

# Math Level 4

Skills

Analytical

Contextual

## Estimation and Computation (6)

NL.04.EC.01	Explain when an estimate is appropriate and when an exact answer is needed.			
NL.04.EC.02	Estimate solutions to evaluate reasonableness of results, state whether the estimation is greater than or less than the exact answer.			
NL.04.EC.03	Model ratios and proportions.			
NL.04.EC.04	Solve scaling problems that contain whole numbers, fractions, decimals, and percents using proportions.			
NL.04.EC.05	Simplify expressions involving absolute value of real numbers.			
NL.04.EC.06	Analyze and solve problems involving exponential forms of numbers.			

## Functions and Relationships (9)

NL.04.FR.01	Create a formula to calculate the nth term in sequential patterns.			
NL.04.FR.02	Predict an outcome using a pattern from a table or graph.			
NL.04.FR.03	Translate and use tables of ordered pairs, graphs on coordinate planes, and linear equations to represent patterns.			
NL.04.FR.04	Substitute values into a linear equation to make a table of ordered pairs and graphs the points on a coordinate			
NL.04.FR.05	Graph equalities and inequalities on a coordinate plane.			
NL.04.FR.06	Predict the graph of linear and non-linear functions (quadratics).			
NL.04.FR.07	Solve one and two step equations with and without variables and then use inverse operations to check answers.			
NL.04.FR.08	Solve problems with variables using equivalent fractions, decimals, or percents.			
NL.04.FR.09	Solve problems with variables using inverse functions, identity, commutative, associative and distributive properties.			

NL.04.FR.10	Translate multiple step word problems into symbolic expressions, equations or inequalities and solves for unknowns.			
<b>Geometry (8)</b>				
NL.04.GO.01	Classify, construct and identify properties of angles (compliments, supplements, vertical, etc).			
NL.04.GO.02	Calculate an angle indirectly by measuring the supplementary or complimentary angles.			
NL.04.GO.03	Calculate the sum of the angles in any convex polygon.			
NL.04.GO.04	Describe and apply relationships between geometric figures to solve problems.			
NL.04.GO.05	Apply the properties of equality and proportionality to solve problems involving congruent or similar shapes.			
NL.04.GO.06	Identify and draw reflections, rotations, and translations and describe these transformations in words.			
NL.04.GO.07	Estimate and determine volume and surface area of solid figures using manipulatives and formulas (i.e. cylinder, cone, sphere, prism, etc.).			
NL.04.GO.08	Explain what happens to ratios when changes are made to one or more dimensions of a figure (i.e. how is the area of a square effected if the length is doubled?)			
<b>Measurement (2)</b>				
NL.04.MS.01	Write and solve rate problems and apply appropriate units for the solution.			
NL.04.MS.02	Use, compare, and convert between units in the metric and standard systems for length, mass, weight, area, and volume.			
<b>Numeration (3)</b>				
NL.04.NM.01	Use, explain, and define order of operations and apply to positive and negative rational numbers (fractions, decimals, percents).			
NL.04.NM.02	Write the prime factorization of a number using exponents.			
NL.04.NM.03	Express numbers using powers of ten and scientific notation.			
<b>Problem Solving (5)</b>				
NL.04.PS.01	Communicate and explain strategies used to solve multi-step word problems in written form.			

NL.04.PS.02	Maintain a math notebook that expresses goals, successes, and areas for improvement and explains mathematical ideas, solutions, and methods.			
NL.04.PS.03	Apply and use calculations in a science or humanities discipline, labeling solutions with appropriate units.			
NL.04.PS.04	Analyze local, state, and federal tax systems (i.e. property, sales, income, hotel, airport, capital gains)			
NL.04.PS.05	Evaluate the workings of a loan and credit card and the application of various types of interest.			
<b>Statistics and Probability (6)</b>				
NL.04.SP.01	Collect, display, and analyze data in a variety of visual displays including frequency distributions, box and whisker plots, stem and leaf plots with and without technology.			
NL.04.SP.02	Interpret and analyze statistical information found in newspapers, magazines, and graphical displays.			
NL.04.SP.03	Compute the mean, median, mode, and range for a given set of data and identify the strengths and weaknesses of each.			
NL.04.SP.04	Justify which measure of central tendency best represents a given data set.			
NL.04.SP.05	Calculate the probability of events with and without replacement.			
NL.04.SP.06	Design and conduct a statistical study and communicate the results.			