



2019- 2020 Curriculum Overview Prince William County Public Schools

(See essential knowledge and skills in the curriculum unit guides for details and depth of knowledge for each objective.)

Mathematics 3rd Grade

NCTM Process Standards:

- ✓ Problem Solving
- ✓ Reasoning and Proof
- ✓ Communication
- ✓ Connections
- ✓ Representation

The Prince William County Schools Mathematics Program promotes an environment in which students develop a comprehensive and enduring understanding of the concepts of mathematics. Students learn to effectively apply these concepts and use a variety of problem solving strategies. The program nurtures a productive disposition toward mathematics, challenges all learners, and supports further investigations in this field.

Number and Number Sense

3.1A Read, write and identify the place and value of each digit in a six-digit whole number, with and without models.

3.1B Round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand.

3.1C Compare and order up to three whole numbers, each 9,999 or less.

3.2A Name and write fractions and mixed numbers represented by a model.

3.2B Represent fractions and mixed numbers with models and symbols.

3.2C Compare fractions having like and unlike denominators, using words and symbols ($>$, $<$, $=$, or \neq), with models.

3.2 Essential Knowledge and Skills

- Identify a fraction represented by a model as the sum of unit fractions.
- Using a model of a fraction greater than one, count the fractional parts to name and write it as an improper fraction and as a mixed number.
- Compare a model of a fraction, less than or equal to one, to the benchmarks of 0 , $\frac{1}{2}$, and 1 .

Computation and Estimation

3.3A Estimate and determine the sum or difference of two whole numbers.

3.3B Create and solve single-step and multistep practical problems involving sums or differences of two whole numbers, each 9,999 or less.

3.3 Essential Knowledge and Skills

- Apply strategies, including place value and the properties of addition to add and subtract two whole numbers, each 9,999 or less.

3.4A Represent multiplication and division through 10×10 , using a variety of approaches and models.

3.4B Create and solve single-step practical problems that involve multiplication and division through 10×10 .

3.4C Demonstrate fluency with multiplication facts of 0, 1, 2, 5, and 10.

3.4D Solve single-step practical problems involving multiplication of whole numbers, where one factor is 99 or less and the second factor is 5 or less.

3.4 Essential Knowledge and Skills

- Apply strategies, including place value and the properties of multiplication and/or addition when multiplying and dividing whole numbers.

3.5 Solve practical problems that involve addition and subtraction with proper fractions having like denominators of 12 or less.

Measurement

3.6A Determine the value of a collection of bills and coins whose total value is \$5.00 or less.

3.6B Compare the value of two sets of coins or two sets of coins and bills.

3.6C Make change from \$5.00 or less.

3.7A Estimate and use U.S. Customary and metric units to measure length to the nearest $\frac{1}{2}$ inch, foot, yard, centimeter, and meter.

3.7B Estimate and use U.S. Customary and metric units to measure liquid volume in cups, pints, quarts, gallons, and liters.

3.8A estimate and measure the distance around a polygon in order to determine its perimeter using U.S. Customary and metric units.

3.8B Estimate and count the number of square units needed to cover a given surface in order to determine its area.

3.9A Tell time to the nearest minute, using analog and digital clocks.

3.9B Solve practical problems related to elapsed time in one-hour increments within a 12-hour period.

3.9C Identify equivalent periods of time and solve practical problems related to equivalent periods of time.

3.10 Read temperature to the nearest degree.

Geometry

3.11 Identify and draw representations of points, lines, line segments, rays, and angles.

3.11 Essential Knowledge and Skills

- Describe endpoints and vertices as they relate to lines, line segments, rays, and angles.

3.12A Define polygon.

3.12B Identify and name polygons with 10 or fewer sides.

3.12C Combine and subdivide polygons with three or four sides and name the resulting polygon(s).

3.13 Identify and describe congruent and noncongruent figures.

Probability and Statistics

3.14 Investigate and describe the concept of probability as a measurement of chance and list possible outcomes for a single event.

3.14 Essential Knowledge and Skills

- List all possible outcomes for a single event (e.g., heads and tails are the two possible outcomes of flipping a coin). Limit the number of outcomes to 12 or fewer.
- Describe the degree of likelihood of an outcome occurring using terms such as *impossible*, *unlikely*, *equally likely*, *likely*, and *certain*.

3.15A Collect, organize, and represent data in pictographs or bar graphs.

3.15B Read and interpret data represented in pictographs and bar graphs.

Patterns, Functions and Algebra

3.16 Identify, describe, create, and extend patterns found in objects, pictures, numbers, and tables.

3.16 Essential Knowledge and Skills

- Solve problems that involve the application of input and output rules limited to addition and subtraction of whole numbers.
- When given the rule, determine the missing values in a list or table. (Rules will be limited to addition and subtraction of whole numbers.)

3.17 Create equations to represent equivalent mathematical relationships.

3.17 Essential Knowledge and Skills

- Identify and use the appropriate symbol to distinguish between expressions that are equal and expressions that are not equal (e.g., $256 - 13 = 220 + 23$; $143 + 17 = 140 + 20$; $457 + 100 \neq 557 + 100$).

Engaging Students in the Standards Students will:

add	describe	investigate	predict
analyze	determine	judge	read
classify	display	label	recall
collect	divide	list	recognize
compare	draw	measure	represent
compute	estimate	model	round
construct	experiment	multiply	solve
contrast	explore	name	sort
count	extend	observe	subtract
create	identify	order	understand
demonstrate	interpret	organize	write