



Unit 1: Variables and Expressions

Algebra 1 — Merit Education Group™ Standards: 9.3.5.5, 9.3.5.7, 9.3.5.8 **Pacing:** 17 lessons + 3 assessment/flex days = 20 days

1 ESSENTIAL QUESTIONS

1. How can we use symbols to represent unknown quantities and real-world situations?
2. How does the order in which we perform operations change the meaning of an expression?
3. How can we determine the value of an expression when we know the values of its variables?
4. How can we rewrite expressions to reveal different properties or make them easier to work with?
5. How do algebraic expressions help us make financial decisions in the real world?

2 STANDARDS ALIGNMENT

Standard	Description	Lessons	MP Tags
9.3.5.5	Estimate and verify the cost of an item, including multiple discounts and taxes. Show understanding of order of operations.	L3, L4, L7, L16	MP6
9.3.5.7	Use the structure of an expression, equation, and/or formula to create an equivalent form.	L1–L16	MP2, MP7
9.3.5.8	Use the structure of an expression to write it in multiple ways.	L1, L2, L5–L16	MP7

3 LESSON SEQUENCE

Lesson	Title	Focus	Standards	Bell Ringer Day
1	What Is a Variable?	Translate verbal phrases → algebraic expressions; define variables & constants	9.3.5.7, 9.3.5.8	Day 1 — Independent
2	Translating Verbal Phrases	Translate multi-step verbal phrases into algebraic expressions	9.3.5.7, 9.3.5.8	Day 2 — Collaborative
3	GEMDAS Basics	Apply GEMDAS (order of operations) to evaluate expressions	9.3.5.5, 9.3.5.7	Day 3 — Independent
4	GEMDAS — Advanced	Evaluate expressions with grouping symbols and exponents	9.3.5.5, 9.3.5.7	Day 4 — Collaborative
5	Evaluating — One Variable	Substitute a value for a variable and evaluate	9.3.5.7, 9.3.5.8	Day 5 — Independent
6	Evaluating — Multiple Variables	Substitute multiple values and evaluate multi-variable expressions	9.3.5.7, 9.3.5.8	Day 6 — Collaborative
7	Real-World Formulas	Use formulas from geometry and the real world	9.3.5.5, 9.3.5.7, 9.3.5.8	Day 8 — Independent
8	Identifying Terms, Coefficients & Constants	Identify terms, coefficients, and constants in expressions	9.3.5.7	Day 9 — Collaborative
9	Combining Like Terms	Combine like terms to simplify expressions	9.3.5.7	Day 10 — Independent
10	The Distributive Property	Apply the distributive property to rewrite expressions	9.3.5.7, 9.3.5.8	Day 11 — Collaborative
11	Dist. Property + Combining Like Terms	Combine the distributive property with like terms	9.3.5.7, 9.3.5.8	Day 12 — Independent
12	Equivalent Expressions	Recognize and write equivalent expressions	9.3.5.7, 9.3.5.8	Day 13 — Collaborative
13	Writing Equivalent Expressions (GCF)	Use the greatest common factor (GCF) to write equivalent expressions	9.3.5.7	Day 14 — Independent

Lesson	Title	Focus	Standards	Bell Ringer Day
14	Perimeter, Area & Algebraic Expressions	Model perimeter and area with algebraic expressions	9.3.5.7, 9.3.5.8	Day 15 — Collaborative
15	Translating Real-World Scenarios	Translate real-world scenarios into algebraic expressions	9.3.5.7, 9.3.5.8	Day 16 — Independent
16	Financial Literacy: Budgeting	Apply expressions to financial literacy: budgets, discounts, tax	9.3.5.5, 9.3.5.7, 9.3.5.8	Day 18 — Collaborative
17	End-of-Unit Test	End-of-Unit Test — all Unit 1 standards	9.3.5.5, 9.3.5.7, 9.3.5.8	— (Assessment)

4 ASSESSMENT SCHEDULE

Assessment	Covers	Format	When
Quiz 1	Lessons 1–5	Partial period (15 min)	Day 7
Mid-Unit Summative	Lessons 1–8	Full class period	Day 10 (flex)
Quiz 2	Lessons 6–15	Partial period (15 min)	Day 17
End-of-Unit Test	Lessons 1–17	Full period (50 min)	Day 20

5 CULTURAL & CAREER CONNECTIONS

Each lesson pairs a Minnesota cultural community with an algebra context per **MN 120B.021** (Ojibwe, Dakota, Somali, Hmong, Latino, and other MN communities), plus a career spotlight with a verified Minnesota wage from MN DEED OES data.

Lesson	Theme	Culture Connection
1	Minnesota State Fair	Ojibwe (Tribal Nations)
2	Lake Superior & Duluth	Somali (Somalia)
3	Juicy Lucy Diner	Hmong (Laos/Thailand)
4	Boundary Waters Canoe Area	Dakota (Tribal Nations)
5	Minnehaha Falls	Ethiopian (Ethiopia)
6	Ice Fishing on Minnesota Lakes	Ojibwe (Tribal Nations)
7	Mill City Museum & Stone Arch Bridge	Karen (Myanmar)

Lesson	Theme	Culture Connection
8	Tater Tot Hotdish	Mexican (Mexico)
9	Itasca State Park	Dakota [?] (Tribal Nations)
10	Paul Bunyan & Babe the Blue Ox	Liberian (Liberia)
11	State Capitol	Iraqi (Iraq)
12	North Shore	Ojibwe [?] (Tribal Nations)
13	Mall of America	Puerto Rican (Puerto Rico)
14	Valleyfair	Sami (Sápmi / Northern Europe)
15	Mississippi River	Dakota [?] (Tribal Nations)
16	Sports Stadium	German (Germany)
17	Minnesota Music Scene	NONE

6

RESOURCES IN THIS UNIT

Resource	Location
Slide Decks (20)	03 Slide Decks
Lesson Plans (17)	04 Lesson Plans
Teacher Editions (17)	05 Teacher Editions
Student Worksheets (EN/ES)	06 Student Worksheets
Assessments (4)	07 Assessments
Guided Notes (16)	07 Guided Notes
Bell Ringers (34)	08 Bell Ringers
Family Letters (4 languages)	11 Family Letters