

## Madeline Hunter lesson plan example: Grade 4 math

|                 |                                                                                                                                                                                                                                                                                     |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lesson          | Multiplying with area models                                                                                                                                                                                                                                                        |
| Grade / subject | Grade 4 math · 50 minutes                                                                                                                                                                                                                                                           |
| Standard        | CCSS.MATH.CONTENT.4.NBT.B.5 (use only where the Common Core applies): multiply a whole number of up to four digits by a one-digit whole number using strategies based on place value; illustrate and explain the calculation with equations, rectangular arrays and/or area models. |
| Materials       | Grid paper, mini whiteboards, half-sheet practice, exit ticket                                                                                                                                                                                                                      |

| Element                 | Time   | Plan                                                                                                                                                                                                     |
|-------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objective and purpose   | 4 min  | Display: "I can multiply a two-digit number by a one-digit number using an area model and explain each part." Purpose: area models show why multiplication works, which helps with bigger numbers later. |
| Anticipatory set        | 5 min  | Show a classroom floor plan: 4 rows of 23 tiles. "How could we count every tile without counting one by one?" Pairs share a strategy.                                                                    |
| Input                   | 8 min  | Break 23 into $20 + 3$ . Draw a rectangle 4 tall, split into a $4 \times 20$ part and a $4 \times 3$ part. Name the parts: partial products.                                                             |
| Modeling                | 7 min  | Think aloud through $6 \times 34$ : split 34 into $30 + 4$ , label both rectangles, find 180 and 24, add to 204. Write the matching equation $6 \times 34 = (6 \times 30) + (6 \times 4)$ .              |
| Check for understanding | 3 min  | Whiteboards: "Split 47 for an area model." Look for $40 + 7$ . Thumbs up / sideways / down on "Why do we add the two parts?"                                                                             |
| Guided practice         | 10 min | Pairs solve $3 \times 52$ and $7 \times 18$ with area models while the teacher circulates. Stop the class once to fix the most common error (multiplying only the tens).                                 |
| Independent practice    | 10 min | Four problems on a half sheet ( $5 \times 26$ , $8 \times 41$ , $3 \times 67$ , $9 \times 15$ ), each with an area model and an equation.                                                                |
| Closure                 | 3 min  | Exit ticket: solve $4 \times 38$ with an area model and write one sentence explaining what the two rectangles stand for.                                                                                 |

Answer key:  $5 \times 26 = 130$ ;  $8 \times 41 = 328$ ;  $3 \times 67 = 201$ ;  $9 \times 15 = 135$ ; exit ticket  $4 \times 38 = 120 + 32 = 152$ .