Key vocabulary comes first

21 slides • 60-minute core lesson + optional extension • Use the vocabulary reference.

Perimeter / boundary	Total length of a plane figure’s boundary / its outside edge.
Rectangle / square	Rectangle: four right angles, opposite sides equal. Square: a rectangle with all sides equal.
Length / width	The two side dimensions of a rectangle; l and w.
Unit	A standard reference amount for measuring length: cm, in., ft.; also m = meters and yd. = yards.
Formula / variable	Formula: a symbolic rule relating quantities. Variable: a symbol representing a number that may vary.
Scale / estimate	Map-to-real-distance relationship / a reasonable approximate measurement.
Area	Surface inside a boundary, measured in square units.

Essential questions

1. What do we measure when we find perimeter?
2. How does careful ruler placement help us measure accurately?
3. Why does a rectangle need two lengths and two widths?
4. How is a formula like a recipe? What do the letters mean?
5. Why can’t we use the rectangle recipe for every map boundary?

Success criteria: Students align zero, read ruler intervals, match opposite sides, substitute measurements into P = l + w + l + w, and report a linear unit. P = 2 × l + 2 × w is an efficient equivalent.

Materials: Three-page worksheet, centimeter rulers, pencils, string, yesterday’s map, optional calculators. Into Math: Module 2, Lesson 4, pp.43–46 (teacher-provided reference).

Teach it: a clear sequence

The yellow worksheet number is the response cue. Read directions aloud.

9:00–9:05 — **Slides 1–2 / Q1**

Say, point, trace. Teach perimeter, boundary, unit, formula, l/w/P. Trace the paper edge.

9:05–9:10 — **Slides 3–5 / Q2**

Brief neutral civics: our island votes in state and national races. Governor and U.S. senator are different jobs.

9:10–9:13 — **Slide 6 / discussion**

Reconnect to the map string and outdoor measurements. Same boundary concept; today's shapes have straight matching sides.

9:13–9:21 — **Slides 7–8 / Q3–4**

Model a real ruler. Zero mark, not plastic edge. Count intervals; if start is not zero, subtract end minus start.

9:21–9:29 — **Slides 9–11 / Q5–6**

Label opposite pairs. Recipe analogy: ingredients = measurements, directions = operations, result = perimeter. Teacher models 8 + 5 + 8 + 5 = 26 cm.

9:29–9:35 — **Slides 12–14 / Q7–8**

My Favorite Mistake, then campaign-sign calculation. Pause on slide 13; reveal/check with slide 14.

9:35–9:44 — **Slides 15–17 / Q9–10**

Model booth outline, then real accessibility clearance. Help with sums after students set up all four sides.

9:44–9:55 — **Slide 18 / Q11**

Hands-on ruler task. Observe zero alignment, straight placement, unit choice, and matching side lengths.

9:55–10:00 — **Slides 19–20 / Q12**

Independent exit check, oral explanation if needed. Close by connecting the formula to going all the way around.

10:00–10:15 extension: Slide 21 reuses the map scale. Or compare the measured card's perimeter (20 cm) with its tiled area (24 square cm). Students who need more time continue with rectangles.

Mandy's 9:30 arrival: Provide a quick recap using a traced rectangle and the l/w/P key before the next practice task.

Answer key + what to notice

Use this as a follow-along check, not a timed or high-stakes test.

01 / Slide 1	**Outside edge.** Does the student trace the boundary instead of covering the inside?
02 / Slide 5	**State government; Congress.** A quick civics check; do not score political opinions or name recall.
03 / Slide 7	**0 mark.** Watch actual placement; a correct circle alone does not prove ruler skill.
04 / Slide 8	**5 cm (7 − 2).** Endpoint 7 is not the measured length.
05 / Slide 9	**Bottom 8 cm; right 5 cm.** Opposite sides match in the given rectangle.
06 / Slide 10	**Recipe; w.** The full recipe is l + w + l + w.
07 / Slide 12	**16 cm.** 5 + 3 uses only two sides; add 5 + 3 + 5 + 3.
08 / Slide 13	**84 in.** 24 + 24 = 48; 18 + 18 = 36; total 84.
09 / Slide 15	**14 ft.** Include all four edges of the floor-plan outline, including the entrance edge.
10 / Slide 17	**156 in.** 48 + 48 = 96; 30 + 30 = 60; total 156.
11 / Slide 18	**l = 6 cm; w = 4 cm; P = 20 cm.** Use Actual Size / 100%. Verify the 5 cm print-check line first.
12 / Slide 19	**18 cm; two widths.** 7 + 2 + 7 + 2 = 18 cm. Listen for "all four sides."

Track separately: ruler use / side matching / complete formula / arithmetic / units. A correct setup with a calculation slip calls for different support than an incomplete boundary.

Support, accuracy & sources

Candidate information checked November 3, 2026. Keep this page for planning.

For students needing a recap: Begin with one rectangle, trace all four sides, and use paired colors or gestures for opposite sides. Read prompts aloud; show one question at a time. Offer oral answers, a fact chart, calculator after setup, or adult recording. Keep the concept accessible while multiplication fluency develops.

Peer helpers: Partners can ask "Where is zero?" and "Which side matches?" Let the partner do the measuring and writing. Extend with an unknown side or two rectangles sharing a perimeter. Avoid turning early finishers into substitute instructors.

Model versus fact: Ballot, sign, voting-space, and name-card dimensions are invented for math. The accessible clear-space example is based on DOJ guidance. A 30 × 48 inch rectangle is not a universal booth footprint or a complete accessibility design. Do not place barriers around the space.

Neutral civics: All governor and U.S. Senate candidates on the official list receive equal treatment. No candidate preference, endorsement, prediction, or family political disclosure is requested. "Senate" in these slides means U.S. Senate.

Map accuracy: Yesterday's scale was 1 cm : 200 miles. Slide 21 uses a hypothetical 23 cm string. Boundary detail and technique affect estimates; do not label one U.S. perimeter figure as an exact universal answer.

Source notes

Official candidates and election date
https://www.sec.state.ma.us/divisions/elections/research-and-statistics/2026-state-election-candidates.htm
https://www.sec.state.ma.us/divisions/elections/elections-and-voting.htm

Accessible voting station; 30 × 48 in. clear floor space
https://www.ada.gov/resources/solutions-voting-problems/
https://www.ada.gov/law-and-regs/design-standards/2010-stds/

Massachusetts voting rights; historical 2022 booth photograph
https://www.sec.state.ma.us/divisions/elections/publications/information-for-voters-24/ma_voter_rights.htm
https://www.wbur.org/news/2022/11/08/results-massachusetts-governors-council

Governor given names: Boston Globe 2026 voter guide. Curriculum alignment: Massachusetts 4.MD.A.3, with ruler and perimeter prerequisites from grades 2–3. A correct perimeter formula does not require mastery of area first.

Vocabulary companion: Use the separate two-page reference for original formal definitions and verified Into Math connections. Slides 1–2 include short quotations from HMH Into Math NM Grade 4: Student Edition p.43 and Teacher Edition p.227D. The formula-as-recipe language is an analogy, not a substitute for the definition.