

## NJDOE MODEL CURRICULUM PROJECT

CONTENT AREA: Mathematics	GRADE: 6	UNIT #2	UNIT NAME: Expressions
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#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
<b>1</b>	Use mathematical language to identify parts of an expression.	6.EE.2
<b>2</b>	Write and evaluate numerical expressions involving whole number exponents.	6.EE.1
<b>3</b>	Read, write, and evaluate expressions in which letters stand for numbers (Including formulas that arise from real-world contexts).	6.EE.2
<b>4</b>	Apply the properties of operations to generate equivalent expressions (Including the distributive property; for example, <i>express <math>36 + 8</math> as <math>4(9 + 2)</math> and <math>y + y + y = 3y</math>.</i>	6.EE.3, 6.NS.4
<b>5</b>	Identify when two expressions are equivalent; for example, <i>Are the two expressions equal? <math>81 + 18</math> and <math>9(9 + 2)</math>.</i>	6.EE.4
<b>6</b>	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two numbers less than or equal to 12.	6.NS.4

**Major Content** Supporting Content Additional Content (Identified by PARCC Model Content Frameworks).

**Bold type indicates grade level fluency requirements.** (Identified by PARCC Model Content Frameworks).

### Selected Opportunities for Connection to Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. **Construct viable arguments and critique the reasoning of others.**  
SLO 5 Listen to arguments of others about the equivalence of two expressions and decide if they make sense. Ask useful questions to clarify.
4. **Model with mathematics.**  
SLOs 1, 2, and 3 Use expressions that arise from real-world context
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. **Look for and express regularity in repeated reasoning.**

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SLO 4 Generate equivalent expressions using properties of operations.  
*All of the content presented at this grade level has connections to the standards for mathematical practices.*

***Bold type identifies possible starting points for connections to the SLOs in this unit.***

Code #	Common Core State Standards
<b>6.EE.1</b>	Write and evaluate numerical expressions involving whole number exponents.
<b>6.EE.2</b>	<p>Read, write, and evaluate expressions in which letters stand for numbers.</p> <p>a. Write expressions that record operations with numbers and with letters standing for numbers. <i>For example, express the calculation “Subtract y from 5” as <math>5 - y</math>.</i></p> <p>b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe the expression <math>2(8 + 7)</math> as a product of two factors; view <math>(8 + 7)</math> as both a single entity and a sum of two terms.</i></p> <p>c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). <i>For example, use the formulas <math>V = s^3</math> and <math>A = 6s^2</math> to find the volume and surface area of a cube with sides of length <math>s = 1/2</math>.</i></p>
<b>6.EE.3</b>	Apply the properties of operations to generate equivalent expressions. <i>For example, apply the distributive property to the expression <math>3(2 + x)</math> to produce the equivalent expression <math>6 + 3x</math>; apply the distributive property to the expression <math>24x + 18y</math> to produce the equivalent expression <math>6(4x + 3y)</math>; apply properties of operations to <math>y + y + y</math> to produce the equivalent expression <math>3y</math>.</i>
<b>6.EE.4</b>	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). <i>For example, the expressions <math>y + y + y</math> and <math>3y</math> are equivalent because they name the same number regardless of which number <math>y</math> stands for.</i>
<b>6.NS.4</b>	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. <i>For example, express <math>36 + 8</math> as <math>4(9 + 2)</math>.</i>

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**CONTENT AREA: Mathematics**

**GRADE: 6**

**UNIT #2**

**UNIT NAME: Expressions**

**Major Content** **Supporting Content** **Additional Content** (Identified by PARCC Model Content Frameworks).

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