

Comparison of the MLR and NECAP Expectations

Grade 3 Mathematics

Maine Learning Results	NECAP Grade Level Expectations	Differences/Comments
A. Number	Number and Operations	
1. Students <i>understand</i> and use number notation and place value to 10,000 in numerals.	<p>M(N&O)–3–1 Demonstrates conceptual understanding of rational numbers with respect to: whole numbers from 0 to 999 through equivalency, composition, decomposition, or place value using models, explanations, or other representations; and positive fractional numbers (benchmark fractions: $\frac{a}{2}$, $\frac{a}{3}$, $\frac{a}{4}$, $\frac{a}{6}$, or $\frac{a}{8}$, where a is a whole number greater than 0 and less than or equal to the denominator) as a part to whole relationship in area and set models where the number of parts in the whole is equal to the denominator; and decimals (within a context of money) as a part of 100 using models, explanations, or other representations.</p> <p>M(N&O)–3–2 Demonstrates understanding of the relative magnitude of numbers from 0 to 999 by ordering whole numbers; by comparing whole numbers to benchmark whole numbers (100, 250, 500, or 750); or by comparing whole numbers to each other; and comparing or identifying equivalent positive fractional numbers ($\frac{a}{2}$, $\frac{a}{3}$, $\frac{a}{4}$ where a is a whole number greater than 0 and less than or equal to the denominator) using models, number lines, or explanations.</p>	The highlighted portions of the NECAP GLEs relates to this MLR.
2. Students <i>understand</i> and use procedures to add and subtract whole numbers with up to four digits.	M(N&O)–3–4 Accurately solves problems involving addition and subtraction with and without regrouping; the concept of multiplication; and addition or subtraction of decimals (in the context of money).	The highlighted portion of the NECAP GLE relates to this MLR. NECAP also includes addition and subtraction of decimals in the context of money.
3. Students <i>understand</i> and apply meanings of multiplication and division.	M(N&O)–3–3 Demonstrates conceptual understanding of mathematical operations by describing or illustrating the inverse relationship between addition and subtraction of whole numbers; and the relationship between repeated addition and multiplication using models, number lines, or explanations.	The highlighted portion of the NECAP GLE relates to this MLR. NECAP does not include understanding of division at this grade.

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4. Students recognize, name, compare, illustrate, and use simple fractions.	<p>M(N&O)–3–1 Demonstrates conceptual understanding of rational numbers with respect to: whole numbers from 0 to 999 through equivalency, composition, decomposition, or place value using models, explanations, or other representations; and positive fractional numbers (benchmark fractions: $\frac{a}{2}$, $\frac{a}{3}$, $\frac{a}{4}$, $\frac{a}{6}$, or $\frac{a}{8}$, where a is a whole number greater than 0 and less than or equal to the denominator) as a part to whole relationship in area and set models where the number of parts in the whole is equal to the denominator; and decimals (within a context of money) as a part of 100 using models, explanations, or other representations.</p> <p>M(N&O)–3–2 Demonstrates understanding of the relative magnitude of numbers from 0 to 999 by ordering whole numbers; by comparing whole numbers to benchmark whole numbers (100, 250, 500, or 750); or by comparing whole numbers to each other; and comparing or identifying equivalent positive fractional numbers ($\frac{a}{2}$, $\frac{a}{3}$, $\frac{a}{4}$ where a is a whole number greater than 0 and less than or equal to the denominator) using models, number lines, or explanations.</p>	<p>The highlighted portion of the NECAP GLE relates to this MLR.</p> <p>MLRs include fractions not included in NECAP ($\frac{a}{5}$, $\frac{a}{7}$, $\frac{a}{9}$, $\frac{a}{10}$)</p> <p>NECAP also includes decimals (in the context of money).</p>
B. Data	Data, Probability, and Statistics/ Geometry and Measurement	
1. Students <i>understand</i> and use measurement of time and temperature.	<p>M(G&M)–3–7 Measures and uses units of measures appropriately and consistently, and makes conversions within systems when solving problems across the content strands.</p> <p>Benchmarks in Appendix B.</p>	<p>NECAP includes measures of length (inches, feet, centimeters, meters), time (hours and minutes), temperature ($^{\circ}\text{C}$ and $^{\circ}\text{F}$), capacity (quart), mass (kilogram and gram), and weight (pound).</p>

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2. Students read, construct, and <i>interpret</i> bar graphs.	<p>M(DSP)–3–1 Interprets a given representation (line plots, tally charts, tables, or <u>bar graphs</u>) to answer questions related to the data, to analyze the data to formulate conclusions, or to <u>make predictions</u>.</p> <p>M(DSP)–3–2 Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using <u>most frequent (mode)</u>, <u>least frequent</u>, <u>largest</u>, or <u>smallest</u>.</p> <p>M(DSP)–3–3 Identifies or describes representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M(DSP)–3–1.</p>	NECAP includes line plots, tally charts, tables, and bar graphs.
	M(DSP)–3–5 For a probability event in which the sample space may or may not contain equally likely outcomes, determines the likelihood of the occurrence of an event (using “more likely”, “less likely”, or “equally likely”).	This benchmark was not included in the Learning Results at grade 3.
C. Geometry	Geometry and Measurement	
1. Students identify, describe, and <i>classify</i> familiar two-dimensional shapes.	M(G&M)–3–1 <u>Uses properties or attributes of angles (number of angles) or sides (number of sides or length of sides) or composition or decomposition of shapes to identify, describe, or distinguish among triangles, squares, rectangles, rhombi, trapezoids, hexagons, or circles.</u>	
2. Students <i>understand</i> how to find the distance around a figure.	M(G&M)–3–6 Demonstrates conceptual understanding of perimeter of polygons, and the area of rectangles <u>on grids</u> using a variety of models or manipulatives. <u>Expresses all measures using appropriate units.</u>	NECAP includes area of rectangles in non-standard units (MLR C2 at grade 4).

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D. Algebra	Functions and Algebra	
1. Students use equivalent expressions to aid computation such as knowing that $43 + 56$ is the same as $40 + 3 + 50 + 6$.	M(F&A)–3–4 Demonstrates conceptual understanding of equality by <u>showing equivalence between two expressions using models or different representations of the expressions</u> ; or by finding the value that will make an open sentence true (e.g., (e.g., $□ + 5 = 12$)). (limited to one operation and limited to use addition, subtraction, or multiplication)	The highlighted portion of the GLE relates to this MLR.
2. Students find the unknown in simple equations (or open sentences) in the context of numbers and operations as described in <u>Standard 2.1: Number</u> * for this grade level such as: $3 + 5 = [] + 3$ $3 + 9 = [] + 10$ $[] + () = 10$.	M(F&A)–3–4 Demonstrates conceptual understanding of equality by showing equivalence between two expressions using models or different representations of the expressions; <u>or by finding the value that will make an open sentence true (e.g., (e.g., $□ + 5 = 12$)).</u> (limited to one operation and limited to use addition, subtraction, or multiplication)	The highlighted portion of the GLE relates to this MLR. NECAP also includes solving equations that involve multiplication.
3. Students <i>understand</i> arithmetic relationships among positive whole numbers.	M(N&O)–3–3 Demonstrates conceptual understanding of mathematical operations <u>by describing or illustrating the inverse relationship between addition and subtraction of whole numbers; and the relationship between repeated addition and multiplication using models, number lines, or explanations.</u>	NECAP does not include the commutative laws.
4. Students <i>create</i> , describe, explain and extend patterns with numbers and geometric objects.	M(F&A)–3–1 Identifies and extends to specific cases a variety of patterns (linear and non-numeric) represented in models, tables, or sequences by extending the pattern to the next one, <u>two</u> , or <u>three</u> elements, or finding missing elements.	