

## Mathematics

### Unit 2: Computation

<b>Essential Understandings</b>	<ul style="list-style-type: none"> <li>▪ Computation can be used to solve problems.</li> <li>▪ Operations create relationships between numbers.</li> </ul>
<b>Essential Questions</b>	<ul style="list-style-type: none"> <li>▪ Why does one need to add?</li> <li>▪ Why does one need to subtract?</li> <li>▪ How can knowing addition and subtraction facts help solve problems?</li> <li>▪ What is the relationship between addition and subtraction?</li> <li>▪ What number or symbol is needed to make number sentences true?</li> </ul>
<b>Essential Knowledge</b>	<ul style="list-style-type: none"> <li>▪ Knowing basic addition and subtraction facts allows one to work flexibly, efficiently, and accurately.</li> <li>▪ Estimation is used to determine the reasonableness of results.</li> <li>▪ Patterns exist in related fact families.</li> <li>▪ There is a relationship between addition and subtraction.</li> <li>▪ Order matters in subtraction but not addition.</li> </ul>
<b>Vocabulary</b>	<ul style="list-style-type: none"> <li>▪ <u>Terms:</u> <ul style="list-style-type: none"> <li>○ regrouping, automaticity, solution, operation</li> </ul> </li> </ul>
<b>Essential Skills</b>	<ul style="list-style-type: none"> <li>▪ Draw, record, and explain mathematical thinking through manipulatives and/or thinking. (R)</li> <li>▪ Read and write given number sentences using +, -, and = with numbers <math>\leq 199</math>. (I, R, A)</li> <li>▪ Identify, define, and use the terms: sum and difference. (A)</li> <li>▪ Write fact families using numbers <math>\leq 100</math>. (I, R, A)</li> <li>▪ Use estimation to determine the reasonableness of an answer. (A)</li> <li>▪ Solve number sentences using two digit numbers, including regrouping, in vertical and horizontal form with sums <math>\leq 199</math> and their related subtraction facts. (I, R, A)</li> <li>▪ Distinguish between important and unimportant information when solving one-step story problems. (A)</li> <li>▪ Determine which operation (addition or subtraction) is necessary to solve a one- step story problem and explain why. (A)</li> <li>▪ Solve one-step story problems for sums <math>\leq 100</math> and the related subtraction facts of two digit numbers. (I, R, A)</li> <li>▪ Write and solve number sentences for a story problem that involves sums <math>\leq 100</math> and the related subtraction facts. (I, R, A)</li> <li>▪ Create a story problem from a given equation using numerals <math>\leq 100</math>. (A)</li> <li>▪ Identify and write the missing addition or subtraction sign when given incomplete number sentences with sums are <math>\leq 199</math>. and the related subtraction fact. (I, R, A)</li> <li>▪ Identify sums and differences to 18 with automaticity. (I, R, A)</li> <li>▪ Compute sums of three one digit numbers. (I, R, A)</li> <li>▪ Use related facts (+ and -) to prove that a sum or difference is</li> </ul>

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<p><b>Related Maine Learning Results</b></p>	<p>A. Number Whole Number A1.Students understand and use number notation and place value to 1000 in numerals. c. Compare and order one-digit, two-digit, and three-digit numbers. A2.Students understand and use procedures to add and subtract whole numbers with one and two digits. a. Use and explain multiple strategies for computation. b. Use an operation appropriate to a given situation.</p> <p>D. Algebra Symbols and Expressions D1.Students understand how to represent quantities as simple Expressions using addition and subtraction. a. Show that any quantity can be represented by multiple equivalent expressions where each represents the quantity ten. c. Know that addition and subtraction are inverse operations and apply this understanding in computation and problem solving.</p> <p>Equations and Inequalities D2.Students understand that the equal sign means, “is the same as.” a. Identify true and false number sentences. b. Describe what makes number sentences true or false and apply this knowledge. Find solutions for unknowns in simple open number sentences such as <math>12 = 4 + [ ]</math>.</p>
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