Mathematics
Topics in Algebra and Geometry
Unit 1: Connections to Algebra

Essential Understandings	▪ Connecting pre-algebra to algebra is a very important step in learning Algebra. ▪ Models of real-life problems make them easier to solve.
Essential Questions	▪ How do you evaluate expressions and powers? ▪ What is the order of operations? ▪ How do you check solutions of equations? ▪ How do you translate words into mathematical symbols? ▪ How do you model and solve real-life equations? ▪ Which vocabulary terms will help me be successful in the future?
Essential Knowledge	▪ Expressions and powers can be evaluated. ▪ Solving math equations requires using the order of operations. ▪ Equations have solutions. ▪ Words can be written as mathematical symbols.
Vocabulary	▪ Terms: o arithmetic operations (sum, difference, product, & quotient), grouping symbols, order of operations, variable, expression, evaluate, equation, solve, solutions, power, base, exponent, factors, terms, substitute, simplify
Essential Skills	▪ Evaluate expressions and powers using substitution. ▪ Correctly follow the order of operations. ▪ Check solutions of equations. ▪ Translate words into mathematical symbols. ▪ Model and solving real-life problems.
Related Maine Learning Results	Mathematics D. Algebra Symbols and Expressions D1. Students understand and use polynomials and expressions with rational exponents. a. Simplify expressions including those with rational numbers. b. Add, subtract, and multiply polynomials. c. Factor the common term out of polynomial expressions. a. Divide polynomials by (ax+b)
Sample Lessons And Activities	▪ Students will be given real-life word problems that incorporate a multi-method of solving the problem emphasizing the order of operations and mathematical translations.
Sample Classroom Assessment Methods	▪ Students will present a chosen problem to the class detailing the method of solving the problem emphasizing the order of operations and mathematical translations.
Sample Resources	▪ Publications: o Algebra 1 Textbook (McDougall Littell)

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