

**School Year:** 2023-2024

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| **Course Name** | Mathematics 8 | **Course Code** | 27.0230001-6 27.9230001C-2  27.0230001-5 27.2230001G-4 |
| **School Name** | Henderson Middle School | **Teacher Name** | Robert Poff |
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**Course Description**

In Grade 8, instructional time should regularly incorporate the 8 Mathematical Practices, the Framework for Statistical Reasoning, and the Mathematical Modeling Framework through four big ideas of content: (1) numerical reasoning, (2) functional & graphical reasoning, (3) patterning and algebraic reasoning, and (4) geometric and spatial reasoning. Much of the Grade 8 mathematics curriculum focuses on functions and linear relationships as building blocks to algebra and geometry. In this course, students will create, interpret, solve, and graph linear equations and inequalities in one variable, analyze the connections between proportional and non-proportional lines and equations, extend their knowledge of numerical reasoning and real numbers to include irrational numbers, develop an understanding of the properties of exponents, perform operations with numbers expressed in scientific notation, apply their geometric and spatial reasoning to interpret and solve problems involving the Pythagorean Theorem.

**Curriculum Overview**

The following academic concepts will be covered. **THIS IS ONLY A GUIDE AND IS SUBJECT TO CHANGE.**

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| **CURRICULUM OVERVIEW**  <https://www.gadoe.org/Curriculum-Instruction-and-Assessment/Curriculum-and-Instruction/Documents/Mathematics/Georgia-K12-Mathematics-Standards/Georgia-Mathematics-Curriculum-Maps/Grade-8-Mathematics-Curriculum-Map-NEW-2023.pdf> |
| **Unit 1 – Investigating Linear Expressions, Equations, and Inequalities in One Variable**  In this unit, students will incorporate patterning and algebraic reasoning to create, interpret, solve, and graph linear equations and inequalities in one variable. The equations and inequalities include those with rational coefficients, variables on both sides and whose solutions require the use of the distributive property and combining of like terms. Students will interpret expressions with multiple factors and/or terms and manipulate linear and literal equations expressed in various forms. |
| **Unit 2 – Modeling Linear Relationships & Functions**  In this unit, students will analyze the connections between proportional and nonproportional lines and equations and be able to relate their graphs to their solution sets in the coordinate plane. They will apply functional and graphical reasoning to identify whether or not functions are linear or nonlinear. Students will also interpret, write, graph, and solve linear functions in different forms, depending upon the given context |
| **Unit 3 – Investigating Data & Statistical Reasoning**  In this unit, students will extend the study of linear relationships by exploring models and tables. They will apply their functional and graphical reasoning to model relationships between quantities and describe the rate of change. The study of statistics expands from more simplistic samples and collections in sixth and seventh grade, to bivariate data, which can be graphed and a line of best fit determined. They will also make predictions and answer statistical questions based on data distributions |
| **Unit 4 – Real-Life Phenomena Explored Through Systems of Linear Equations**  In this unit, students will extend their understanding of solving equations and functional and graphical reasoning to solving systems of equations, including those created by parallel and/or perpendicular lines. Solving systems should include estimating solutions graphically, solving using substitution, and solving using elimination. |
| **Unit 5- Exploring Irrational Numbers, Integer Exponents, and Scientific Notation**  In this unit, students extend their knowledge of numerical reasoning and real numbers to include irrational numbers, develop an understanding of the properties of exponents, and perform operations with numbers expressed in scientific notation. |
| **Unit 6- Exploring Geometric Relationships**  In this unit, students will extend their work with irrational numbers and apply their geometric and spatial reasoning to interpret and solve problems involving the Pythagorean Theorem. Students will work with right triangles and investigate proofs of the Pythagorean Theorem and its converse. They will also extend their knowledge of volume from previous grades to solve problems involving cones, cylinders, and spheres. |
| **Unit 7- Culminating Capstone Unit**  The capstone unit applies content that has already been learned in previous interdisciplinary PBLs and units throughout the school year. The capstone unit is an interdisciplinary unit that allows students to create a presentation, report, or demonstration that could include their models used to answer an overarching driving question. |

**BOARD-APPROVED INSTRUCTIONAL MATERIALS**

Textbook information will be forthcoming. The textbook will be consumable and will be used as a resource to help supplement learning throughout the school year.

**GRADING SYSTEM:**

The DeKalb County School District believes that the most important assessment of student learning shall be conducted by the teachers as they observe and evaluate students in the context of ongoing classroom instruction. A variety of approaches, methodologies, and resources shall be used to deliver educational services and to maximize each student’s opportunity to succeed. Teachers shall evaluate student progress, report grades that represent the student’s academic achievement, and communicate official academic progress to students and parents in a timely manner through the electronic grading portal. **See Board Policy IHA**.

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| **GRADING CATEGORIES** | **\*GRADE PROTOCOL** |
| **Formative Assessment (Pre-Assessment) – 0%**  **Assessment During Learning – 25%**  **Guided, Independent, or Group Practice – 45%**  **Summative Assessment or Assessment of Learning– 30%** | **A** 90 – 100  **B** 80 – 89  **C** 70 – 79  **F** Below 70 |

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| **DISTRICT EXPECTATIONS FOR SUCCESS**  [**http://www.nctq.org/docs/Dekalb\_Board\_Policies.pdf**](http://www.nctq.org/docs/Dekalb_Board_Policies.pdf) | |
| **STUDENT PROGRESS** | Semester progress reports shall be issued four and a half, nine and thirteen and a half weeks into each semester.  The progress of students shall be evaluated frequently and plans shall be generated to remediate deficiencies as they are discovered. Plans shall include appropriate interventions designed to meet the needs of the students. **See Board Policy IH.** |
| **ACADEMIC INTEGRITY** | Students will not engage in an act of academic dishonesty including, but not limited to, cheating, providing false information, falsifying school records, forging signatures, or using an unauthorized computer user ID or password. **See the Code of Student Conduct - Student Rights and Responsibilities and Character Development Handbook.** |
| **HOMEWORK** | Homework assignments should be meaningful and should be an application or adaptation of a classroom experience.  Homework is at all times an extension of the teaching/learning experience.  It should be considered the possession of the student and should be collected, evaluated and returned to the students. **See Board Policy IHB.** |
| **MAKE-UP WORK**  **DUE TO ABSENCES** | When a student is absent because of a legal reason as defined by Georgia law or when the absence is apparently beyond the control of the student, the student shall be given an opportunity to earn grade(s) for those days absent. Make-up work must be completed within the designated time allotted. **See Board Policy IHEA.** |
| **SCHOOL EXPECTATIONS FOR SUCCESS** | |
| **CLASSROOM EXPECTATIONS** | 1. NO CELL PHONES in the classroom  2. Come to class on time and prepared  3. Follow direction the first time they are given  4. Respect yourself and others at all times  5. Use appropriate language  6. Speak at appropriate times  7. Bullying will not be tolerated |
| **MATERIALS AND SUPPLIES** | 1.Three ring notebook  2. Notebook paper  3. #2 Pencils  4. Scientific Calculator  5. Graph Paper (Optional)  6. Tissues (Optional)  7. Paper Towels (Optional) |
| **LATE WORK** | It is the expectation of this faculty that all assignments are completed for mastery. Students will have three days to make-up missing assignments. Late assignments will be penalized 30 points for the first day late and 10 points per day after the due date. ***Beginning the second semester, late work will not be accepted.*** |
| **EXTRA HELP** | Tutorial will be on Wednesdays  **By appointment** |