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 5th 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

5.1 Given a decimal through thousandths, round to the nearest whole number, tenth, or hundredth.

5.2A Represent and identify equivalencies among fractions and decimals, with and without models.*

5.2B Compare and order fractions, mixed numbers, and/or decimals in a given set from least to greatest and greatest to least.*

5.3A Identify and describe the characteristics of prime and composite numbers.

5.3B Identify and describe the characteristics of even and odd numbers.

5.3 Essential Knowledge and Skills
- Use concrete or pictorial representations to demonstrate and explain why a number is prime or composite, why a number is even or odd, and why the sum or difference of two numbers is even or odd.

*On the state assessment, items measuring this objective are assessed <u>without</u> the use of a calculator.

Computation and Estimation

5.4 Create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division (with and without remainders) of whole numbers.

5.4 Essential Knowledge and Skills
- Apply properties.
- Use the context to interpret the quotient and remainder.

5.5A Estimate and determine the product and quotient of two numbers involving decimals*

5.5 Essential Knowledge and Skills
- Divisors are limited to a single digit whole number or a decimal expressed as tenths.
- Use multiple representations to model multiplication and division of decimals and whole numbers.

5.5B Create and solve single-step and multistep practical problems involving addition, subtraction, and multiplication of decimals, and create and solve single-step practical problems involving division of decimals.

5.6A Solve single-step and multistep practical problems involving addition and subtraction with fractions and mixed numbers.*

5.6B Solve single-step practical problems involving multiplication of a whole number, limited to 12 or less, and a proper fraction, with models.*

5.7 Simplify whole number numerical expressions, using the order of operations.*

Measurement

5.8A Solve practical problems that involve perimeter, area and volume in standard units of measure.

5.8B Differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation.

5.8 Essential Knowledge and Skills
- Develop a procedure for determining the area of a right triangle.
- Develop a procedure for determining the volume of a rectangular prism using manipulatives.

5.9A Given the equivalent measure of one unit, identify equivalent measurements within the metric system.

5.9B Solve practical problems involving length, mass, and liquid volume using metric units.

5.10 Identify and describe the diameter, radius, chord, and circumference of a circle.

5.10 Essential Knowledge and Skills
- Investigate and describe the relationship between
  - diameter and radius;
  - diameter and chord;
  - radius and circumference;
  - diameter and circumference.

5.11 Solve practical problems related to elapsed time in hours and minutes within a 24-hour period.

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Geometry

5.12 Classify and measure right, acute, obtuse, and straight angles.

5.13A Classify triangles as right, acute, or obtuse and equilateral, scalene, or isosceles.

5.13B Investigate the sum of the interior angles in a triangle and determine an unknown angle measure.

5.13 Essential Knowledge and Skills

- Compare and contrast the properties of triangles.

- Identify congruent sides and right angles using geometric markings to denote properties of triangles.

- Use models to prove that the sum of a the interior angles of a triangle is 180°, and use that relationship to determine an unknown angle measure in a triangle.

5.14A Recognize and apply transformations, such as translation, reflection, and rotation.

5.14B Investigate and describe the results of combining and subdividing polygons.

5.14 Essential Knowledge and Skills

- Compare and contrast the characteristics of a given polygon that has been subdivided with the characteristics of the resulting parts.

Probability and Statistics

5.15 Determine the probability of an outcome by constructing a sample space or using the Fundamental (Basic) Counting Principle.

5.16A Given a practical problem, represent data in line plots and stem-and-leaf plots.

5.16B 16A Given a practical problem, Iinterpret data represented in line plots and stem-and-leaf plots.

5.16C 16A Given a practical problem, compare data represented in a line plot with the same data represented in a stem-and-leaf plot.

5.17A Given a practical context, describe mean, median, and mode as measures of center.

5.17B Given a practical context, describe mean as fair share.

5.17C Given a practical context, describe the range of a set of data as a measure of spread.

5.17D Given a practical context, determine the mean, median, mode, and range of a set of data.

Patterns, Functions and Algebra

5.18 Identify, describe, create, express, and extend number patterns found in objects, pictures, numbers, and tables.

5.19A Investigate and describe the concept of variable.

5.19B Write an equation to represent a given mathematical relationship, using a variable.

5.19C Use an expression with a variable to represent a given verbal expression involving one operation.

5.19D Create a problem situation based on a given equation, using a single variable and one operation.

Engaging Students in the Standards
Students will:

analyze	describe	interpret	recognize
categorize	determine	investigate	represent
classify	differentiate	judge	round
compare	display	label	solve
compute	draw	measure	sort
construct	estimate	model	understand
contrast	experiment	observe	
convert	explore	order	
create	extend	organize	
demonstrate	identify	predict	

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