



Bridging for Math Strength Resources

Standards of Learning Curriculum Framework (SOL)

Bridging Standards of Learning (SOL) for Grade 7

Standard of Learning (SOL) 7.11 Evaluate algebraic expressions for given replacement values of the variables.



Student Strengths	Bridging Concepts	Standard of Learning
Students can evaluate numerical expressions with integers using order of operations with up to 3 steps.	Students can evaluate numerical expressions with exponents up to 4, and grouping symbols such as absolute value and radicals.	Students can evaluate algebraic expressions for given replacement values of the variables.

Understanding the Learning Trajectory
Big Ideas: - In mathematics, it is understood that a variable can be replaced by a value. - Letters are used in mathematics to represent generalized properties, unknowns in equations, and relationships between quantities (Charles, 2005). - In mathematics, following the order of operations is the correct way to simplify/evaluate an expression and there are specific notations to follow. - In mathematics, performing any operation involving rational numbers is necessary to simplify expressions.
Formative Assessment: Just in Time Mathematics Quick Check 7.11 Word Just in Time Mathematics Quick Check 7.11 Desmos Just In Time Quick Check 7.11 PDF
Important Assessment Look Fors: - The student replaces the given values for the correct variable. - The student follows the correct steps of order of operations. - The student correctly evaluates each step of the expression.

Purposeful Questions:

- What does it mean when you see two variables right beside one another?
- What is the first step in evaluating this given expression? How do you know?
- What is the coefficient in this expression and what operation does a coefficient represent?
- What does the grouping symbol indicate?
- Explain how you arrived at your final expression.

Bridging Activity to Support the Standard	Instructional Tips
Routine Order of Operations (Same But Different)	Same But Different Math : Site that inspired the routine
Rich Tasks Expressions for Gardening Error Analysis	Task Template with directions Task includes 3 as an exponent and taking a square root.
Games/Tech Order of Operations Game Order of Operations Evaluating Expressions--QUIA Desmos 7.11 Tables and Evaluating Expressions	This game includes numerical Expressions with parentheses and only whole numbers (6th grade) BLOOKET Site: Students love the competitive option of this site. Enrichment Game: These variable expressions include the use of exponents (7th grade) This activity allows students to evaluate algebraic expressions and discover patterns in an input/output table

Other Resources:

- VDOE Mathematics Instructional Plans (MIPS)
 - o [7.11 - Evaluating Algebraic Expressions](#) (Word) / [PDF Version](#)
- VDOE Co-Teaching Mathematics Instruction Plans (MIPS)
 - o [7.11 - Evaluating Expressions](#) (Word) / [PDF Version](#)
- VDOE Algebra Readiness Formative Assessments
 - o [SOL 7.11](#) (Word) / [PDF](#)
- VDOE Algebra Readiness Remediation Plans
 - o [Evaluating Algebraic Expressions](#) (Word) / [PDF](#)
 - o [Evaluating Expressions](#) (Word) / [PDF](#)
- VDOE Word Wall Cards: Grade 7 ([Word](#)) | ([PDF](#))
 - o Order of Operations

Learning Trajectory Resources:

Charles, R. (2005). [Big ideas and understandings as the foundation for elementary and middle school mathematics](#). *Journal of Mathematics Education Leadership*, 7(3), NCSM.

Common Core Standards Writing Team. (2019). [Progressions for the Common Core State Standards for Mathematics](#). Tucson, AZ: Institute for Mathematics and Education, University of Arizona.

Van De Walle, J., Karp, K. S., & Bay-Williams, J. M. (2018). *Elementary and Middle School Mathematics: Teaching Developmentally*. (10th edition) New York: Pearson (2019:9780134802084)

VDOE Curriculum Framework for All Grades - [Standard of Learning Curriculum Framework \(SOL\)](#)