UNIT 3 – EXPRESSIONS

Established Goals:
Standards

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

6.EE.2 Read, write, and evaluate expressions in which letters stand for numbers.

a. 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.

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. For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.

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). For example, use the formulas V = s3 and A = 6 s2 to find the volume and surface area of a cube with sides of length s = 1/2.

6.EE.3 Apply the properties of operations to generate equivalent

Transfer

Students will be able to:

- Write and evaluate numerical expressions involving whole-number exponents.
- Write, read, and evaluate expressions in which letters stand for numbers.
- Write expressions that record operations with numbers and with letters standing for numbers. For example, expres y.
- Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view single entity. For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a sir
- Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in rea operations, including those involving whole-number exponents, in the conventional order when there are no paren of Operations). For example, use the formulas V = s3 and A = 6 s2 to find the volume and surface area of a cube
- Apply the properties of operations to generate equivalent expressions. For example, apply the distributive propert equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalen operations to y + y + y to produce the equivalent expression 3y.
- Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless o example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of whicl solve one-variable equations and inequalities..

Meaning

ENDURING UNDERSTANDING	ESSENTIAL QUESTIONS
• Patterns, models, and functions can be expressed mathematically. • Create a visual table (ie. Input/output) to evaluate the expression. • Use variables and open number sentences to represent problem situations. • Different properties are used to simplify an expression. • Evaluate exponents by multiplying the base times itself according to the nth power.	• How can a pattern, a model, or a function be used to solve everyday problems? • How do you determine a rule, write an expression, and identify the values? • How can variables help represent an unknown value? • What are the properties of operations and how are they used? • How do you evaluate exponents?

expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y. **6.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). For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for. **6.NS.4** 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. For example, express 36 + 8 as 4 (9 + 2).	**Acquisition**	
	KNOWLEDGE	SKILLS
	Students will know how to…	*Students will be skilled at…*
	• Read, write, and apply mathematical properties to algebraic expressions. • Apply order of operations to make and identify equivalent expressions (ie. Combine like terms).	• The use of variables in mathematical expressions. • Writing expressions and equations that correspond to given situations, • Evaluating expressions • Use expressions and formulas to solve problems. • Understand that expressions in different forms can be equivalent. • Use the properties of operations to rewrite expressions in equivalent forms.

Vocabulary	Instruction and Pacing	
Associative Property, Commutative Property, Distributive Property, Standard Form, Expanded Form, Exponent Form, Variable, Algebraic Expression, Expression, Like terms, Equivalent Expression	**Properties**	**7 days**
	Exponents	**2 days**
	Order of Operations	**7 days**
	Expressions	**9 days**
	Combine Like terms	**5 days**

Resources
• *Envisions* Topic 1: lesson 3; Topic 2: lessons 1, 2, 3, 6, 7; Topic 3: lesson 8, 9 • Manipulatives   ○ number line • www.pearsonsuccessnet.com • Games / Centers • Study Island • Guided / Independent Practice • Other Websites: Math-Aids.com, mathworksheetsland.com, www.k5learning.com, worksheetworks.com, commoncoresheets.com

Differentiation and Accommodations
Provide graphic organizers Provide additional examples and opportunities for additional problems for repetition Provide tutoring opportunities Provide retesting opportunities after remediation (up to teacher and district discretion) Teach for mastery not test Teaching concepts in different modalities Adjust pace and homework assignments

ELL Modifications

•

21st Century Skills	Critical Thinking, Creative Thinking, Collaborating, Communicating, and Technology Literacy
Instructional Strategies	Fairfield School recognizes the importance of the varying methodologies that may be successfully employed by teachers within the classroom and, as a result, identifies a wide variety of possible instructional strategies that may be used effectively to support student achievement. These may include, but not be limited to, strategies that fall into categories identified by the Framework for Teaching by Charlotte Danielson: • Communicating with students • Using questioning and discussion techniques • Engaging students in learning • Using assessment in instruction • Demonstrating Flexibility and Responsiveness
Interdisciplinary Connections	

Common Misconceptions	Proper Conceptions
With exponents, multiplying the base by the power.	With exponents, create a problem with multiplying the base by itself the number of the power.

Performance Task

Joey gets a base pay of $100 per week plus $20 for every hour he works.

a.) Write an algebraic expression to model how much money Joey makes in a week.
b.) If Joey works 40 hours in a week, how much will he get paid? Show your work.
c.) How many hours did he work if his paycheck was $700?

Rubric

1 point for each correct answer

ASSESSMENTS

Suggested Formative Assessment

Problem of the Day

Lesson Quizzes

Exit Ticket

Anecdotal Records (Topic Observation Checklist)

Suggested Summative Assessment

Grade level developed Unit/Envisions Topic Tests

Ed-Connect Express Tests /State Unit Benchmark Assessment/Performance Task