Centerview Elementary School

8th Grade Math

2023-2024 Syllabus

**Part 1: Course Information/Instructor Information**

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Course Description:

In grade eight, your child will learn the concept of square cubes and use these tools to solve word problems. Students will work on quickly and accurately solving multi-step equations. Students will extend their previous work with slope and intercept to understand the systems of equations. Students will also learn how to write and solve scientific notation and apply these skills in solving multi-step word problems as well as problems involving area and volume of figures.

Textbook & Course Materials:

* iReady Grade 8Textbook
* iReady Fluency and Skills Workbook
* iReady online platform
* 3-ring binder with dividers

Course Requirements:

* Come to class prepared (paper, pencil, and assignments).
* Have a positive attitude and a willingness to learn.
* Be respectful of others

Course Structure:

* In math class we are going to learn in a variety of ways. We start a lesson with a discussion of the topic, the skills that will be learned and the importance of knowing those skills. We will then work as a whole class trying the steps together. Afterwards, we will move on to modeling and discussion with note-taking. Students will then have some guided practice. After practice we will move on to our math rotations, where students might work independently, in an assigned group, or small group with teacher.

Online Resources:

* TN State Standards for Math: <https://www.tn.gov/content/dam/tn/education/standards/math/Standards_Support_grade_8_Mathematics.pdf>
* Cocke County Schools Website: [http://www.cockecountyschools.org](http://www.cocke.k12.tn.us/)

**Part 2: Student Learning Outcomes:**

The Number System

* Know the difference between rational and irrational numbers.
* Approximate irrational numbers by rational numbers.

Expressions and Equations

* Write equivalent expressions between exponents and fractions.
* Use scientific notation to estimate very large or very small quantities.
* Perform operations with scientific notation.
* Understand the connection between proportional relationships, lines and linear equations.
* Graph proportional relationships.
* Use similar triangles to explain slope.
* Know and derive the equations y=mx and y=mx+b.
* Solve linear equations with one variable.
* Analyze and solve linear equations and systems of two linear equations.
* Solve real-world problems leading to two linear equations with two variables.

Functions

* Compare properties of two functions written in different ways.
* Construct a function to model a linear relationship between two quantities.
* Determine and interpret the rate of change.
* Define, evaluate and compare functions.
* Describe qualitatively the functional relationship between two quantities by analyzing a graph

Geometry

* Describe the effect of dilations, translations, rotations and reflections on two-dimensional figures using coordinates.
* Use informal arguments to establish facts about angles.
* Explain proof of the Pythagorean Theorem and its converse.
* Apply the Pythagorean Theorem.
* Solve real-world problems involving volume of cylinders, cones and spheres.

Statistics and Probability

* Construct and interpret scatter plots.

You will meet the objectives listed above through a combination of the following activities in this course.

Explanation of Assignments:

* Assessments including quizzes over individual standards as well as unit tests.
* Class work and homework are assignments that provide practice on individual skills.
* Math tasks require students to give in-depth explanations of their thinking as they engage in problem-solving.
* TN Ready is the assessment given in the spring that tests the Tennessee Mathematics curriculum.

**Part 3: Topic Outline/Schedule**

1st Nine Weeks

Unit 1: Geometric Figures: Rigid Transformations and Congruence

* Understand and describe the effects of transformations (8.GA.1)

Unit 2: Geometric Figures: Transformations, Similarity and Angle Relationships

* Make connections between dilations and scale factor (8.G.A.1)
* Explain triangle sum theorem (8.G.A.2)

Unit 3: Linear Relationships: Slope, Linear Equations and Angle Relationships

* Make connections between proportional relationships (8.EE.B.5)
* Slope (8.EE.B.6)
* Solve linear equations, linear inequalities (8.EE.C.7)
* Solve systems of equations (8.EE.C.8)
* Determine the solution set of a linear inequality by graphing (8.EE.C.9)

2nd Nine Weeks

Unit 4: Functions: Linear and Nonlinear Relationships

* Identify functions (8.F.A.1)
* Linear vs. Nonlinear Functions (8.F.A.3)
* Determine rate of change and initial value (8.F.B.4)
* Graph proportional relationships (8.EE.B.5)
* Compare functions (8.F.A.2)
* Analyzing functions and graphs (8.F.B.5)

Unit 5: Integer Exponents: Properties and Scientific Notation

* Properties of exponents (8.EE.A.1)
* Writing numbers in scientific notation (8.EE.A.3)
* Operations with scientific notation (8.EE.A.4)

3rd Nine Weeks

Unit 6: Real Numbers: Rational Numbers, Irrational Numbers, Pythagorean Theorem

* Squares/Square roots Cubes/Cube roots (8.EE.A.2)
* Rational and Irrational Numbers (8.NS.A.1)
* Pythagorean Theorem (8.G.B.3)
* Applying the Pythagorean Theorem to the real world (8.G.B.4)
* Distance between points (8.G.B.5)
* Volume of cones, cylinders, and spheres (8.G.C.6)

Unit 7: Statistics: Two-Variable Data and Fitting a Linear Model

* Construct scatter plots using two variable data sets (8.SP.A.1)
* Linear relationships with scatter plots (8.SP.A.2)
* Use a linear model to solve contextual problems (8.SP.A.3)
* Probability of compound events (8.SP.B.4)

4th Nine Weeks

* Review
* TN Ready

**Part 4: Grading Policy**

Graded Course Activities

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| **Description** |
| Participation – Students are expected to be attentive and participate in class discussions involving answering questions and sharing ideas. |
| Quizzes – Students will be informed 1 day prior to being given a quiz. |
| Tests – Students will be informed 2 days prior to tests with one of those days involving review for the test. |
| Class Work – Students will be assigned class work at least 3 days a week to complete and turn in before leaving class for the day. |

Late Work Policy:

Students who have excused absences will have missing work to be made up. It is

their responsibility to ask the teacher for any missing assignments that they may

have missed. Students are expected to complete and turn in assignments by the

next day (or an assigned date if more than one day has been missed).

Grade Weights:

Class work/in class assignments – 30%

Quizzes – 30%

Tests – 40%

Letter Grade Assignment:

A - 90 – 100

B – 80 – 89

C – 70 – 79

D – 60 – 69

F – 0 – 59

Viewing Grades in ASPEN:

Grades will be updated each week in the Aspen grade portal. Students should have log in information for Aspen.

**Part 5: Course Policies**

Students are expected to attend all class sessions as listed on the course calendar

Participate – Be part of the class and participate in discussions and activities.

Build Rapport – If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let your instructor know as early as possible. As you will find, building rapport and effective relationships are key to becoming an effective professional.

Make sure that you are proactive in informing your instructor when difficulties arise during the semester so that they can help you find a solution.

Complete missed assignments – Assignments must be submitted by the given deadline or special permission must be requested from the instructor before the due date. Extensions will not be given beyond the next assignment except under extreme circumstances.

Academic Dishonesty Policy:

1. Academic dishonesty includes such things as cheating, inventing false information or citations, plagiarism and helping someone else commit an act of academic dishonesty. It usually involves an attempt by a student to show possession of a level of knowledge or skill that he/she does not possess.
2. Teachers have the initial responsibility for detecting and dealing with academic dishonesty. Instructors who believe that an act of academic dishonesty has occurred are obligated to discuss the matter with the student(s) involved. Instructors should possess reasonable evidence of academic dishonesty. However, if circumstances prevent consultation with students, instructors may take whatever action (subject to student appeal) they deem appropriate.
3. Teachers who are convinced by the evidence that a student is guilty of academic dishonesty shall assign an appropriate academic penalty. If the teachers believe that the academic dishonesty reflects on the student’s academic performance or the academic integrity in a course, the student’s grade should be adversely affected. Suggested guidelines for appropriate actions are: an oral reprimand in cases where there is reasonable doubt that the student knew his/her action constituted academic dishonesty; a failing grade on the particular paper, project or examination where the act of dishonesty was unpremeditated, or where there were significant mitigating circumstances; a failing grade in the course where the dishonesty was premeditated or planned.

Student Testing Code of Ethics and Security:

It is important for you as a student to know that the following guidelines are to be strictly followed. This year the TNReady test will count at least 10% of your final semester grade. Your work on this test is very important and it deserves your best effort.

I, the student, understand that during testing on the days of the assessment, I am responsible for:

* Not having any electronic devices on me or in my purse/backpack/pockets
  + Including but not limited to cell phones, smart phones, smart watches, etc. during testing or during breaks.
    - Best practice is for all students to leave devices at home on the day of testing.
  + If I am caught with a device during testing or during breaks, my test may be nullified, resulting in a zero as at least 10% of my final semester grade, and any school level disciplinary action as deemed appropriate by the administration.
* Trying my best on the test:
  + If I do not attempt to test (I give no answers or randomly answer questions) my test score may be nullified, resulting in a zero as at least 10% of my final semester grade, and any school level disciplinary action as deemed appropriate by the administration.
  + The testing administrators and proctors in the testing environment will determine if no answers or random answering is taking place.
  + I, the student, will focus and put forth effort on the test.
* Being honest and not cheating:
  + If I, the student, an caught cheating (taking pictures of the test, writing down and passing answers, talking to other students, looking on others papers or computers, using software outside the testing platform), my test may be nullified, resulting in a zero as at least 10% of my final semester grade, and any school level disciplinary action as deemed appropriate by the administration.

Important note: Any form of academic dishonesty, including cheating and plagiarism, may be reported to the administrator.

Course policies are subject to change. It is the student’s responsibility to check for corrections or updates to the syllabus. Any changes will be posted in the classroom.