



Marietta City Schools

District Unit Planner

Everything on the unit planner must be included on the unit curriculum approval statement.

Accelerated Grade 6/7 Mathematics

Unit title	Unit 4: Expressions (GaDOE Grade 6 Unit 3)	MYP year	1	Unit duration (hrs)	20 Hours
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Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): *What will students learn?*

GSE Standards

Standards

MGSE6.EE.1 Write and evaluate numerical expressions involving whole-number exponents.

MGSE6.EE.2 Write, read, and evaluate expressions in which letters stand for numbers.

MGSE6.EE.2a Write expressions that record operations with numbers and with letters standing for numbers.

MGSE6.EE.2b 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.

MGSE6.EE.2c Evaluate expressions at specific values for their variables. Include expressions that arise from formulas 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).

MGSE6.EE.3 Apply the properties of operations to generate equivalent expressions.

MGSE6.EE.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).

MGSE6.NS.4 Find the common multiples of two whole numbers less than or equal to 12 and the common factors of two whole numbers less than or equal to 100.

a. Find the greatest common factor of 2 whole numbers and 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 factors. (GCF) Example: $36 + 8 = 4(9 + 2)$

b. Apply the least common multiple of two whole numbers less than or equal to 12 to solve real-world problems.

Use properties of operations to generate equivalent expressions.

MGSE7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

MGSE7.EE.2 Understand that rewriting an expression in different forms in a problem context can clarify the problem and how the quantities in it are related. For example $a + 0.05a = 1.05a$ means that adding a 5% tax to a total is the same as multiplying the total by 1.05.

Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

MGSE7.EE.3 Solve multistep real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals) by applying properties of operations as strategies to calculate with numbers, converting between forms as appropriate, and assessing the reasonableness of answers using mental computation and estimation strategies.

For example:

- If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or \$2.50, for a new salary of \$27.50.
- If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

Concepts/Skills to be Mastered by Students

- Represent repeated multiplication with exponents.
- Evaluate expressions containing exponents to solve mathematical and real world problems.
- Translate verbal phrases and situations into algebraic expressions.
- Identify the parts of a given expression.
- Use the properties to identify equivalent expressions.
- Use the properties and mathematical models to generate equivalent expressions.

Key concept	Related concept(s)	Global context
Logic	Pattern Model Measurement	Orientation in Time and Space

Statement of inquiry

Expressions, equations, and inequalities, communicate real world scenarios through symbols, numbers, and algebraic thinking.

Inquiry questions

Factual— How is the order of operations used to evaluate expressions? What is the purpose of an exponent? How can I tell if two expressions are equivalent? How are exponents used when evaluating expressions? How are the properties used to evaluate expressions?

Conceptual— How are word expressions that are translated into algebraic expressions communicating the same information? What strategies help me to understand and represent real life situations mathematically?

Debatable— Why do solutions to real world algebraic problems not always what they seem?

MYP Objectives	Assessment Tasks	
<i>What specific MYP objectives will be addressed during this unit?</i>	Relationship between summative assessment task(s) and statement of inquiry:	<i>List of common formative and summative assessments.</i>
Criterion B: Understanding Patterns Criterion A: Knowing and Understanding	Summative and formative assessments and tasks are focused on presenting real world scenarios. Students use situations to write and evaluate expressions and present conclusions based on mathematics.	Formative Assessment(s): Unit 3 Mid-unit Checkpoint Summative Assessment(s): Unit 3 Summative Expressions MYP- Expressions Summative Assessment: “MYP Gardening Task” aka “A Fence for Two Farmers”

Approaches to learning (ATL)

Give and receive meaningful feedback
 Use models and simulations to explore complex systems and issues
Category: Social
Cluster: Collaboration Skills
Skill Indicator: Give and receive meaningful feedback.

Learning Experiences
 Add additional rows below as needed.

Objective or Content	Learning Experiences	Personalized Learning and Differentiation
MGSE6.EE.4 Identify when two expressions are equivalent (i.e., when the two expressions	Combining Like Terms Using Algebra Tiles In this task students will be able to use multiple representations to model and combine like terms in an expression. Students will be expected to make sense of problems through the	Students will be intentionally grouped and provided with supports through intentional planning and implementation using the 5

<p>name the same number regardless of which value is substituted into them.) For example, the expressions $y + y + y$ and $3y$ are equivalent because they name the same number regardless of which number y stands for.</p> <p>MGSE7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients</p>	<p>use of manipulatives and make connections between the concrete representation and the more abstract, mathematical expressions. Teachers can use this opportunity to formatively assess student’s understanding of 6th Grade standard EE.4.</p>	<p>Practices and monitoring tool that promotes math discourse within their groups.</p>
<p>MGSE6.EE.2 Write, read, and evaluate expressions in which letters stand for numbers.</p> <p>MGSE6.EE.2a Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation “Subtract y from 5” as $5-y$.</p> <p>MGSE6.EE.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another.</p>	<p>Build a Dog In this task students will be able to create a pattern and use it to read, write, and create an algebraic expression in a fun and unique way. Students will use the appropriate tools to model mathematically and interpret the model as an expression. Students must reason abstractly and quantitatively when developing expressions and solving problems. Teachers can use this opportunity to formatively assess student’s understanding of 6th Grade standard EE.2.</p>	<p>Students will be supported through intentional planning and implementation using the 5 Practices. Teachers will support through assessing and advancing questions and aggressive monitoring of students through the task. Students will have access to T charts and algebra tiles to support their learning.</p>
Content Resources		