graded assignments will be available on the parent portal.

Resources:

[Illustrative Math: Grade 7 Course](#)

Students are encouraged to use resources posted on Google Classroom for homework help and review for assessments. Students can also use **ixl.com** to practice skills online.

Outline updated by: Mathematics Department   *Date: Winter 2023*