Eighth Grade Math Syllabus

Team Katahdin ~ Pelletier~ 2019-20~Trimester 1

Each trimester students will complete a wide array of mathematics units. Each unit explains the mathematical principles and reasoning which is covered in the student textbook. Students will be using a variety of resources to meet the daily learning targets including: Prentice Hall(Primary Text), Connected Mathematics, Ready Common Core, Khan Academy, NECAP Released items, etc. Each year will begin by pre-testing standards to be taught and will culminate with a post test of standards at the end of each unit.

Common Core Standards:

Trimester 1 Priority Standards:

Unit 1: Intro to Algebra and Functions (8.F.1, 8.F.2, 8,EE.5, 8.F.3)

- **Define, evaluate, and compare functions.**
- **Graph a function as a set of ordered pairs**
- **Use functions to model relationships between quantities. (Linear or not?) Understand not all linear relationships are proportional.**
- **Graph proportional relationships, interpreting the unit rate as the slope of the graph.**
- **Compare two different linear relationships portrayed in different ways (using graphs, tables & equations)**
- **Interpret the equation y=mx+b, and y=mx for a line through the origin.**

Unit 2: Geometry~ Pythagoras(8.G.6, 8.G.7, 8.G.8, 8.EE.6)

- **Explain a proof of the Pythagorean Theorem and its converse.**
- **Understand and apply the Pythagorean Theorem.**
- **Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.**
- **Use similar triangles to explain slope.**

The Number System/Number Sense (8.NS.1, 8.NS.2)

• Know that there are numbers that are not rational, and approximate them by rational numbers.

Expressions and Equations (8.EE.1, 8.EE.2, 8.EE.3, 8.EE.4)

• Work with radicals and integer exponents.

Expressions and Equations (8.EE.7, 8.EE.8)

- **Understand the connections between proportional relationships, lines, and linear equations.**
- **Analyze and solve linear equations and pairs of simultaneous linear equations.**

Geometry

• Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.

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Statistics and Probability(Integrate)(8.SP.1,8.SP.2, 8.SP.3, 8.SP.4)

• Investigate patterns of association in bivariate data.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Class Structure and Grading:

Class work/Homework 40%

Assessment 40%

Notebook/Vocabulary 10%

Khan Academy 10%

Work Expectations:

It is exceptionally important that students use their daily class-time wisely. They should come to class with all necessary materials. Students are expected to turn work in on the day it is due. If a student can not meet a due date, the student should talk to the teacher before the work is due. Unexcused, late work will not be accepted and will result in a grade of "50"/NC . If a student misses school he or she should seek out the missed work as soon as they return to school and talk to the teacher about when the missed work will be due. Students will have assigned classwork/ homework from the teacher and will also have Khan Academy expectations/goals which are to be completed weekly(Due each Friday).