MERIT EDUCATION GROUP
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ALGEBRA 1 · UNIT 1: EXPRESSIONS · LESSON 15 · SUBSTITUTE PLAN

Substitute Plan — Lesson 15: Translating Real-World Scenarios (TranslatingRealWorld)

Course: *Algebra 1* · ***Unit 1:*** *Expressions* · ***Deck:*** *U1L15_TranslatingRealWorld.pptx (20 slides)*

✅ You do not need to know algebra to teach this lesson. Read what is written. Follow the slides. Check answers against the key. The learning expectations for today are the same as any other day — this plan gives you the tools to keep the lesson moving. The art of teaching stays with your teacher; the tools are right here.

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1 QUICK START — BEFORE THE BELL (2 MINUTES)

1. ☐ Open the slide deck: **U1L15_TranslatingRealWorld.pptx**
2. ☐ Write the Bell Ringer on the board (see Slide 1 / Answer Key below)
3. ☐ Test the projector
4. ☐ Write your name on the board
5. ☐ Find the answer key — it is printed inside this plan

2 MATERIALS FOR THIS LESSON

1. ☐ Projector & slide deck (Navy 1C2950 headings, Arial body)
2. ☐ Student whiteboards & markers (class set)
3. ☐ Tiered Worksheet: U1L15IWTranslatingRealWorld.pdf (T1/T2/T3 versions)
4. ☐ Exit Ticket slips (pre-printed or projected)

5. ☐ Dakota agriculture visual aid / Three Sisters diagram
6. ☐ Career spotlight handout: Duluth Public Works Inspector profile
7. ☐ Timer/clicker for phase transitions — Styling Note: Headings formatted in Navy 1C2950 (bold). Body text set to Arial, 11pt, 444444. Applied per MCP production standards. MERIT EDUCATION GROUP™ | Algebra 1 • Unit 1: Expressions • Lesson 15

If anything is missing, check the teacher's desk or ask the front office.

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3 ⏱️ PACING AT A GLANCE

Slide	By minute	Phase
1	0–4	Bell Ringer
6	15–16	End of Direct Instruction / Culture & Career
17	42	End of Practice (worksheet + game)
20	50	Exit Ticket & Wrap-Up

Pacing tip: Phase: Activate • Time: 16 min • Teacher Actions: • Administer Bell Ringer.• Facilitate Cultural Connection discussion using CUBE strategy.• Introduce Career Spotlight. • Student Evidence: • WB responses match key.• Students articulate variable relationships in Dakota context. Phase: Explore • Time: 20 min • Teacher Actions: • Distribute Tiered Worksheets.• Circulate with "Misconce

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4 SUBSTITUTE SCRIPT (SLIDE BY SLIDE)

Slide 1 — Bell Ringer of 20

On screen: BELL RINGER: WHITEBOARDS READY! REVIEW: Simplify 2(x + 5) - 3 INTRO: How do we translate real-world situations into math? CHALLENGE PREVIEW: A taxi charges 3.50 plus2.00 per mile m. Write an expression for total cost.

Say: "Whiteboards ready — three problems, four minutes. Work silently, show your steps, and hold your board up when the timer hits zero."

Do: Walk the room as they work; cue "3… 2… 1 — boards up" and glance for accuracy.

Answer key: Prompt: A local farm stand sells baskets of wild rice. Each basket contains a fixed number of pounds, p. The stand charges a flat delivery fee of 12regardless of quantity, plus4 per basket ordered. Write an expression for the total cost

C if a customer orders b baskets. Answer Key: $C = 4b + 12Precision Check: - Variable Definition:brepresents the number of baskets (must be a non-negative integer). - Coefficient:4is the unit rate per basket. - Constant Term:12is the fixed delivery fee. - Common Error:C = 4(b + 12)$. Redirect: “Does the delivery fee apply to each basket, or just once? If you order 0 baskets, what is the cost?” —

Slide 2 — Title of 20

On screen: Algebra 1 Unit 1: Lesson 15 - Translating Real-World Scenarios STANDARDS: 9.3.5.5 - Estimate and solve problems involving discounts, taxes, and total cost using order of operations. 9.3.5.7 - Create and identify equivalent algebraic expressions. 9.3.5.8 - Writ

Say: “Welcome. Today’s lesson is Lesson 15: Translating Real-World Scenarios (TranslatingRealWorld). Everything you need is on these slides — follow along and write when I ask.”

Do: Read the lesson title aloud. Pause for students to find a pencil.

Slide 3 — Ican of 20

On screen: I CAN 5 MOA I can translate real-world situations into algebraic expressions. I can identify variables and key numbers in word problems. I can solve expressions using order of operations. MERIT EDUCATION GROUP trademark | Algebra 1 | Unit 1 | Lesson 15

Say: “Here’s what we’ll be able to do by the end of the lesson. Read them silently; we’ll come back to these at the end.”

Do: Give 15 seconds, then continue.

Slide 4 — Success of 20

On screen: SUCCESS CRITERIA 1 2 3 I can measure my progress by correctly writing algebraic expressions. I can explain my reasoning when solving problems. I can check my solutions for accuracy.

Say: “These are the success criteria — how we’ll know we’ve got it. You’ll check yourself against these at the end.”

Do: Read the bullets aloud. Continue.

Slide 5 — Vocab of 20

On screen: VOCABULARY COLOR KEY NUMBERS Specific values. VARIABLES Represent numbers that can change. COEFFICIENTS Numbers that multiply variables. OPERATIONS Math actions: + - GROUPING Shows which parts to do first. Algebraic Expression: A math phrase with numbers, vari

Say: “Quick vocabulary check. These are the words for today — I’ll read them, you repeat. [Read each term aloud.] We’ll use them all lesson.”

Do: Point to each term as you read it.

Slide 6 — Career of 20

On screen: CAREER SPOTLIGHT CAMBRIA Jorge Rivera Example persona — not an actual employee CAMBRIA Stone Fabrication Specialist - Cambria LE SUEUR, MINNESOTA Le Sueur, MN CREDENTIAL REQUIRED: High School Diploma ENTRY-LEVEL SALARY:40,381/year (25th percentile, MN DEED OES

Say: “A real career uses this math every day. [Read the career spotlight aloud.] The math we’re learning today is the math people use at work.”

Do: Read confidently; the salary and role are on the slide.

Slide 7 — Career Problem of 20

On screen: WORD PROBLEM - Cambria CAMBRIA LE SUEUR, MN 222 CAMBRIA SOLVE LIKE A PRO! READING STRATEGY Jorge Rivera fabricates stone at Cambria in Le Sueur. Each slab requires steps, and he completess slabs per day for 5 days plus 2 rush orders. • Write an expression for

Say: “Here’s the career problem. Read it to yourself — we’ll solve it together later in the lesson.”

Do: Give 30 seconds. Do NOT solve it now — it comes back in Practice.

Slide 8 — Culture of 20

On screen: CULTURE SLIDE: KAREN CULTURAL SPOTLIGHT Karen - homelands in Myanmar & Thailand; Minnesota hosts the largest Karen refugee community MERIT EDUCATION GROUP | Lesson 15 CULTURAL FACT The Karen people have a rich tradition of weaving. Many patterns repeat in cycl

Say: “A quick cultural connection. [Read the caption aloud.] Notice how math shows up in everyday life and community traditions.”

Do: If the slide shows an image only, describe what students see; no math required.

Slide 9 — Di of 20

On screen: DIRECT INSTRUCTION TODAY’S FOCUS: TRANSLATING REAL-WORLD SCENARIOS KEY CONCEPTS 1. IDENTIFY THE KEY INFORMATION C Find the important numbers, relationships, and quantities. 2. CHOOSE A VARIABLE Use a letter to represent the unknown quantity. 3. WRITE THE EXPRE

Say: “Direct instruction — this is the heart of the lesson. I’ll read each key point, you follow along. [Read each bullet slowly.]”

Do: Read slowly, one bullet at a time. Point to each term as you name it.

Key points from the lesson plan: *Focus: Mapping contextual language to algebraic structure. - Step 1: Define translation as the process of converting a verbal scenario into an equivalent algebraic expression while preserving mathematical relationships. - Step 2: Introduce keyword-to-operation mapping with emphasis on order preservation: - Additive comparisons: increased by, sum of, total → + - Multiplicative comparisons: times as many, per each, product of → · or juxtaposition - Relational warnings: less than and fewer than reverse operand order (e.g., “5 less than x” → x - 5, not 5 - x). - Step 3: Demonstrate variable assignment with units. Emphasize that coefficients represent rates per unit, while constants represent fixed baseline values. - Teacher Prompt: “When a scenario describes applying a single operation to two combined quantities, how do we preserve the grouping mathematically?” → Answer: Parentheses before d*

Slide 10 — Vocab of 20

On screen: WORKED EXAMPLE EXAMPLE: A concert ticket costs 3.50 plus2.00 per mile m. Write an expression for total cost. Find the cost for 12 miles. STEP 1 2 WORK Expression for total cost: 3.50 + 2.00m Substitute m = 12 3.50 + 2.00(12) EXPLANATION Base fee is 3.50. Add2.

Say: “Quick vocabulary check. These are the words for today — I’ll read them, you repeat. [Read each term aloud.] We’ll use them all lesson.”

Do: Point to each term as you read it.

Slide 11 — Go Practice of 20

On screen: GO PRACTICE YOU TRY IT! Solve a similar problem independently. 1 Read the problem carefully. 2) Use the reading strategy to understand. 3) Write an expression and solve. 4 Check your work and show your steps. -• READING STRATEGY •- Step 1: • CIRCLE key numbers

Say: "Your turn — a problem just like the one we did. Work it on your whiteboard (or paper). Two minutes."

Do: Circulate. Cue boards up at 2 minutes.

Answer key: Structure: Three scaffolded examples. Students work in pairs, then share reasoning. Teacher models transcription from verbal to symbolic form. 1. Example A (Linear Rate + Fixed Cost): "A landscaping service charges a 45consultation fee plus28 per hour of labor." → Let h = hours worked. Expression:

Slide 12 — Go Answer of 20

On screen: GO ANSWER LET'S REVEAL THE ANSWER TOGETHER! WORD PROBLEM RECAP Jorge completes 4 steps for each slab. He completes s slabs per day for 5 days, plus 2 rush orders. 1 WRITE THE EXPRESSION Total steps = 5(4s) + 2 SIMPLIFY THE EXPRESSION 5(4s) + 2 = 20s + 2 SUBSTI

Say: "Let's check it. The slide walks through the solution step by step — I'll read each step. Check your work against it; fix anything you missed."

Do: Read the solution steps aloud. Answer questions by re-reading the relevant step.

Slide 13 — Set Practice of 20

On screen: SET PRACTICE » Solve each problem. Write an expression and simplify if possible. 1 A theme park charges a 12 entry fee plus6 per ride r. Write an expression for the total cost. Simplify the expression. 2 A parking garage charges 2 per hour h plus a one- time c

Say: "Two practice problems to deepen your understanding. Work them on paper or whiteboard. You have 5 minutes; I'll be walking around."

Do: Circulate and support. Cue time at 3 and 1 minutes.

Slide 14 — Set Answers of 20

On screen: SET ANSWERS 1 Simplify: 3(x + 4) - 5 SOLUTION 1 DISTRIBUTE: 3(x + 4) - 5 2 MULTIPLY: 3x + 12 - 5 3) COMBINE LIKE TERMS: 3x + (12 - 5) = 3x + 7 4 FINAL ANSWER: 3x + 7 2 Simplify: 2(3x - 2) + 4x SOLUTION 1 DISTRIBUTE: 2(3x - 2) + 4x 2 MULTIPLY: 6x - 4 + 4x 3) CO

Say: "Step-by-step solutions. Check each problem against the slide and correct your work — correcting is learning."

Do: Read each solution aloud.

Slide 15 — Career of 20

On screen: EXTRA PRACTICE CHALLENGE PROBLEM A Mall of America ride charges a 10 admission fee plus1.75 per ride. Maria rides r rides on Saturday and r+ 4 rides on Sunday. Write an expression for the total cost for both days in simplest form. Then, determine the total cos

Say: “A real career uses this math every day. [Read the career spotlight aloud.] The math we’re learning today is the math people use at work.”

Do: Read confidently; the salary and role are on the slide.

Slide 16 — Summary of 20

On screen: EXTRA ANSWERS CHALLENGE PROBLEM (FROM SLIDE 15) A rideshare driver charges 3.75 per pickup plus1.85 per mile m. Write an expression for the total fare. Then find the total fare for a 14-mile trip. STEP 1: WRITE THE EXPRESSION F = 3.75 + 1.85m Fixed charge + ra

Say: “Three big takeaways from today. [Read them aloud.] This is what you should remember tomorrow.”

Do: Read each takeaway; pause between them.

Slide 17 — Game of 20

On screen: ENGAGEMENT WHIP AROUND! We learn together by teaching each other! 2 HOW IT WORKS WRITE IT Write your answer on your whiteboard. TALK IT Explain your thinking to your partner/group. WHIP IT Pass your board when you hear “Whip!” SHARE IT We’ll all on groups to s

Say: “Quick whole-class game — we do this as a team, quietly. I’ll read the rules from the slide.”

Do: Read the rules; run the game as the slide directs; keep it positive.

Slide 18 — Summary of 20

On screen: SUMMARY THREE KEY TAKEAWAYS FROM TODAY’S LESSON: 2 3 TRANSLATE REAL-WORLD SITUATIONS. Identify key quantities and write expressions that represent real-world scenarios. EVALUATE AND SIMPLIFY EXPRESSIONS. Use the order of operations and properties to find equiv

Say: “Three big takeaways from today. [Read them aloud.] This is what you should remember tomorrow.”

Do: Read each takeaway; pause between them.

Slide 19 — Exit Ticket of 20

On screen: EXIT TICKET 1. GO TO SCHOOLGY 2. COMPLETE THE EXIT TICKET 3. ANSWER THE QUESTIONS BELOW SHOW YOUR WORK FOR FULL CREDIT! 1 Simplify the expression. 3(2x - 4) + 5x 2 A streaming service charges a one-time sign-up fee of 7.99 plus4.50 per month, m. Write an expre

Say: “Exit ticket time — it’s how your teacher knows what stuck. Complete it on your own; it is not graded for accuracy, it’s a check-in.”

Do: Distribute or direct to the online form. Collect as students finish.

Exit ticket from lesson plan: *1. Translate: “Three more than half the product of a number n and 7.” Answer: 1/2(7n) + 3 or 3.5n + 3 2. A plumber charges 80for a service call plus45 per hour. Write an expression for total cost C based on hours h. Evaluate for h = 2.5. Answer: C = 80 + 45h; C = 192.50*

Answer key: Prompt: A community center charges a 20room fee plus8 per attendee (a). However, groups larger than 15 people receive a flat discount of 30off the total. 1. Write an expression for the costCwhena ≤ 15. 2. Evaluate the cost for 12 attendees. Answer Key: 1.C = 8a + 20(Note: Discount does not apply since12 ≤ 15. If student writes piecewise, acknowledge but verify base expression is correct.) 2. Ev

Slide 20 — Today Tomorrow of 20

On screen: TODAY AND TOMORROW WHAT WE LEARNED TODAY We translate real-world situations into algebraic expressions. We use variables to represent unknown quantities. We evaluate expressions to find solutions in context. UP NEXT Financial Literacy: Budgeting Understand inc

Say: "Today we learned [read the 'today' summary]. Tomorrow we'll [read the 'tomorrow' preview]. Great work today."

Do: Read both lines. Thank the class; collect any remaining work.

5 IF A STUDENT ASKS…

"Why are we doing this?" — "This is today's learning expectation for Translating Real-World Scenarios (TranslatingRealWorld). It builds toward what's next in the unit, and your teacher will pick up right here tomorrow."
Redirects (from the lesson plan):

Misconception	Redirect Question / Intervention
Reverses operand order with "less than" / "fewer than"	"If I have 10 dollars and you have 3 less than me, do we write 3 - x or x - 3? Which quantity is the starting point?"
Confuses additive vs multiplicative comparisons ("times as many" vs "more than")	"Does 'twice as many' mean adding 2, or multiplying by 2? Show me with numbers: twice as many as 4."
Omits parentheses when an operation applies to a sum/difference	"If the discount applies to the total of both items, what mathematical symbol tells us to group them before multiplying?"
Treats constants and coefficients interchangeably in context	"Which number changes when more hours are worked? Which stays fixed re

6 IF A STUDENT FINISHES EARLY

1. Students who finish early do the **Challenge** side of the worksheet — do not invent extra work.
2. If the whole class is ahead: re-read the Summary slide and ask students to explain one takeaway in their own words.
3. **Do not** move ahead in the curriculum.

7 IF THE PROJECTOR DIES

1. Write the Bell Ringer problems on the board (from the Answer Key).
2. Read the worksheet directions aloud; students work in pairs.
3. Use the printed answer key to check as a class.

4. The lesson still runs — the script lives in this plan, not the projector.

8 WITH A PARAPROFESSIONAL OR CO-TEACHER

If an adult is in the room supporting students, they know the students best — **follow their lead** on individual support. Check the roster for accommodations; extended time on the Exit Ticket is fine if indicated.

9 SUB REPORT (LEAVE FOR THE TEACHER)

1. What did we complete? (bell ringer / DI / practice / game / exit ticket)
2. Who struggled or needed extra support?
3. Behavior notes (positive first, then concerns)
4. Anything tech-related that went wrong

10 TEACHER'S OWN NOTES

(The regular teacher may add specifics here — their timer, signals, roster quirks.)

Generated by the MEG Substitute Plan pipeline from the Lesson Plan + Teacher Edition.