

[Click Here for District Rubric 7-8](#)

[Click Here for District Rubric 7-12](#)

CS1: Students engage in the mathematical processes of problem solving and reasoning, estimation, communication, connections and applications, and using appropriate technology.

The student will be able to:

Grade 7	Grade 8
CS1.1 Apply the appropriate problem solving strategies to solve multi-step and non-routine problems* <ul style="list-style-type: none"> ▪ Guess and check ▪ Eliminate unnecessary information ▪ Patterns and sequence ▪ Simplify models and diagrams ▪ Tables and charts ▪ Work backward ▪ Write an equation to solve problems ▪ Use a formula 	CS1.1 Apply the appropriate problem solving strategies to solve multi-step and non-routine problems* <ul style="list-style-type: none"> ▪ Solve patterns using formulas ▪ Eliminate unnecessary information ▪ Work backwards ▪ Tables and charts ▪ Simplify ▪ Models or diagrams ▪ Write and solve an equation ▪ Use a variety of formulas
CS1.2 Apply appropriate estimation strategies* <ul style="list-style-type: none"> ▪ Rounding ▪ Mental math 	CS1.2 Apply appropriate estimation strategies* <ul style="list-style-type: none"> ▪ Rounding ▪ Mental math • Approximate square roots
CS1.3 Explain mathematical concepts in written and oral form via symbols, mathematical notations and the language of mathematics	CS1.3 Communicate mathematics through oral and written expression via symbols, mathematical notations, and the language of mathematics*
CS1.4 Apply mathematics in other school subjects in real world situations	CS1.4 Make connections among various mathematical topics <ul style="list-style-type: none"> ▪ Relationships among math concepts (eg. Fractions to decimals to percents)
CS1.5 Select the appropriate technology to solve problems (e.g. paper and pencil, calculator and computer)	CS1.5 Make mathematical connections to the real world using algebraic expressions*
	CS1.6 Select and use appropriate technology to solve problems

*Denotes ITBS skill

CS2: Students demonstrate understanding of and an ability to use numbers and operations.**The student will be able to:**

Grade 7	Grade 8
CS2.1 Fluently compute using whole numbers, decimals, fractions and integers*	CS2.1 Compute using rational numbers*
CS2.2 Arrange a set of whole numbers, decimals, fractions, and integers by using most appropriate equivalent value	CS2.2 See relationships among fractions, decimals, ratios, percents, and proportions*
CS2.3 Apply and utilize order of operations, (e.g. grouping symbols, exponents, multiply and divide, add and subtract)*	CS2.3 Arrange a set of rational and irrational numbers in numerical order from least to greatest*
CS2.4 Read and comprehend scale drawings*	CS2.4 Create various scale drawings from real world objects
CS2.5 Set up and solve proportions	CS2.5 Use proportions and ratios to create scale drawings, predict probability, calculate percents, and solve other real-world problems*
CS2.6 Differentiate between factors and multiples of whole numbers	CS2.6 Differentiate between rational and irrational numbers
CS2.7 Compute the square root of a perfect square	CS2.7 Explain and communicate topics such as <ul style="list-style-type: none"> ▪ Perfect Squares and their roots ▪ Perfect Cubes and their roots ▪ Factorials
CS2.8 Convert fraction to decimal to percent and vice versa	

*Denotes ITBS skill

CS3: Students use algebraic concepts, processes, and language to model and solve a variety of real-world and mathematical problems.

The student will be able to:

Grade 7	Grade 8
CS3.1 Use variables, expressions, exponents, formulas, and equations*	CS3.1 Determine when to use variables, expressions and equations
CS3.2 Solve one-step equations and inequalities and graph their solution on a number line	CS3.2 Apply variables, constants, expressions, exponents, scientific notation, formulas, and equations*
CS3.3 Write an algebraic equation from a verbal phrase	CS3.3 Use algebraic methods to solve real-world problems*
CS3.4 Demonstrate number properties <ul style="list-style-type: none"> ▪ Associative ▪ Commutative ▪ Distributive property of multiplication over addition and subtraction ▪ Multiplicative property of zero ▪ Identity properties 	CS3.4 Use a coordinate plane to represent equations and to solve problems
	CS3.5 Demonstrate how the general properties relate to algebra (i.e., the distributive property, associative property etc.)*
	CS3.6 Solve multi-step equations

*Denotes ITBS skill

CS4: Students demonstrate understanding of shape and an ability to use geometry.**The student will be able to:**

Grade 7	Grade 8
CS4.1 Identify, describe, construct and compare planes and solid geometric figures	CS4.1 Identify, describe, construct, and compare plane and solid geometric figures*
CS4.2 Understand and identify parts of polygons, prisms, different types of angles, and relationships (e.g. parallel, perpendicular, similar)	CS4.2 Understand and apply geometric properties and relationships* <ul style="list-style-type: none"> ▪ Pythagorean Theorem ▪ Angle properties ▪ Geometric sequences
CS4.3 Represent geometric figures on a coordinate plane	CS4.3 Represent geometric figures on coordinate grid paper
CS4.4 Explore geometric figures by* <ul style="list-style-type: none"> ▪ Sides ▪ Congruency ▪ Symmetry ▪ Angle Measures ▪ Similarity 	CS4.4 Use symmetry, congruency, and transformations (reflections, translation, rotation, and dilations) in problem solving
CS4.5 Use geometric terms to describe the real world, i.e. area and volume	

*Denotes ITBS skill

CS5: Students demonstrate understanding of measurable attributes and an ability to use measurement processes.

The student will be able to:

Grade 7	Grade 8
CS5.1 Estimate, make, and use measurements to describe, compare, and/or contrast objects in real-world situations*	CS5.1 Estimate, make, and use measurements to describe, compare, and/or contrast objects in real-world situations*
CS5.2 Use the standard and metric systems to measure lengths, area, volume, weight, time and temperature*	CS5.2 Select and use appropriate units and tools to measure to a level of accuracy required in a particular setting*
CS5.3 Rename equivalent measures within each system*	CS5.3 Apply the concepts of perimeter, circumference, area, volume and capacity, weight and mass, angle measure, time and temperature*
CS5.4 Apply concepts of perimeter, circumference, and angle measurement	CS5.4 Accurately use the English and metric systems of measurements*
CS5.5 Solve indirect measurement problems using proportions*	CS5.5 Transfer fundamental formulas for perimeter, area, and volume to project-oriented tasks
CS5.6 Use formulas to determine surface area and volume of prisms and cylinders*	CS5.6 Use and demonstrate understanding of formulas to find surface area and volume of rectangular and circular prisms

*Denotes ITBS skill

CS6: Students demonstrate understanding of and an ability to use data analysis, probability, and statistics.

The student will be able to:

Grade 7	Grade 8
CS6.1 Systematically collect, organize, and describe data*	CS6.1 Systematically collect, organize, and describe data*
CS6.2 Interpret and analyze data using line plots, stem and leaf plots, scatter plots, circle graphs, bar graphs, and line graphs*	CS6.2 Analyze in depth and interpret line plots, box plots, circle graphs, stem and leaf plots, scatter plots, and bar graphs*
CS6.3 Construct various graphs utilizing gathered data	CS6.3 Use the appropriate measure of central tendency to make arguments, and draw conclusions from presented data (mean, median, mode)*
CS6.4 Compute and predict measures of central tendency (range, mean, median, mode)*	CS6.4 Determine the sample space
CS6.5 Simulate probability experiments (e.g. diagrams, applications)	CS6.5 Determine simple probability
CS6.6 Determine simple probability	CS6.6 Predict outcomes based on probability*
CS6.7 Make predictions based on probabilities*	

*Denotes ITBS skill

CS7: Students demonstrate understanding of and an ability to use patterns, relations and functions.

The student will be able to:

Grade 7	Grade 8
CS7.1 Establish and continue patterns and sequences*	CS7.1 Describe, generalize, extend, analyze, and create a variety of patterns and linear functions*
CS7.2 Use a rule to extend a pattern*	CS7.2 Articulate functions using <ul style="list-style-type: none"> ▪ Graphs ▪ Numerical representations ▪ Physical models (tables) ▪ Algebraic representations
CS7.3 Determine the pattern or sequence* <ul style="list-style-type: none"> ▪ Displayed in a table ▪ Shown on a graph 	CS7.3 Substitute values for one variable and analyze resulting changes in quantities (e.g. slope, rates of change)
CS7.4 Use a table or chart to solve a problem*	CS7.4 Apply linear functions to solve problems
	CS7.5 Extend a pattern and graph linear functions

*Denotes ITBS skill