North Carolina
Curricular Standards
Mathematics - Grade 8
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1.800.900.2290

Major Concepts	**Computational Skills to Maintain**
• Computation with rational numbers • Conversions among fractions, decimals, and percents • Pythagorean Theorem • Surface area and volume • Linear equations and inequalities • Box plots and scatter plots • Probability of independent and dependent events • Theoretical probabilities and experimental results • Students will create and solve relevant and authentic problems using appropriate technology and applying these concepts as well as those developed in previous years.	• Compute with whole numbers, decimals, and fractions • Use order of operations • Compute with integers • Identify, explain, and apply the commutative, associative, distributive, inverse, and identity properties

Number Sense, Numeration, and Numerical Operations				
Benchmark Number	***Benchmark*** • ***Teaching Targets***	***Gourmet Resource***	***Tested***	***Taught***
	Competency Goal 1: The learner will understand and compute with real numbers.			
1.01	*Identify subsets of the real number system.*	**Appetizers 1 A, B, C, and E; (Number Concepts)**		
1.02	*Estimate and compute with rational numbers.*	**Appetizers 2 A; (Mathematical Relations)**		
1.03	*Compare, order, and convert among fractions, decimals (terminating and non-terminating), and percents.*	**Appetizers 1 E; (Number Concepts)**		
1.04	*Solve problems involving percent of increase and percent of decrease.*	**Appetizers 1 E; (Number Concepts)**		

Number Sense, Numeration, and Numerical Operations				
Benchmark Number	***Benchmark*** ***• Teaching Targets***	***Gourmet Resource***	***Tested***	***Taught***
1.05	*Use scientific notation to express large numbers and numbers less than one. Write in standard form numbers given in scientific notation.*	**Appetizers 1 A and B; (Number Concepts)**		
1.06	*Use rules of exponents.*	**Appetizers 1 B; (Number Concepts)**		
1.07	*Estimate the square root of a number between two consecutive integers using a calculator, find the square root of a number to the nearest ten.*	**Appetizers 1 C; (Number Concepts)**		
1.08	*Solve problems involving exponents and scientific notation.*	**Appetizers 1 A & B; (Number Concepts)**		
1.09	*Determine the absolute value of a number.*			
1.10	*Identify, explain, and apply the commutative, associative, and distributive properties, inverses, and identities in algebraic expressions.*	**Appetizers 2 A; (Mathematical Relations)**		
1.11	*Simplify algebraic expressions.*	**Appetizers 2 G; (Mathematical Relations)**		
1.12	*Analyze problems to determine if there is sufficient of extraneous data, select appropriate strategies, and use an organized approach to solve using calculators when appropriate.*	**Appetizers 11 A; (Problem Solving)**		

Spatial Sense, Measurement, and Geometry				
Benchmark Number	***Benchmark*** • ***Teaching Targets***	***Gourmet Resource***	***Tested***	***Taught***
	Competency Goal 2: The learner will demonstrate an understanding and use of the properties and relationships in geometry, and standard units of metric and customary measurement.			
2.01	*Use geometric concepts and modeling to interpret and solve problems.*	**Appetizers 3 A; (Geometry)**		
2.02	*Calculate distances and areas from scale drawings and maps.*	**Appetizers 3 E; (Geometry)**		
2.03	*Find the surface area of rectangular solids and cylinders.*	**Appetizers 4 E; (Measurement)**		
2.04	*Use models to investigate the relationship of the volume of a cone to a cylinder and a pyramid to a prism with the same base and height.*	**Appetizers 4 F; (Measurement)**		
2.05	*Find the volume of prisms, cylinders, pyramids, and cones, with and without models.*	**Appetizers 4 E; (Measurement)**		
2.06	*Use the Pythagorean Theorem to solve problems.*	**Appetizers 3 C and D; (Geometry)**		
2.07	*Determine the effect on the volume of solid figures when one or more dimension is changed.*	**Appetizers 4 F; (Measurement)**		
2.08	*Solve problems related to similar and congruent figures.*	**Appetizers 3 E; (Geometry)**		
2.09	*Locate, give the coordinates of, and graph plane figures which are the results of rotations (multiples of 90 degrees). Graph plane figures which are similar to a given figure (dilations).*	**Appetizers 2 C; (Mathematical Relations)**		
2.10	*Identify and draw 3-dimensional figures from different perspectives (top, side, front, corner); use appropriate technology.*	**Appetizers 3 G; (Geometry)**		
2.11	*Build 3-dimensional figures given various views.*	**Appetizers 3 G; (Geometry)**		

Spatial Sense, Measurement, and Geometry				
Benchmark Number	*Benchmark • Teaching Targets*	*Gourmet Resource*	*Tested*	*Taught*
2.12	*Select appropriate units and tools for measurement tasks within problem-solving situations; determine precision and check for reasonableness of results.*	**Appetizers 4 G; 11 C; (Measurement); (Problem Solving)**		
Patterns, Relationships, and Functions				
Benchmark Number	*Benchmark • Teaching Targets*	*Gourmet Resource*	*Tested*	*Taught*
	Competency Goal 3: The learner will demonstrate an understanding of patterns, relationships, and fundamental algebraic concepts.			
3.01	*Use formulas in problem-solving situations.*	**Appetizers 11 C; (Problem Solving)**		
3.02	*Solve one and two-step linear equations and inequalities.*	**Appetizers 2 G; (Mathematical Relations)**		
3.03	*Graph a linear equation using ordered pairs. Investigate the graphs of linear inequalities; use appropriate technology.*	**Appetizers 2 C; (Mathematical Relations)**		
3.04	*Investigate the concepts of slope; use appropriate technology.*	**Appetizers 12 C; (Mathematical Representation)**		
3.05	*Describe, extend, and analyze a wide variety of geometric and numerical patterns, such as Pascal's triangle or the Fibonacci sequence; use appropriate technology.*			

Data, Probability, and Statistics				
Benchmark Number	***Benchmark*** ***• Teaching Targets***	***Gourmet Resource***	***Tested***	***Taught***
	Competency Goal 4: The learner will demonstrate an understanding and use of graphing, probability, and data analysis.			
4.01	*Interpret and construct box plots.*			
4.02	*Collect data involving two variables and display on a scatter plot, interpret results; identify positive and negative relationships.*	**Appetizers 12 C; Objective 12 (Mathematical Representation) Lesson 3**		
4.03	*Interpret the mean, explain its sensitivity to extremes, and explain its us in comparison with the median and the mode.*	**Appetizers 5 C; Objective 5 (Probability/Statistics) Lesson 3**		
4.04	*Evaluate arguments based on data. Discuss random vs. biased sampling.*			
4.05	*Find the probability of independent and dependent events.*	**Appetizers 5 A & B; Objective 5 (Probability/Statistics) Lessons 1 & 2**		
4.06	*Make predictions based on theoretical probabilities and experimental results.*	**Appetizers 5 D; 13 C; Objectives 5 (Probability/Statistics) Lesson 4; 13 (Reasonableness) Lesson 3**		