

Ms. Kroger's Math 7 | Algebra 8 Course Syllabus

Justice Page Middle School 2019-2020

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Course Description: Mathematics is the study of patterns and relationships. Mathematicians notice, describe and generalize patterns. Math 7/Algebra 8 students will practice these skills each day in class. Students will be expected to explain their thinking and respond to the mathematical thinking of others. Ideally, students will notice and describe the patterns and relationships they see around them outside of class as well. The big theme of grade 7 mathematics is **proportionality** and the big theme of Algebra 8 is **linear relationships**. Students need to be able to work fluently with ratios, rates, scale factors and proportions. Students will display proportional relationships in tables, equation, graphs, and with verbal descriptions. They need to be able to identify linear relationships and solve problems using multiple representations.

Unit		Learning Targets
Yearlong Communication Goal		LT0: I can explain my thinking and respond to the mathematical thinking of others.
Semester 1	1. 2D & 3D Geometry Approximate dates: August – September	LT1.1: I can find measurements and justify formulas involving circumference, area of circles, volume of cylinders, surface area of cylinders, area of sectors of circles and arc length.
	2. Integers and Rational Numbers Approximate dates: September – October	LT2.1: I can compare and calculate with positive and negative rational numbers including those with whole number exponents. LT2.2: I can use the order of operations and algebraic properties to evaluate expressions containing variables and positive and negative numbers and create equivalent expressions. LT2.3: I can graph and describe translations and reflections of figures on a coordinate grid.
	3. Ratios and Proportional Relationships Approximate dates: November – December	LT3.1: I can use proportional reasoning to solve problems involving ratios, rational numbers & interest. LT3.2: I can identify the features of proportional relationships and can distinguish between proportional and other relationships. LT3.3: I can use proportional reasoning to solve problems using multiple representations (equations/inequalities/graphs/context/language/tables).
	4. Data and Probability Approximate dates: December– January	LT4.1: I can use the mean, median and range to draw conclusions about data and make predictions. LT4.2: I can display and interpret data in a variety of ways. (line plots, circle graphs, stem and leaf, histograms) LT4.3: I can calculate probabilities and reason about probabilities using proportions.
Semester 2	5. Equations and Solving Approximate dates: January	LT5.1: I can evaluate algebraic expressions, including expressions containing radicals and absolute values, and justify the algebraic properties. LT5.2: I can solve multi-step equations in one variable and justify the steps by identifying the algebraic properties used.
	6. Linear Relationships Approximate dates: February-March	LT6.1: I can represent linear functions with tables, equations, graphs, context and language including identifying the slope and y-intercept. LT6.2: I can represent and solve real-world and mathematical situations using linear equations and inequalities. LT6.3: I can recognize that a function is linear if it is written in the form $f(x) = mx + b$ and interpret the meaning of the y-intercepts and slope.
	7. Systems of Equations Approximate dates: April – May	LT7.1: I can solve problems involving parallel and perpendicular lines in a coordinate graph. LT7.2: I can solve a system of equations by using a graph, substitution, and elimination, and determine if the system has 0, 1, or infinite solutions. LT7.3: I can model a context using a system of linear equations.
	8. Pythagorean Theorem Approximate dates: May– June	LT8.1: I can classify real numbers as rational or irrational, and approximate the value of irrational numbers and locate them on the number line. LT8.2: I can use the Pythagorean Theorem to solve problems involving right triangles, and find the distance between any two points on a coordinate grid. LT8.3: I can find the distance between two coordinate points.

TELESCOPE M7/ALG8 REQUIREMENTS:

In order to continue on the accelerated path to High School Intermediate Algebra as an eighth grader the following is required of the mathematician:

- Student must maintain a 3(B in Gradebook) or above every quarter.
- 95% homework completion (100% is desired)
- Attendance is critical
- MCA mathematics score will be considered

REQUIRED MATERIALS

Notebook, Folder, Planner, Lots of pens or pencils (student choice). Students need access to a **scientific calculator** at home for help with homework. I recommend a TI-30XS \$10-15 calculator found at most stores or downloading a free calculator on a phone or tablet.

HOMEWORK

Students will have homework every day in Math7/Algebra 8. Students should expect to spend an average of 20 minutes per day on their homework, though the actual time may range from 5-35 minutes. Homework is due the day after it is assigned. No late homework will be accepted. Students who are absent will have an extra day to complete the assignment they missed. Homework is assessed not for correct answers (although, correct answers are great) but for student's ability to try every problem and explain their thinking.

HELP WITH HOMEWORK

Students can get help with homework during lunch in my room, 324, dates and times will be posted in the classroom, or by appointment. Digital copies of homework assignments will be linked to the gradebook as often as possible.

RE-DO's, RETAKES, REVISING POLICY

Students who score below a 2.5 on learning targets must re-take the learning target assessment in order to demonstrate increased learning. Before re-taking an assessment students will be asked to demonstrate additional practice on the learning target, and the assessment may occur in a different format than the original assessment. All re-do's, retakes, and revisions are due by two weeks of the original assessment.

PAGE GRADING POLICY

The purpose of the JPS grading policy is to align grading with the mastery of state content standards as measured by consistent student achievement data and common criteria for grading. The primary goal of the PGP is to better communicate what each student knows and is able to do, as well as to inform the teacher, student, and parent what may be next steps for areas for growth. At Justice Page Middle School, standards-based learning targets are assessed on a 4 point scale to indicate the proficiency level at which the student has mastered the learning target. Telescope will use three rubrics, one for learning targets and one for work habits/homework.

Learning Target Rubric

4 Exemplary	3 Proficient	2 Partially Proficient	1 Not Proficient	0 No Evidence
No errors Fully supported Above and beyond standards	Complete understanding Adequately supported May contain a minor error	Partial understanding Not yet mastered	Little Progress Not accurate Does not meet criteria Incomplete	Did not attempt Missing

Work Habits Rubric * Homework

4 Exemplary	3 Proficient	2 Partially Proficient	1 Not Proficient	0 No Evidence
All problems attempted. Work shown on all problems.	Most problems complete. Work shown on problems.	Approximately half of the problems attempted. Work shown.	Approximately ¼ of homework complete and/or no work shown.	Did not attempt Missing (at home or in locker)

Work Habits Rubric * Notebooks/Task Cards/Quiz & Test Review Sheets (often self-assessed)

4 Exemplary	3 Proficient	2 Partially Proficient	1 Not Proficient	0 No Evidence
100% Complete Examples Diagrams and Pictures	Nearly Complete Examples Diagrams and Pictures	Approximately half complete. Missing some examples.	Little organization Approximately ¼ complete.	Did not attempt Missing