

Hanover Schools
Mathematics Curriculum Quick Reference Guide
Grade 4

(Note: This quick reference guide only lists mastery skills. Additionally, teachers should address developing skills as outlined in the Hanover Schools Mathematics Curriculum Document.)

TERM I:

___ 4.N.7 - Recognize classes (in particular, odds, evens; factors or multiples of a given number; and squares) to which a number may belong, and identify the numbers in those classes. Use these in the solution of problems.

___ 4.N.8 - Select, use and explain various meanings and models of multiplication and division of whole numbers. Understand and use the inverse relationship between the two operations.

___ 4.N.9 - Select, use, and explain the commutative and identity properties of operations on whole numbers in problem situations, e.g., $37 \times 46 = 46 \times 37$, $(5 \times 7) \times 2 = 5 \times (7 \times 2)$.

___ 4.N.11 - Know multiplication facts through 12×12 and related division facts. Use these facts to solve related multiplication problems and compute related problems, e.g., 3×5 is related to 30×50 , 300×5 , and 30×500 .

___ 4.P.4 - Use pictures, models, tables, charts, graphs, words, number sentences, and mathematical notations to interpret mathematical relationships.

___ 4.G.1 - Compare and analyze attributes and other features (e.g., number of sides, faces, corners, right angles, diagonals, and symmetry) of two- and three-dimensional geometric shapes.

___ 4.G.3 - Recognize similar figures.

___ 4.G.7 - Describe and apply techniques such as reflections (flips), rotations (turns), and translations (slides) for determining if two shapes are congruent.

___ 4.M.3 - Identify time to the minute on analog and digital clocks using a.m. and p.m. Compute elapsed time using a clock (e.g., hours and minutes since...) and using a calendar (e.g., days since...)

___ 4.M.4 - Estimate and find area and perimeter of a rectangle, triangle, or irregular shape using diagrams, models, and grids or by measuring.

___ 4.D.5 - List and count the number of possible combinations of objects from three sets, e.g., how many different outfits can one make from a set of three shirts, a set of two skirts, and a set of two hats?

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TERM II:

___ 4.P.1 - Create, describe, extend, and explain symbolic (geometric) and numeric patterns, including multiplication patterns like 3, 30, 300, 3000...

___ 4.N.1 - Exhibit an understanding of the base ten number system by reading, modeling, writing, and interpreting whole numbers to at least 100,000; demonstrating an understanding of the values of the digits; and comparing and ordering the numbers.

___ 4.N.2 - Represent, order, and compare large numbers (to at least 100,000) using various forms, including expanded notation, e.g. $853 = 8 \times 100 + 5 \times 10 + 3$..

___ 4.N.12 - Add and subtract (up to five-digit numbers) and multiply (up to three digits by two digits) accurately and efficiently.

___ 4.N.13 - Divide up to a three-digit whole number with a single-digit divisor (with or without remainders) accurately and efficiently. Interpret any remainders.

___ 4.N.14 - Demonstrate in the classroom an understanding of and the ability to use the conventional algorithms for addition and subtraction (up to five-digit numbers), and multiplication (up to three digits by two digits)..

___ 4.N.16 - Round whole numbers through 100,000 to the nearest 10, 100, 1000, 10,000, and 100,000.

___ 4.N.17 - Select and use a variety of strategies (e.g., front-end, rounding, and regrouping) to estimate quantities, measures, and the results of whole-number computations up to three-digit whole numbers and amounts of money to \$1,000, and to judge the reasonableness of the answer.

___ 4.P.1 - Create, describe, extend, and explain symbolic (geometric) and numeric patterns, including multiplication patterns like 3, 30, 300, 3000...

___ 4.P.3 - Determine values of variables in simple equations, e.g., $4106 - \diamond = 37$; $5 = \blacktriangle + 3$ and $10 - \Delta = 3$

___ 4.G.4 - Identify angles as acute, right, or obtuse.

___ 4.G.9 - Predict and validate the results of partitioning, folding, and combining two- and three-dimensional shapes.

___ 4.D.1 - Collect and organize data using observations, measurements, surveys, or experiments, and identify appropriate ways to display the data.

___ 4.D.2 - Match representations of a data set in the form of tables, lists, line plots, pictographs, tallies, bar graph

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TERM III:

____ 4.N.3 - *Demonstrate an understanding of fractions as parts of unit wholes, as parts of a collection, and as locations on the number line..*

____ 4.G.6 - *Using ordered pairs of numbers and/or letters, graph, locate, identify points, and describe paths (first quadrant).*

____ 4.M.2 - *Carry out simple unit conversions within a system of measurement, e.g., hours to minutes, cents to dollars, yards to feet or inches, etc.*

Continue to review and re-teach mastery standards from terms I and II based on the needs of your class. Expose children to developing and enriching standards during term III as well.