

CORE COURSE PERFORMANCE OBJECTIVES

The student will be able to:

1. Recognize place value, perform the four operations of arithmetic and solve applied problems using whole numbers. (CCC 2, 7)
2. Demonstrate the knowledge of the definition of fractions and mixed numbers. (CCC 1)
3. Perform the four operations of arithmetic and solve applied problems using fractions and mixed numbers. (CCC 2, 7)
4. Recognize place value, perform the four operations of arithmetic and solve applied problems using decimals. (CCC 2, 7)
5. Write ratios, calculate rates and proportions, and use these to solve applied problems. (CCC 2, 7)
6. Demonstrate equivalent percent notations and solve percent problems. (CCC 2, 7)
7. Compute, analyze and interpret statistical data. (CCC 2, 5, 7)
8. Calculate conversions between the English system and the metric system and use these to solve applied problems. (CCC 2, 5, 7)
9. Compute perimeter, area, and volume of geometric figures. (CCC 2, 7)
10. Perform the four operations of arithmetic and use order of operations to simplify mathematical expressions involving integers. (CCC 2, 7)
11. Solve applied problems using simple algebraic equations. (CCC 2, 7)
12. Perform calculations involving scientific notation. (CCC 7)

MEASURABLE PERFORMANCE OBJECTIVES

1. **Recognize place value, perform the four operations of arithmetic and solve applied problems using whole numbers. (CCC 2, 7)**
 - 1.1 Read and write whole numbers.
 - 1.2 Explain the commutative and associative properties.
 - 1.3 Add, subtract, multiply and divide whole numbers.
 - 1.4 Round whole numbers to a specified place value.
 - 1.5 Use order of operations to evaluate whole number expressions involving exponents and square roots.
 - 1.6 Solve whole number word problems using the basic operations.
 - 1.7 Find all factors of a number.
 - 1.8 Write prime factorization of a number.
 - 1.9 Identify prime or composite numbers.

- 2. Demonstrate the knowledge of the definition of fractions and mixed numbers. (CCC 1)**
 - 2.1 Add, subtract, multiply and divide fractions.
 - 2.2 Compare fractions and place on a number line.
 - 2.3 Write mixed numbers as improper fractions and vice versa.
 - 2.4 Write a fraction in lowest terms.
 - 2.5 Find the least common multiple of two or more numbers.

- 3. Perform the four operations of arithmetic and solve applied problems using fractions and mixed numbers. (CCC 2, 7)**
 - 3.1 Use order of operations to simplify fractional expressions.
 - 3.2 Solve word problems involving fractions.

- 4. Recognize place value, perform the four operations of arithmetic and solve applied problems using decimals. (CCC 2, 7)**
 - 4.1 Read and write decimal numbers.
 - 4.2 Compare decimal numbers.
 - 4.3 Round decimal numbers to a specific place value.
 - 4.4 Change decimal numbers to mixed numbers and vice versa.
 - 4.5 Add, subtract, multiply, and divide decimal numbers.
 - 4.6 Use order of operations to evaluate decimal expressions.
 - 4.7 Solve word problems involving decimal numbers.

- 5. Write ratios, calculate rates and proportions, and use these to solve applied problems. (CCC 2, 7)**
 - 5.1 Express ratios as fractions in lowest terms.
 - 5.2 Determine when a proportion is true or false.
 - 5.3 Write a proportion.
 - 5.4 Find a solution when one of the parts of a proportion is missing.
 - 5.5 Find the corresponding sides of similar triangles.

- 6. Demonstrate equivalent percent notations and solve percent problems. (CCC 2, 7)**
 - 6.1 Convert percents to fractions and decimals.
 - 6.2 Write a fraction as a percent.
 - 6.3 Solve word problems involving percent increase/decrease, commissions, discount and simple interest.

- 7. Compute, analyze and interpret statistical data. (CCC 2, 5, 7)**
 - 7.1 Construct and interpret circle, bar, and line graphs.
 - 7.2 Construct a histogram and frequency cart from a set of data.
 - 7.3 Find the mean, median, and mode given a data set.

- 8. Calculate conversions between the English system and the metric system and use these to solve applied problems. (CCC 2, 5, 7)**
 - 8.1 Identify appropriate metric units.
 - 8.2 Change units within the metric system.
 - 8.3 Change units within the English system.
 - 8.4 Given an appropriate chart, convert English system units to metric and vice versa.
 - 8.5 Convert temperature readings between Fahrenheit and Celsius.

- 9. Compute perimeter, area, and volume of geometric figures. (CCC 2, 7)**
 - 9.1 Identify and name rays, lines, line segments, and angles.
 - 9.2 Identify complementary, supplementary, and vertical angles.
 - 9.3 Find perimeter and area of plane figures.
 - 9.4 Find area and circumference of circles.
 - 9.5 Find volume of three dimensional figures.

- 10. Perform the four operations of arithmetic and use order of operations to simplify mathematical expressions involving integers. (CCC 2, 7)**
 - 10.1 Add, subtract, multiply, and divide signed numbers.
 - 10.2 Compare signed numbers.
 - 10.3 Simplify expressions using the distributive property.
 - 10.4 Evaluate algebraic expressions by substituting in given values.

- 11. Solve applied problems using simple algebraic equations. (CCC 2, 7)**
 - 11.1 Solve simple linear equations.
 - 11.2 Write equations and solve for missing side of a right triangle.

- 12. Perform calculations involving scientific notation. (CCC 7)**
 - 12.1 Convert standard notation numbers to scientific notation.
 - 12.2 Convert all numbers from scientific notation to standard notation.
 - 12.3 Solve problems involving scientific notation.

EVALUATION CRITERIA

Students will demonstrate proficiency on all Measurable Performance Objectives at least to the 75% level. The grade will be determined using the College Grading System:

92 - 100	A
83 - 91	B
75 - 82	C
0 - 74	R

Students should refer to the Student Handbook for information on Academic Standing Policy, Academic Honesty Policy, Students Rights and Responsibilities and other policies relevant to their academic progress.