

WELCOME TO SEVENTH GRADE MATH!

By the end of the year, here is what students should be able to do:



2:1 Ratios and Proportions

- ✓ **Calculate Unit Rates:** Solve problems involving speed, unit prices, and constant rates.
- ✓ **Identify Proportions:** Determine if two quantities are in a proportional relationship (e.g., via a table or a graph through the origin).
- ✓ **Percents:** Solve multi-step problems involving taxes, tips, discounts, simple interest, and percent increase/decrease.
- ✓ **Use Scale Drawings:** Compute actual lengths and areas from a scale drawing (like a map or floor plan).

The Number System



- ✓ Solve real-world and mathematical problems involving the four operations with fractions and decimals.
- ✓ Add, subtract, multiply, and divide positive and negative numbers in real-world contexts (e.g., bank balances or temperatures).
- ✓ Convert fractions to decimals and know that the decimal form of a fraction terminates in 0s or eventually repeats.

Expressions and Equations



- ✓ Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals).
- ✓ Construct simple equations and inequalities to solve problems.
- ✓ Rewrite math problems by grouping similar parts or removing parentheses—even when using fractions, decimals, and negative numbers.

Statistics and Probability



- ✓ Use small, random groups to make unbiased guesses about a much larger population.
- ✓ Use data to spot patterns, differences, and overlaps between two different sets of information.
- ✓ Understand that the chance of something happening ranges from 0 (impossible) to 1 (certain), with 0.5 being a 50/50 toss-up.
- ✓ Compare mathematical "odds" to actual results from hands-on experiments, like coin flips or dice rolls.
- ✓ Use tools like tree diagrams and tables to calculate the odds when multiple things happen at once (e.g., picking an outfit or rolling two dice).



Geometry

- ✓ Draw, construct, and describe geometrical figures and describe the relationships between them.
- ✓ Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.