MERIT EDUCATION GROUP

Minnesota's Curriculum. Built for Minnesota.

ALGEBRA 1 · UNIT 1: EXPRESSIONS · LESSON 1 · RESOURCE GUIDE

U1 Resource Guide

1 MATERIALS, CARD SIZES, MANIPULATIVES & PRINT INSTRUCTIONS

Merit Education Group™ — Algebra 1 Curriculum Unit 1: Variables and Expressions

2 HOW TO USE THIS GUIDE

This document lists every physical material needed for each lesson in Unit 1. Materials are organized by lesson and include: • **Printables** — card decks, game sheets, templates (with recommended paper size and color) • **Manipulatives** — physical items students handle • **Classroom supplies** — whiteboards, markers, timers, etc. • **Prep time** — estimated teacher preparation time **Quick-reference:** Lessons requiring **no special materials** (beyond worksheet + pen) are marked ✓ `Minimal`. Lessons needing card decks or cutouts are marked 🃏 `Cards needed`.

3 MASTER PRINT TEMPLATE REFERENCE

Template	Size	Paper	Quantity	Used In
Game Card — Standard	3.5×2 in (9 per sheet)	Cardstock, white	1 set per 4-6 teams	All games
Game Card — Large	5×3.5 in (4 per sheet)	Cardstock, white	1 set per class	Code Match, Term Sort
Station Card	Half-letter (5.5×8.5 in)	Cardstock, colored	1 set per class	Circuit
Grid Sheet	Letter (8.5×11 in)	Copy paper	1 per 2 students	Grid Lock
Score Tracker	Letter (8.5×11 in)	Copy paper	1 per class	All games

Template	Size	Paper	Quantity	Used In
Prime Time Scorekeeper	Letter (8.5×11 in)	Cardstock	1 per class	All games
Target Sheet	Letter (8.5×11 in)	Cardstock	1 per class	Target Practice
Lane Signs	Half-letter (5.5×8.5 in)	Cardstock, colored	2 per class	Speed Lane
Chain Link strips	2×8.5 in strips	Copy paper, colored	1 set per team	Chain Link
Exit Ticket slip	3×5 in (4 per sheet)	Copy paper	1 per student	Every lesson

4 LESSON-BY-LESSON MATERIALS

L1 — What Is a Variable?

Game: Translation Match | **Prep Time:** 20 min | 🃏 `Cards needed`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	In `Student Resources/`
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	In `Spanish Worksheets/`
🃏 **Translation Match cards**	3.5×2 in, white cardstock	1 deck per team (16 cards)	Cut 8 expression + 8 word-phrase pairs
🎯 Prime Time Scorekeeper	Letter, cardstock	1 per class	Track team scores
⏱️ Timer	Visible to all	1	Every lesson
📋 Whiteboard/ smartboard	—	1	
🖨️ Index cards (exit ticket)	3×5 in	1 per student	Or use worksheet space

Card deck contents: 8 pairs → word phrase + algebraic expression • `a number plus 8` ↔ `n + 8` • `5 less than a number` ↔ `n − 5` • `twice a number` ↔ `2n` • `a number divided by 3` ↔ `n ÷ 3` • `the sum of a number and 6` ↔ `n + 6` • `the product of 4 and a number` ↔ `4n` • `a number decreased by 2` ↔ `n − 2` • `the quotient of a number and 5` ↔ `n ÷ 5`

L2 — Translating Verbal Phrases

Game: Expression Race | **Prep Time:** 10 min | 🃏 `Cards needed`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🃏 **Expression Race cards**	3.5×2 in, white cardstock	1 deck per class (20 cards)	Quick-flash cards for race
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	
📋 Whiteboard markers	—	1 per team	For showing answers

Card deck contents: 20 expressions flashed one at a time (e.g., `3x + 2`, `n − 7`, `2(x + 1)`). Students race to translate to verbal form.

L3 — Order of Operations (GEMDAS Basics)

Game: GEMDAS Challenge | **Prep Time:** 5 min | ✓ `Minimal`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	Game is on-screen only
📋 Whiteboards	—	1 per team	Teams show answers
No cut materials needed	—	—	All problems displayed on slides

L4 — GEMDAS Advanced Grouping & Exponents

Game: Code Match | **Prep Time:** 20 min | 🃏 `Cards needed`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🃏 **Code Match cards**	3.5×2 in, white cardstock	1 deck per team (16-24 cards)	See `Game Files/CodeMatch Master.md`
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	
📋 Whiteboards	—	1 per team	For tiebreakers

Card deck contents: 8-12 pairs of expression ↔ value. Includes nested grouping & exponents.

L5 — Evaluating Expressions (One Variable)

Game: Speed Lane | **Prep Time:** 15 min | 🚦 `Lane signs needed`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🚦 **Lane signs**	Half-letter, colored cardstock	2 (Lane A, Lane B)	Tape to front of room
🚦 **Speed Lane problem cards**	3.5×2 in, cardstock	20 problem cards	Two stacks of 10
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	
📋 Whiteboards	—	2 (one per lane)	

L6 — Evaluating Expressions (Multiple Variables)

Game: Circuit | **Prep Time:** 25 min | 🚦 `Station cards needed`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🚦 **Circuit station cards**	Half-letter, colored cardstock	6-8 stations	Different color per station
🎯 Circuit answer sheets	Letter, copy paper	1 per student	Record station answers
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	
📋 Clipboards	—	1 per student	For moving between stations

Station setup: Place 6-8 cards around room, each with multi-variable evaluation problems. Students rotate every 2-3 minutes.

L7 — Evaluating with Real-World Formulas

Game: Target Practice | **Prep Time:** 10 min | ✓ `Minimal`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🎯 **Target Practice sheet**	Letter, cardstock	1 per class	Bullseye scoring zones
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	
📋 Whiteboards	—	1 per team	Teams show formula answers
🧮 Calculators	—	1 per student (optional)	Multi-step formula evaluation

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L8 — Identifying Terms, Coefficients & Constants

Game: Term Sort | **Prep Time:** 15 min | 🃏 `Sorting cards needed`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🃏 **Term Sort cards**	3.5×2 in, white cardstock	1 deck per team (24 cards)	Mix of terms, coefficients, constants
🃏 **Category header cards**	3.5×2 in, colored cardstock	3 per team	TERM / COEFFICIENT / CONSTANT
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	

Card deck contents: 24 individual expression parts — students sort them into three categories.

L9 — Combining Like Terms

Game: Code Match | **Prep Time:** 20 min | 🃏 `Cards needed`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🃏 **Code Match cards**	3.5×2 in, white cardstock	1 deck per team (16-24 cards)	Like-term matching pairs
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	

Card deck contents: Pairs of expressions that match when like terms are combined. E.g., `3x + 2x` ↔ `5x`.

L10 — The Distributive Property

Game: Distribution Dash | **Prep Time:** 15 min | 🃏 `Dash cards needed`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🃏 **Distribution Dash cards**	3.5×2 in, white cardstock	1 deck per class (20 cards)	Expression to expand
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	
📋 Whiteboards	—	1 per team	Show expanded answers

Card deck contents: 20 distributive problems — `3(x + 4)`, `-2(5x - 1)`, etc. Dash format: team reps race to board to write answer.

L11 — Distributive Property with Combining Like Terms

Game: Chain Link | **Prep Time:** 15 min | 🃏 `Chain strips needed`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🃏 **Chain Link strips**	2×8.5 in, colored copy paper	1 set per team (8-10 strips)	Each strip has a problem step
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	
📋 Tape/glue sticks	—	1 per team	Link completed strips into a chain

Chain concept: Each team member solves one step, passes to next. Completed chains displayed on wall.

L12 — Equivalent Expressions

Game: Blitz | **Prep Time:** 10 min | ✓ `Minimal`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🎯 Scorekeeper	Letter, copy paper	1 per class	
📝 Scrap paper	—	1 stack per team	For paper-toss answers
⏱️ Timer	—	1	
📋 Whiteboards	—	1 per team	

Blitz format: Teams write answers on scrap paper, crumple and toss to center. Teacher picks and checks at random.

L13 — Writing Equivalent Expressions with Structure (GCF)

Game: Grid Lock | **Prep Time:** 15 min | 🖨️ `Grid sheets needed`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🖨️ **Grid Lock boards**	Letter, cardstock	1 per 2 students	3×3 tic-tac-toe grid with problems
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	
🎲 Game markers (X/O tokens)	—	2 sets per pair	Or use colored chips

Grid contents: Each cell has a GCF/factoring problem. Solve a cell to claim it.

L14 — Perimeter, Area & Algebraic Expressions

Game: Relay | **Prep Time:** 20 min | 🖨️ `Relay cards needed`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🖨️ **Relay problem cards**	Half-letter, colored cardstock	1 set per team (5-6 cards)	Sequential problems
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	
📋 Whiteboards	—	1 per team	

Relay format: Student 1 solves #1, runs back, tags Student 2 who solves #2. First team to finish all wins.

L15 — Translating Real-World Scenarios

Game: Clutch | **Prep Time:** 10 min | ✓ `Minimal`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🎯 Scorekeeper	Letter, copy paper	1 per class	
📋 Whiteboards	—	1 per team	
⏱️ Timer	—	1	

Clutch format: High-stakes final round — questions worth 2×, 3×, 5× points. Teams wager their accumulated points.

L16 — Financial Literacy: Budgeting & Algebraic Reasoning

Game: Countdown | **Prep Time:** 10 min | ✓ `Minimal`

Item	Specs	Qty	Notes
📄 Student Worksheet	Letter, copy paper	1 per student	
🇪🇸 Spanish Worksheet	Letter, copy paper	As needed	
🎯 Scorekeeper	Letter, copy paper	1 per class	
🧮 Calculators	—	1 per student	Budget calculations
📋 Whiteboards	—	1 per team	
⏱️ Timer (countdown)	—	1	Essential — game is timed

Countdown format: Timer counts down from 60/45/30 seconds. Teams solve against the clock.

Quiz 1 (Day 7) & Quiz 2 (Day 17)

Item	Specs	Qty
📄 Quiz printout	Letter, copy paper	1 per student
✏️ Pencil	—	1 per student
⏱️ Timer	—	1 (15 min working time)

L17 — End-of-Unit Test (Day 20)

Item	Specs	Qty	Notes
📄 Review Worksheet	Letter, copy paper	1 per student	
📄 Performance Task sheet	Letter, copy paper	1 per student	Open-ended modeling task
📋 Whiteboards	—	1 per team	Review games
🎯 Scorekeeper	Letter, copy paper	1 per class	
⏱️ Timer	—	1	

5 CLASSROOM CONSUMABLES (WHOLE UNIT)

These are used across multiple lessons and should be stocked before starting Unit 1.

Item	Estimated Qty	Used In
Whiteboard markers (dry erase)	1 set per team	Every lesson
Index cards (3×5 in)	50	Exit tickets (L1-L17)
Scrap paper	1 ream	Blitz, practice problems
Tape/glue sticks	1 per 2 teams	Chain Link (L11)
Colored chips/game markers	2 colors × 30 each	Grid Lock (L13)
Pencils	1 per student	All lessons
Clipboards	1 per student (optional)	Circuit (L6)

6 CARDSTOCK PRINTING GUIDE

Card Type	Pieces Per Sheet	Sheets Needed	Lesson
Game cards (3.5×2 in)	9 per sheet	2-3 per deck	L1, L2, L4, L5, L9, L10
Large game cards (5×3.5 in)	4 per sheet	1-2 per deck	L4, L8
Station cards (half-letter)	2 per sheet	4-6 sheets	L6
Lane signs (half-letter)	2 per sheet	1 sheet	L5
Grid boards (letter)	1 per sheet	15-20 sheets	L13
Relay cards (half-letter)	2 per sheet	3 per team	L14
Category headers	9 per sheet	1 sheet	L8

Total cardstock needed: Approximately 40-50 sheets of white + 10 sheets of colored cardstock for the full unit.

7 QUICK-REFERENCE: LESSON MATERIAL NEEDS

Lesson	Game	Cardstock?	Manipulatives?	Special Items
L1	Translation Match	🟡 2-3 sheets	—	—
L2	Expression Race	🟡 1-2 sheets	—	—
L3	GEMDAS Challenge	✅ None	Whiteboards	—
L4	Code Match	🟡 2-3 sheets	—	—
L5	Speed Lane	🟡 1-2 sheets	—	Lane signs
L6	Circuit	🟡 4-6 sheets	Clipboards	Station setup
L7	Target Practice	🟡 1 sheet	Calculators (optional)	—
L8	Term Sort	🟡 2-3 sheets	—	Category headers
L9	Code Match	🟡 2-3 sheets	—	—
L10	Distribution Dash	🟡 1-2 sheets	—	—
L11	Chain Link	✅ Copy paper only	Tape/glue	Colored paper strips
L12	Blitz	✅ None	Scrap paper	Paper toss
L13	Grid Lock	🟡 15-20 sheets	Game tokens	—
L14	Relay	🟡 3-4 sheets	—	—
L15	Clutch	✅ None	Whiteboards	—
L16	Countdown	✅ None	Calculators	Countdown timer
Quiz 1	—	✅ None	—	—
Quiz 2	—	✅ None	—	—
L17	Test	✅ None	Whiteboards	—

Legend: ✅ None = no printing/cutting needed | 🟡 = cardstock recommended

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