



North Carolina Essential Standards Mathematics Grade 3

Note on Numbering: **N**–Number and Operations, **A**–Algebra, **G**–Geometry, **M**–Measurement, **S**–Statistics and Probability and **D**–Discrete Mathematics

Number and Operations

	Essential Standard	Clarifying Objectives	
3.N.1	Understand the numerical value of whole numbers 0 to 10,000.	3.N.1.1	Represent whole numbers using models, words, numbers (symbolic) and expanded form by composing and decomposing.
		3.N.1.2	Compare whole numbers less than 10,000 with symbols (<, >) and words.
		3.N.1.3	Illustrate composing a higher-value number by multiplying by 10 and composing a lower-value number by dividing by 10.
3.N.2	Use strategies to solve multi-digit-addition and subtraction problems.	3.N.2.1	Use multiple strategies to solve multi-digit, single-step and multi-step addition and subtraction problems.
		3.N.2.2	Use estimation to determine the reasonableness of solutions
3.N.3	Understand multiplication and division and their relationship using facts 0-10.	3.N.3.1	Illustrate the meaning of multiplication and division using multiple models.
		3.N.3.2	Use estimation, properties and efficient strategies to solve single step multiplication and division problems.
3.N.4	Understand the meaning of fractions as sharing equally (equipartitioning) using models.	3.N.4.1	Illustrate equal parts (equipartitioning) with situations involving numbers less than one and mixed numbers greater than one.
		3.N.4.2	Represent fractions or mixed numbers using symbolic notation (a/b).
		3.N.4.3	Represent equivalent fractions with models by composing and decomposing fractions into equivalent fractions (using related fractions: halves, fourths, eighths; thirds, sixths).
		3.N.4.4	Compare a given fraction to benchmark numbers of 0, $\frac{1}{2}$, 1, using a variety of strategies.
		3.N.4.5	Represent a fair share of a collection of discrete items as the amount per person (the unit ratio or n:1).

Algebra

	Essential Standard	Clarifying Objectives	
3.A.1	Illustrate the associative, commutative and the identity properties of multiplication.	3.A.1.1	Represent properties of multiplication with models, including arrays, and equations.
3.A.2	Use the concept of equality with unknown quantities.	3.A.2.1	Use the concept of equality to solve problems with unknown quantities.
3.A.3	Analyze numeric and non-numeric patterns.	3.A.3.1	Identify the type of pattern in numeric and non-numeric patterns.
		3.A.3.2	Predict missing terms in patterns.
		3.A.3.3	Understand patterns to translate it into new forms.

Geometry

	Essential Standard	Clarifying Objectives	
3.G.1	Classify figures according to their properties.	3.G.1.1	Classify two-dimensional figures according to their properties to develop definitions of classes of shapes such as quadrilaterals.
		3.G.1.2	Classify three-dimensional figures according to their properties to develop definitions of classes of shapes such as pyramids.
3.G.2	Represent points, paths, lines and geometric figures on a rectangular coordinate grid.	3.G.2.1	Represent points with whole number and letter coordinates on a rectangular coordinate grid.
		3.G.2.2	Infer possible paths along the grid between given points on a rectangular coordinate grid.
		3.G.2.3	Represent geometric figures with vertices at points on a coordinate grid.
		3.G.2.4	Identify parallel and perpendicular lines on a rectangular coordinate grid.

Measurement

	Essential Standard	Clarifying Objectives	
3.M.1	Use metric units to measure length, weight*, capacity, and temperature to solve problems. <small>*More properly mass, but most commonly understood as weight at this grade band.</small>	3.M.1.1	Select the most appropriate metric unit and tool to measure selected attributes; length (mm, cm, dm, m, km), weight (g, kg), capacity (mL, L) and temperature (°C) measurements.
		3.M.1.2	Apply the processes of measurement (partitioning, transitivity, iteration and compensatory principle) to length and capacity.
		3.M.1.3	Use estimation to interpret the reasonableness of length (cm, dm, m, km), weight (g, kg), capacity (ml, L) and temperature (°C) measurements.
3.M.2	Understand how to determine area.	3.M.2.1	Use rectangles and composite rectangular shapes to find area.
3.M.3	Use clocks to tell time.	3.M.3.1	Use analog and digital clocks to tell time to the nearest 5 minutes.
		3.M.3.2	Use various phrases to read time (quarter 'til, noon, etc.).

Statistics and Probability

	Essential Standard	Clarifying Objectives	
3.S.1	Interpret data from statistical investigations.	3.S.1.1	Represent tables and bar graphs (with frequency intervals of 1, 2, 5 or 10).
		3.S.1.2	Interpret data to identify shape (cluster, gap, and trend), center (typicality or mode) and range (variability) of the data set.
3.S.2	Explain results of simple probability experiments.	3.S.2.1	Understand the events of probability as being certain, likely, equally likely, unlikely, possible or impossible.
		3.S.2.2	Explain the outcomes of simple probability experiments.