



Lesson 02: Writing Expressions

Course: Algebra 1 **Unit:** 1 — Expressions **Lesson:** 2 of 17 **Duration:** 50 Minutes

1 SCOPE & SEQUENCE ALIGNMENT

Field	Detail
Standards	MN Math 9.3.5.7, 9.3.5.8
Objectives	• Translate verbal phrases into algebraic expressions. \ • Translate algebraic expressions into verbal phrases.
Key Vocabulary	phrase, sum, difference, product, quotient, twice, half
Skills	Phrase-to-expression translation; keyword matching; reverse translation

2 MATERIALS CHECKLIST

[] Student whiteboards, markers, erasers [] Projector/Display for Direct Instruction & Career Spotlight [] Independent Worksheet: U1Lo2 Tiered Worksheet (T1/T2/T3 copies) [] Game Materials: Prime Time Expression Race cards/tokens (Zero-device) [] Timer [] SPED/ELL Supports: Visual Keyword Chart, Sentence Frames, Bilingual Vocab Cards

3 ACCESSIBILITY & DIFFERENTIATION

Population	Support Strategy
SPED	• Provide visual keyword anchor chart with color-coded operations. \ • Use sentence frames for verbal-to-expression translation (e.g., “The expression is #underline()[]#underline())

1. **Name the system:** “Prime Time is the name of our whole classroom system — how we learn, work, and earn together. It is the foundation of our class, and it runs every single day.”

2. **Three expectations (the heart of Prime Time):**

Be Ready — materials out, bell ringer started on entry. **Be Respectful** — one voice, constructive language, all voices heard. * **Be Responsible** — track your learning, show your work, mistakes are tools.

3. **How students earn minutes:**

Individually: **Algebra Ace** (correct bell ringer + materials ready → game choice or bonus points); **Help Desk** (peer assist → recognition + shoutout). Class-wide: **5 Digital Cleanup Bonuses** → 5-min math choice; **10 Readiness Rewards** → Prime Time extension round; **2 weeks no referrals** → 15-min Flex Friday. Prime Time bonuses: * Velocity +2 pts, Streak $\times 1.5/\times 2/\times 3$, zero-device +1 pt.

4. **Zero-device framing:** “Our Prime Time games are played with whiteboards and cards — no phones, no devices. Points live on the teacher’s tally, not on a screen.”

5. **Close:** “Your first Prime Time game — Expression Race — is at the end of today’s lesson. Let’s earn those minutes.”

Direct Instruction: Vocabulary & Translation Rules ⌚6min

Teacher Script/Actions:

1. Define **Algebraic Phrase**: A mathematical phrase containing numbers, variables, and operations but no equals sign.

2. Introduce Keyword Mapping:

Sum / Increased by / More than → + **Difference / Decreased by / Less than / Subtracted from** → – **Product / Twice / Half of / Times** → $\times$ or juxtaposition **Quotient / Divided by / Ratio** → $\div$ or fraction bar

3. **Critical Nuance:** Highlight “Less than” and “Subtracted from.”

Example: * “Five less than x ” is $x - 5$, not $5 - x$. The phrase flips the order.

Culture & Career Spotlight ⌚6min

Culture Slide (Slot C, position 9): Somali-Minnesotan community at Riverside Market in Minneapolis: shuka fabric priced per yard and tea glasses priced per ceremony, with prices as variables. **Math Connection:**

Expression: shuka cost = yards $\times$ price + tea glasses $\times$ price

Career Spotlight: Maurices — Duluth | Merchandise Planner

 **Education:** BS (Business/Supply Chain)

 **Salary:** \$ 74,120/year

Connection to Algebra:

 Merchandise Planners at Maurices use algebraic expressions daily to manage inventory and profitability. They calculate total costs, apply discount structures, and forecast demand.

Real-World Translation:

 A planner might read a report: “Total cost is the sum of the wholesale price per item and shipping.”

 If w = wholesale price and s = shipping, the expression is $w + s$.

 Or: “Profit margin is twice the base rate minus return fees.”

 Expression: $2b - r$.

Phase 2: Practice & Apply (23 min)

Guided Practice 8min

Scaffolded examples with teacher modeling. Students use whiteboards. **Example 1: Additive/Subtractive**

Keywords Phrase: “The sum of a number and twelve.”  **GEMDAS Reminder:** No order conflict; direct translation. **Solution:** Let n = the number. Expression: $n + 12$. **Example 2: Multiplicative & Order Matters**

Phrase: “Twice a number decreased by four.”  **GEMDAS Reminder:** Multiplication precedes subtraction. “Twice” applies to the number first. **Solution:** Let x = the number. Expression: $2x - 4$. **Check:** Is it $(2x) - 4$ or $2(x - 4)$? “Decreased by four” follows the doubling. Result: $2x - 4$. **Example 3: Reverse Translation**

(Expression to Phrase) Expression: $\frac{y}{5} + 8$  **GEMDAS Reminder:** Identify operations present: division and addition. **Solution:** “The quotient of a number and five, increased by eight.” OR “Eight more than the quotient of y and 5.”

Independent Worksheet 9min

Distribute tiered worksheet. Students work individually.

Tier	Description	Sample Item
T1	Direct keyword matching; single operation phrases.	Write expression: “The product of 7 and m .” $\rightarrow 7m$
T2	Multi-step phrases; reverse translation; order traps.	Translate: “Five subtracted from three times a number.” $\rightarrow 3n - 5$
T3	Contextual application (Career link); complex structure.	Maurices Scenario: A planner calculates cost as half the retail price plus tax (t). Write expression in terms of retail price r . $\rightarrow \frac{1}{2}r + t$

Circulate & Support 6min

Teacher Action: • Monitor T3 students for variable definition clarity. • Check T1/T2 for “less than/subtracted from” errors using redirect questions. • Verify SPED/ELL students are utilizing anchor charts and sentence frames.

Phase 3: Assess & Reflect (8 min)

Game: Prime Time — Expression Race 5min

Zero-Device Activity. *Setup:* Pairs receive a deck of “Phrase Cards” and “Expression Cards.” *Action:* Students race to match verbal phrases to correct algebraic expressions. First pair to clear the deck wins. *Debrief:* Teacher reveals matches; class discusses one tricky pairing (e.g., difference vs. less than).

Exit Ticket 2min

1. Write an expression for: “Half of a number increased by six.”

Answer: $\frac{1}{2}n + 6$ or $0.5n + 6$.

2. Translate into words: $4m - 9$.

Acceptable: “Four times a number decreased by nine” OR “Nine less than four times m .”

Today & Tomorrow 1min

Today: We translated phrases to expressions and identified keywords like sum, product, and quotient.

Tomorrow: Lesson 3 — GEMDAS Basics: We will evaluate these expressions using order of operations. Bring your whiteboards!

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