

Measure with equal units



NC.1.MD.2 | Measure lengths with non-standard units.

A multi-session teaching packet and reusable 60-item bank.

Includes seven teaching sections, worked models, student organizers, 30 choice tasks, 30 performance tasks, full keys and evidence records.

Current NC implementation set, 2026-27 / 2027-28. Revised standards adopted in 2026 are not used here.

Free sample | Contents

NC.1.MD.2 | First Grade mathematics

This sample contains 29 complete selected pages from the 68-page resource, plus this sample contents page. Original printed page numbers are retained. Gaps are intentional.

Included original pages: 1-18, 33-34, 36, 38-39, 41, 43-44, 46, 50, 58

Representative activities

M01: sample PDF page(s) 19; original page(s) 18

M02: sample PDF page(s) 19; original page(s) 18

O01: sample PDF page(s) 20; original page(s) 33

O02: sample PDF page(s) 20; original page(s) 33

Selected teacher prompts and keys: original page(s) 50, 58

Supporting printable materials: original page(s) 5, 15-17, 33-34, 36, 38-39, 41, 43-44, 46

Using this sample

Read the preparation and access guidance before using a selected activity.
Keep teacher keys and private preparation pages separate from student copies.
Use the original resource contents to see the scope of the complete packet.

Complete paid download

The complete resource includes the full PDF task bank and teaching materials.

TEACHER GUIDE

Plan and find your pages

Teach in short sessions; do not give all 60 tasks in one sitting. Select only the pages needed. Choice cards provide secondary evidence; open tasks require the actual mathematical performance.

Session 1 (about 20 minutes): Warm-up and I Do. Session 2 (about 20 minutes): We Do and the first collaborative task. Session 3 (about 20 minutes): Finish collaboration and begin independent observations. Session 4 (about 20 minutes): Reteach identified needs and collect an exit sample. Shorten or split observations to match attention and access needs.

Each section gives exact bank IDs. Its minutes describe a selected core, not completion of every listed bank task. The seven core selections together use about 80 minutes across sessions.

Print navigation: teacher guide and scripts first; reusable organizers/templates next; then choice pages and performance pages; evidence record and teacher-only keys at the end. Student pages contain no preparation answers.

Teacher prepares materials from each item's key before distributing the student page. In partnered tasks, retain evidence from each child. Use fresh unused cards for later checks rather than rehearsing the same assessment.

TEACHER GUIDE

Exact standard and coverage

NC.1.MD.2: Measure lengths with non-standard units.

Express the length of an object as a whole number of non-standard length units.

Measure by laying multiple copies of a shorter object (the length unit) end to end (iterating) with no gaps or overlaps.

Student learning targets

I can lay repeated equal-length units end to end without gaps or overlaps.

I can express an object's length as a whole number with the unit named.

Evidence: Observe endpoint alignment, equal repeated units, no gaps/overlaps, complete coverage, one-to-one count, and a whole-number result with the unit named.

Essential question: How can I show my answer is supported by the objects, clock, coin, or data I used?

TEACHER GUIDE

Prepare, support, and notice

Prerequisites: Count a collection to 12 with one-to-one correspondence; identify an endpoint; compare which object is shorter. Revisit counting without supplying the target length.

Materials: Adult-cut unit cards and targets supplied here; blank paper; flat surface; optionally equal-size large blocks. All targets and unit cards must be printed at the same scale. Cards are non-standard units, not inch rulers.

Vocabulary: length, unit, endpoint, equal, end to end, gap, overlap.

Access: Read directions neutrally. Allow oral, signed, AAC, drawn, built or dictated answers. Use high contrast, enlarged print, an accessible surface, or assisted manipulation following the child's exact instructions. Do not lower a rating for handwriting, spelling or accent.

Keep access support separate from mathematical help. Naming a coin, pointing to a correct clock hand, counting a row, or selecting units for the child supplies part of the target; record it as a cue. N/O means evidence was inaccessible or unobserved, not wrong.

Safety: Adults handle cutting and actual coins; use large paper counters where small objects pose a risk.

TEACHER GUIDE

Worked model and anchor

Use target D and five unit cards. Say: "I put the first card at the starting end. I slide the next card until the ends touch. I do not leave spaces or cover part of a card. I keep each card in the same direction. Five equal card lengths reach the other endpoint. The target is 5 unit cards long." Point to each card once as you count. Show a gap and overlap, then repair each before recounting.

Anchor language: Same unit. Same direction. Start at the end. Touch end to end. No gaps. No overlaps. Match the other end. Count and name the unit.

Model target D



Each box is one equal length unit.

TEACHER GUIDE

Respond to misconceptions

If the child counts gaps or overlaps as a valid measure, cover the answer record and rebuild only the first two cards. Ask what part is skipped or covered twice. Have the child continue independently on a new target. If units vary, compare two cards by direct alignment and choose equal copies.

After instruction, offer a different item. Say, "Show your thinking with these materials." Do not repeat the corrective hint before collecting independent evidence. Record the first response, any self-correction, and what changed.

Extension: Session 1: Partners measure one target independently with the same unit. Save both records. Session 2: If records disagree, reconstruct both rows, locate gaps, overlaps or counting errors, and revise. Session 3: Move the target without changing it; measure again and explain why its length in the same unit stays unchanged.

Keep the standard boundary: Measure whole numbers of non-standard units; no conversion or formal ruler skill is assumed.

TEACHER GUIDE

Warm-up | teach

Selected core: M01 / O01. Optional bank: M01-M04 and O01-O04. About 8 minutes; split if needed.

0-2 min: Invite the materials without naming the solution. Say, "What do you notice that could help?"

2-5 min: Read M01 exactly and let each learner select privately. Ask, "What helped you decide?"

5-8 min: Offer O01. Record initial actions and words. Do not complete the mathematical step for the child.

Look/listen for: Observe endpoint alignment, equal repeated units, no gaps/overlaps, complete coverage, one-to-one count, and a whole-number result with the unit named.

Record item/date, first response, access support, mathematical cues and next step. Early finishers explain a second check or test a changed arrangement; speed is not the target.

TEACHER GUIDE

I Do | teach

Selected core: M05 / O05. Optional bank: M05-M08 and O05-O08. About 12 minutes; split if needed.

0-3 min: Prepare the worked model on the earlier model page. Say, "Watch how I check each part."

3-8 min: Use target D and five unit cards. Say: "I put the first card at the starting end. I slide the next card until the ends touch. I do not leave spaces or cover part of a card. I keep each card in the same direction. Five equal card lengths reach the other endpoint. The target is 5 unit cards long." Point to each card once as you count. Show a gap and overlap, then repair each before recounting.

8-12 min: Use M05 and explain its keyed reasoning. Demonstrate O05 with learner participation; label this supported evidence, not independent performance.

Look/listen for: Observe endpoint alignment, equal repeated units, no gaps/overlaps, complete coverage, one-to-one count, and a whole-number result with the unit named.

Record item/date, first response, access support, mathematical cues and next step. Early finishers explain a second check or test a changed arrangement; speed is not the target.

TEACHER GUIDE

We Do | teach

Selected core: M09 / O09. Optional bank: M09-M13 and O09-O13. About 15 minutes; split if needed.

0-3 min: Ask, "What should we do first? Why?" Wait for a child to select the mathematical step.

3-9 min: Solve M09 together. Test suggested answers against the diagram or materials; do not vote for the most popular answer.

9-15 min: Work O09, pausing before each decision. Ask individuals to show one step, then retell the complete result.

Look/listen for: Observe endpoint alignment, equal repeated units, no gaps/overlaps, complete coverage, one-to-one count, and a whole-number result with the unit named.

Record item/date, first response, access support, mathematical cues and next step. Early finishers explain a second check or test a changed arrangement; speed is not the target.

TEACHER GUIDE

Collaborative practice | teach

Selected core: M14 / O14. Optional bank: M14-M18 and O14-O18. About 13 minutes; split if needed.

0-2 min: Assign maker and checker. Say, "Each of you will make and explain your own answer."

2-8 min: Use O14, then switch roles on O15. The checker reconstructs rather than copies. Keep separate observations.

8-13 min: Use M14 as a discussion check. Ask each learner, "How can you prove it with what is here?"

Look/listen for: Observe endpoint alignment, equal repeated units, no gaps/overlaps, complete coverage, one-to-one count, and a whole-number result with the unit named.

Record item/date, first response, access support, mathematical cues and next step. Early finishers explain a second check or test a changed arrangement; speed is not the target.

TEACHER GUIDE

Independent practice | teach

Selected core: M19 / O19. Optional bank: M19-M23 and O19-O23. About 17 minutes; split if needed.

0-3 min: Provide neutral directions and agreed access supports. Say, "Show your own thinking. You may build, point, talk or draw."

3-12 min: Observe O19 individually, then use an unused task if another sample is needed. Do not coach the target skill.

12-17 min: Offer M19 as secondary evidence. Save the learner's model, drawing, spoken record or exact actions.

Look/listen for: Observe endpoint alignment, equal repeated units, no gaps/overlaps, complete coverage, one-to-one count, and a whole-number result with the unit named.

Record item/date, first response, access support, mathematical cues and next step. Early finishers explain a second check or test a changed arrangement; speed is not the target.

TEACHER GUIDE

Small-group reteach | teach

Selected core: M24 / O24. Optional bank: M24-M27 and O24-O27. About 10 minutes; split if needed.

0-2 min: Select a misconception from the evidence record rather than a total score.

2-6 min: If the child counts gaps or overlaps as a valid measure, cover the answer record and rebuild only the first two cards. Ask what part is skipped or covered twice. Have the child continue independently on a new target. If units vary, compare two cards by direct alignment and choose equal copies.

6-10 min: Try O24 after fading the teaching cue. Use M24 to discuss the changed method. Record which support remains.

Look/listen for: Observe endpoint alignment, equal repeated units, no gaps/overlaps, complete coverage, one-to-one count, and a whole-number result with the unit named.

Record item/date, first response, access support, mathematical cues and next step. Early finishers explain a second check or test a changed arrangement; speed is not the target.

TEACHER GUIDE

Exit ticket | teach

Selected core: M28 / O28. Optional bank: M28-M30 and O28-O30. About 5 minutes; split if needed.

0-1 min: Make the materials accessible and read the core task neutrally.

1-4 min: Collect O28 individually. If time remains, use M28. Ask, "What is your evidence?"

4-5 min: Record one next teaching step. If there was no interpretable opportunity, mark N/O and plan a fresh observation.

Look/listen for: Observe endpoint alignment, equal repeated units, no gaps/overlaps, complete coverage, one-to-one count, and a whole-number result with the unit named.

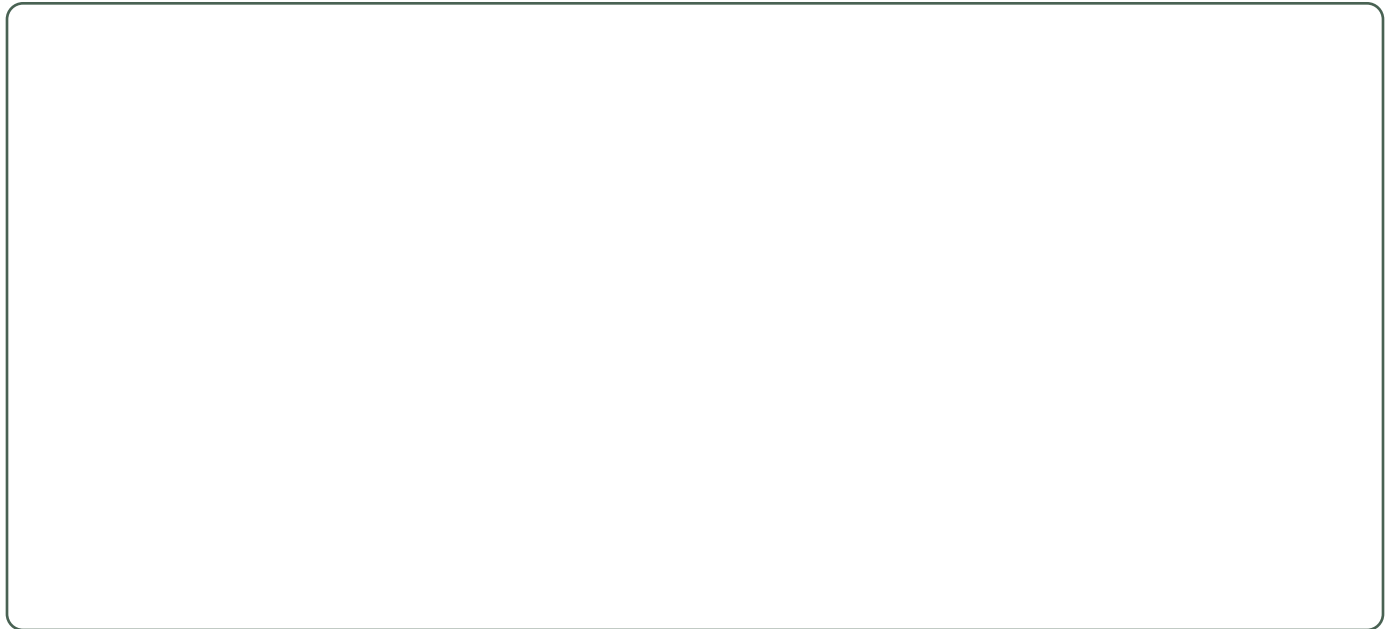
Record item/date, first response, access support, mathematical cues and next step. Early finishers explain a second check or test a changed arrangement; speed is not the target.

STUDENT ORGANIZER

My reusable work mat

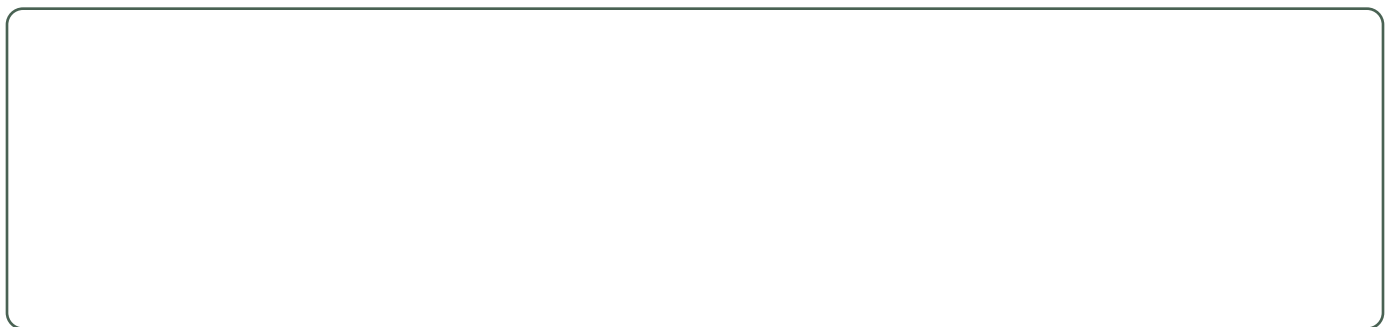
Target: _____ My unit: _____

Show how the units fit from end to end.



The length is _____ units.

My check or explanation:



STUDENT RESOURCE | KEEP AT SAME PRINT SCALE

Measurement targets A-D

Measure with the supplied unit cards.

Target A



Target B



Target C



Target D



STUDENT RESOURCE | KEEP AT SAME PRINT SCALE

Measurement targets E-H

Measure with the supplied unit cards.

Target E

Target F

Target G

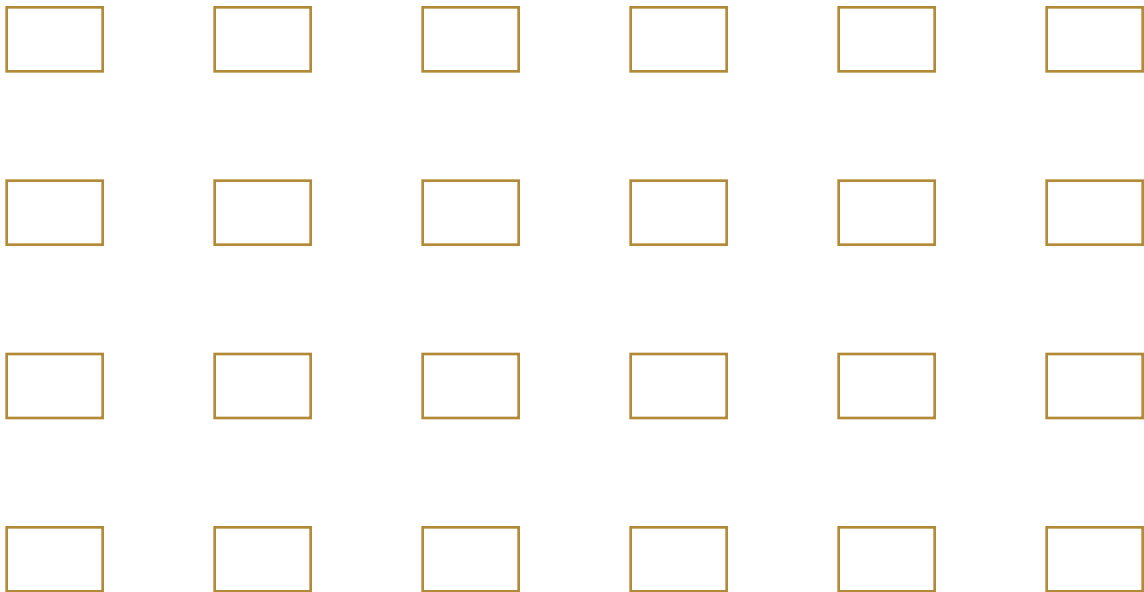
Target H

ADULT CUTS | STUDENT MEASURING RESOURCE

Equal unit cards

Adult: Cut on the outlines. Each card is one non-standard length unit along its long side. Print this page and targets at the same scale. Do not rotate a card to measure with its shorter side.

Scale check for adult: At 100% print size, each card is 36 points (0.5 inch) long. This check is for preparation only; students measure in card lengths. Uniform scaling of all templates preserves the task.

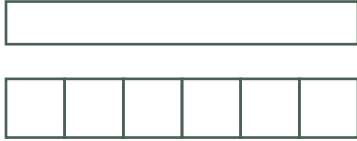


LISTEN AND CHOOSE

M01 and M02**M01 | Warm-up**

How long is ribbon 1 in the equal units shown?

ribbon 1



Each box is one equal length unit.

A. 4

B. 0

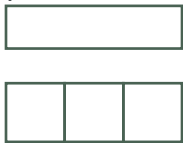
C. 5

D. 6

M02 | Warm-up

How long is path 2 in the equal units shown?

path 2



Each box is one equal length unit.

A. 2

B. 15

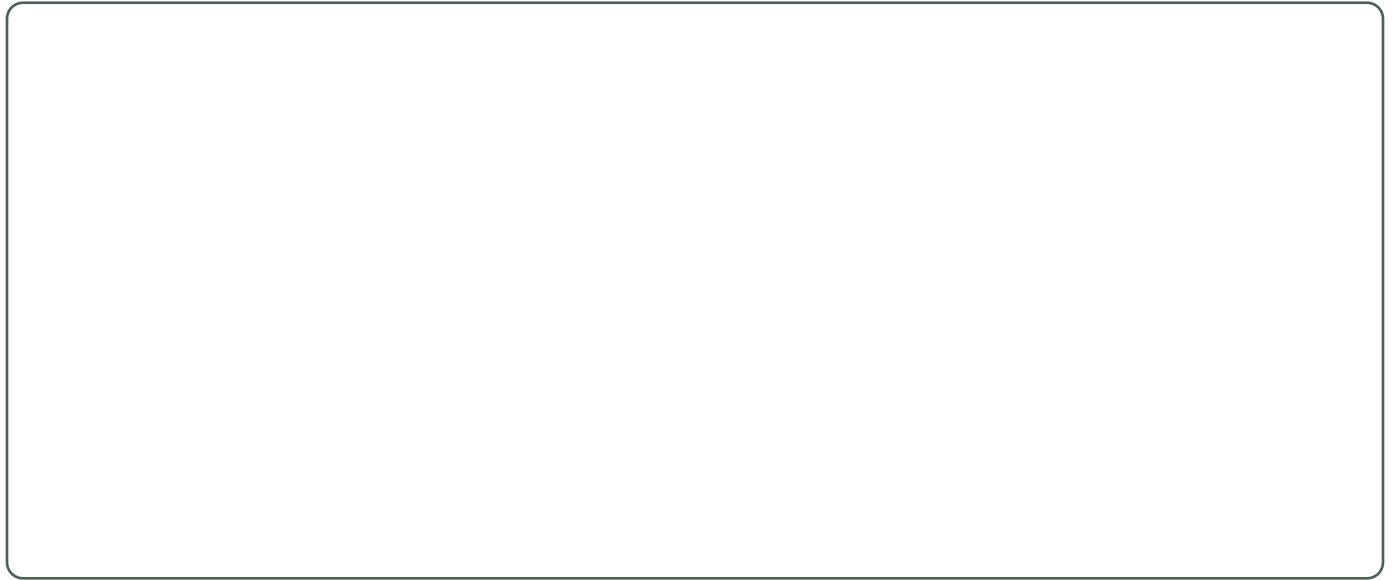
C. 3

D. 0

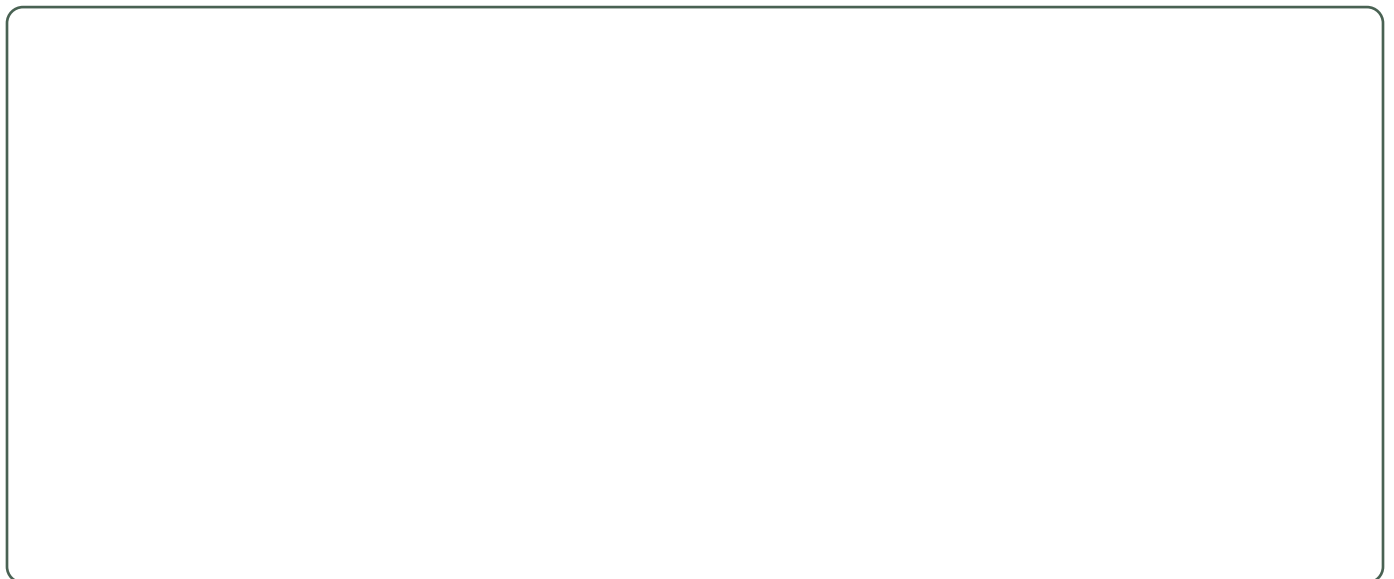
SHOW YOUR THINKING

001 and 002**001 | Warm-up**

Measure target H with the unit cards. Record its length and show how you know.

**002 | Warm-up**

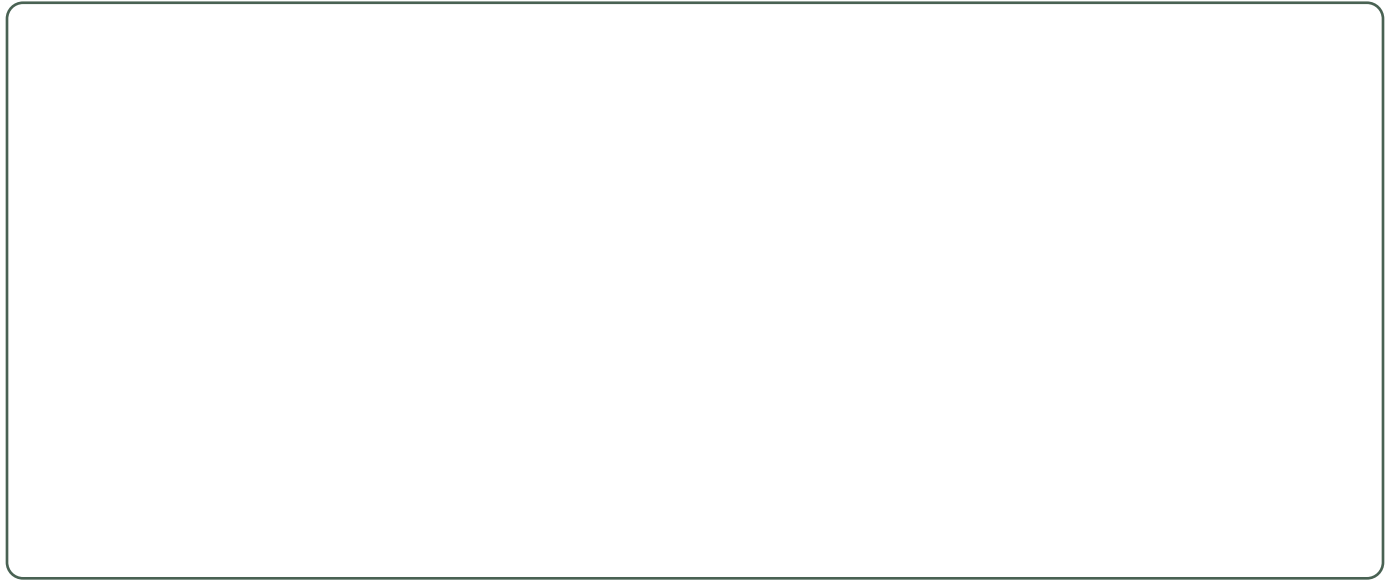
Measure target A with the unit cards. Record its length and show how you know. Check the other end, too.



SHOW YOUR THINKING

003 and 004**003 | Warm-up**

Build a straight path 5 unit cards long. Draw it. Explain how you made a fair measurement.

**004 | Warm-up**

Measure target D. A puppet left gaps. Fix the measuring row, then record the length.



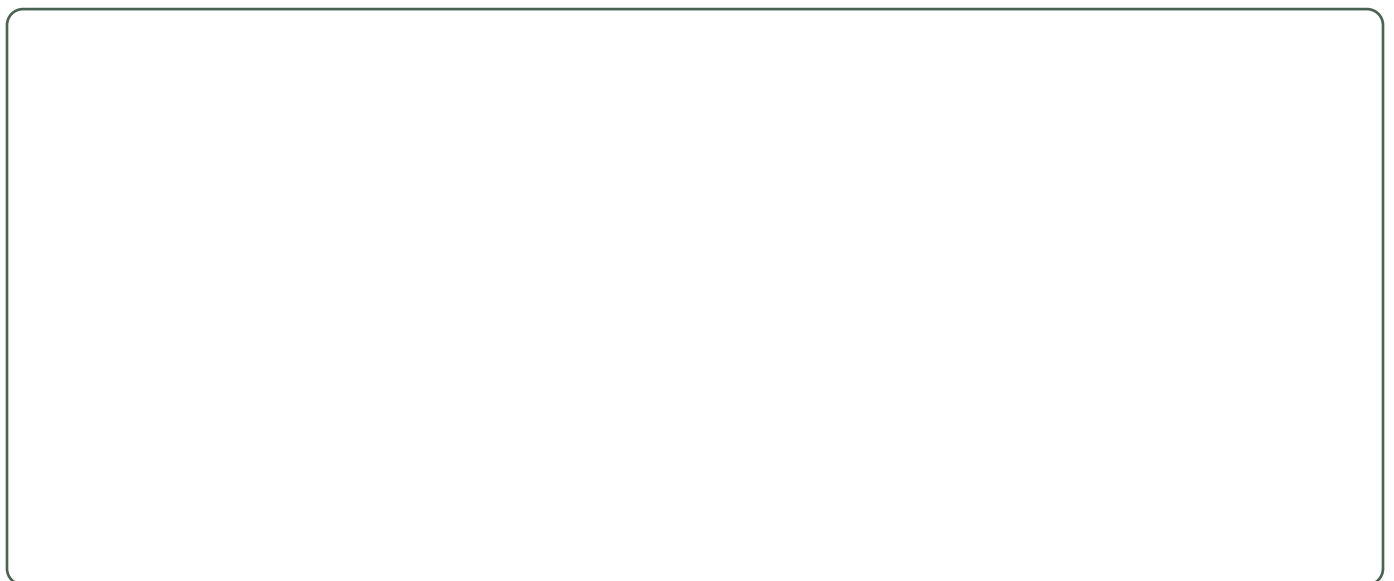
SHOW YOUR THINKING

007 and 008**007 | I Do**

Measure target E with the unit cards. Record its length and show how you know. Check the other end, too.

**008 | I Do**

Build a straight path 4 unit cards long. Draw it. Explain how you made a fair measurement.



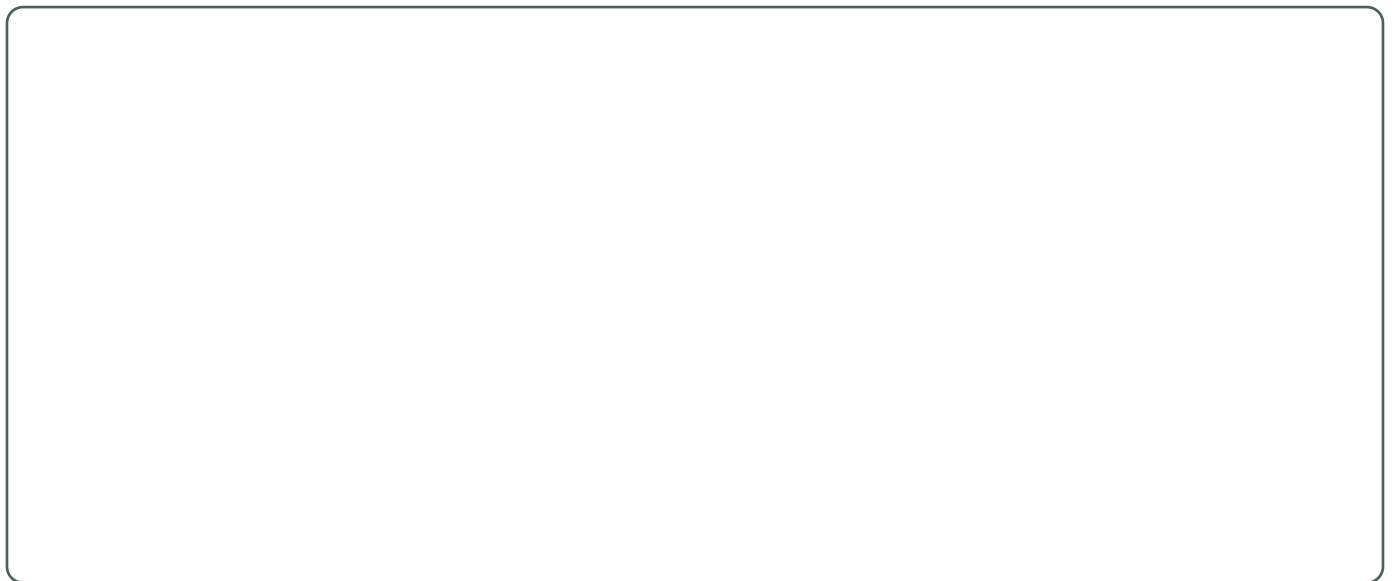
SHOW YOUR THINKING

O11 and O12**O11 | We Do**

Measure target B with the unit cards. Record its length and show how you know.

**O12 | We Do**

Measure target C with the unit cards. Record its length and show how you know. Check the other end, too.



SHOW YOUR THINKING

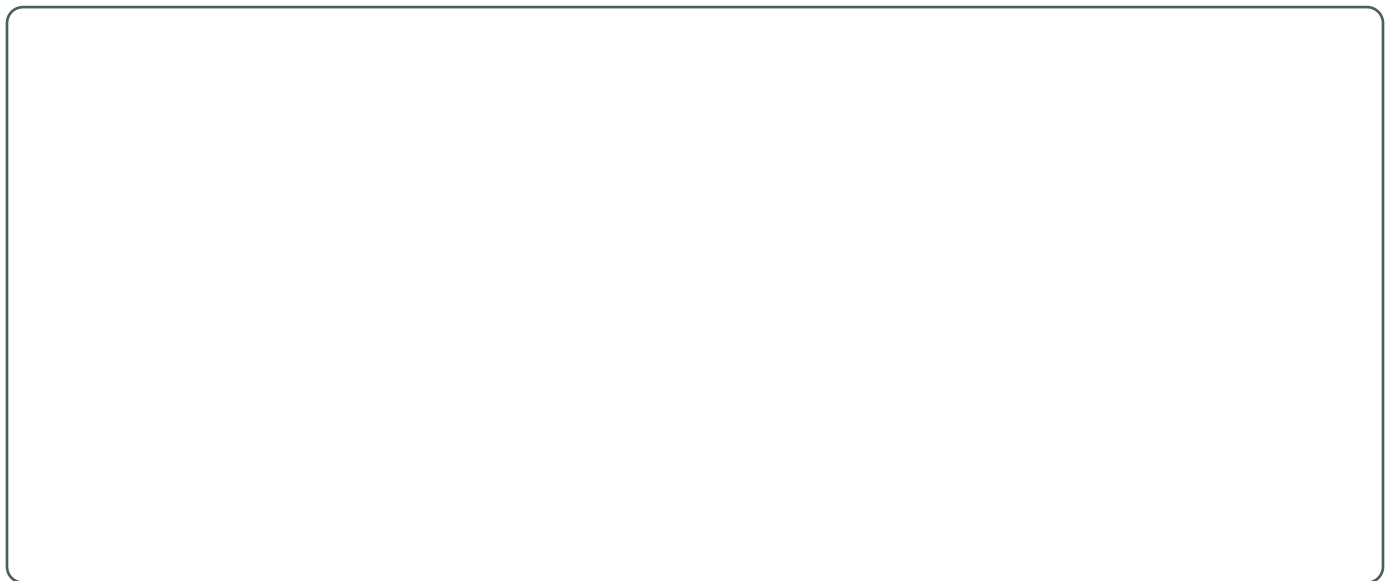
O13 and O14

O13 | We Do

Build a straight path 6 unit cards long. Draw it. Explain how you made a fair measurement.

**O14 | Collaborative practice**

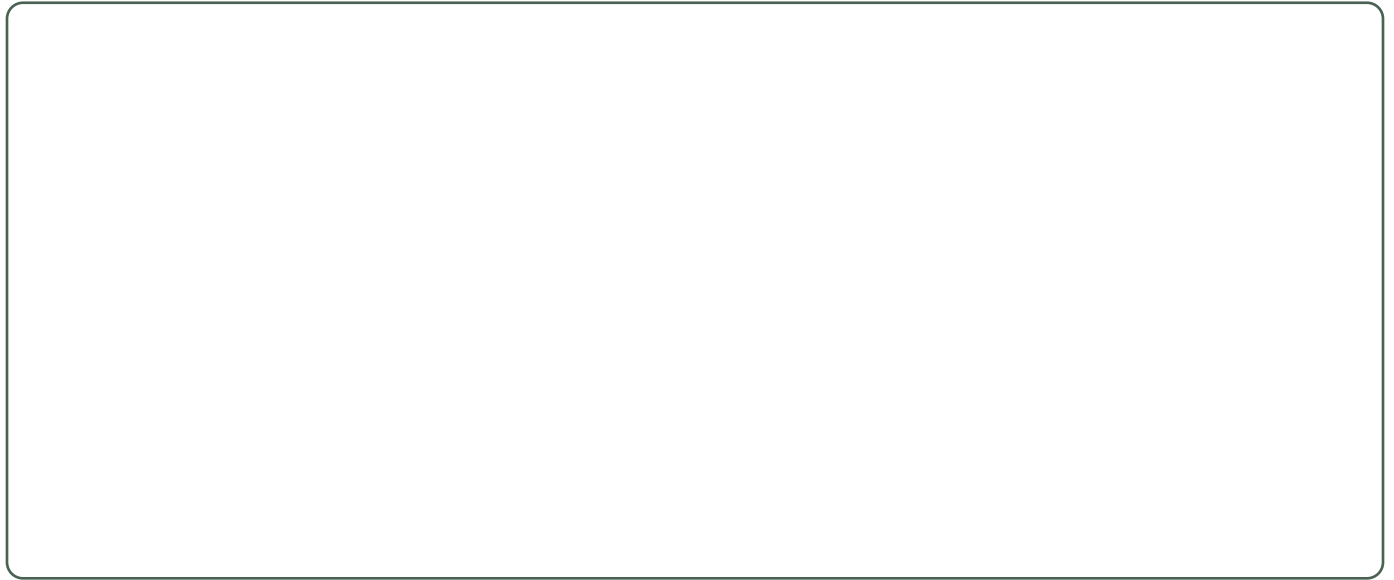
Measure target B. A puppet left gaps. Fix the measuring row, then record the length.



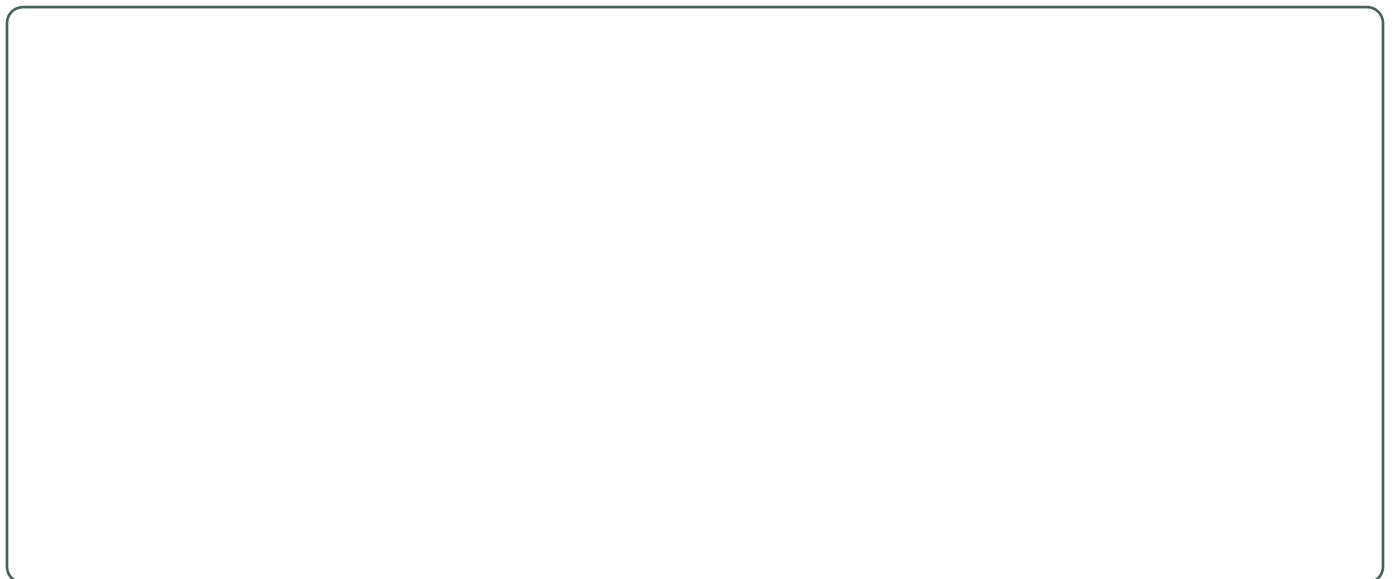
SHOW YOUR THINKING

O17 and O18**O17 | Collaborative practice**

Measure target D with the unit cards. Record its length and show how you know. Check the other end, too.

**O18 | Collaborative practice**

Build a straight path 10 unit cards long. Draw it. Explain how you made a fair measurement.



SHOW YOUR THINKING

021 and 022**021 | Independent practice**

Measure target C with the unit cards. Record its length and show how you know.

022 | Independent practice

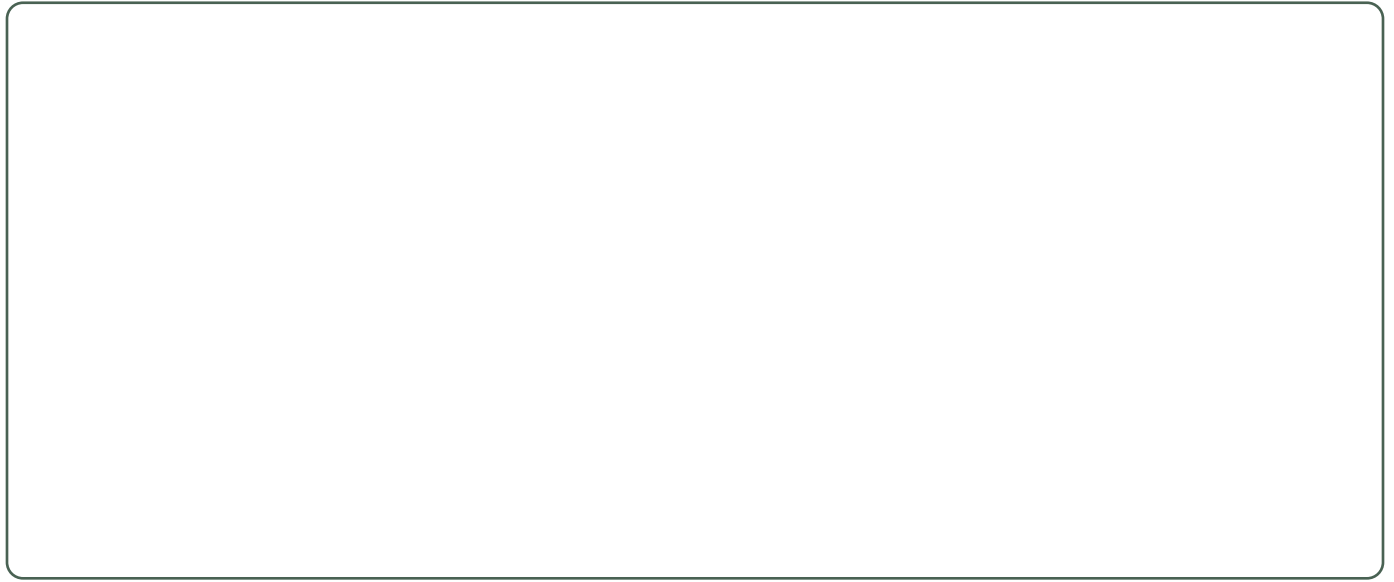
Measure target B with the unit cards. Record its length and show how you know. Check the other end, too.

SHOW YOUR THINKING

023 and 024

023 | Independent practice

Build a straight path 9 unit cards long. Draw it. Explain how you made a fair measurement.

**024 | Small-group reteach**

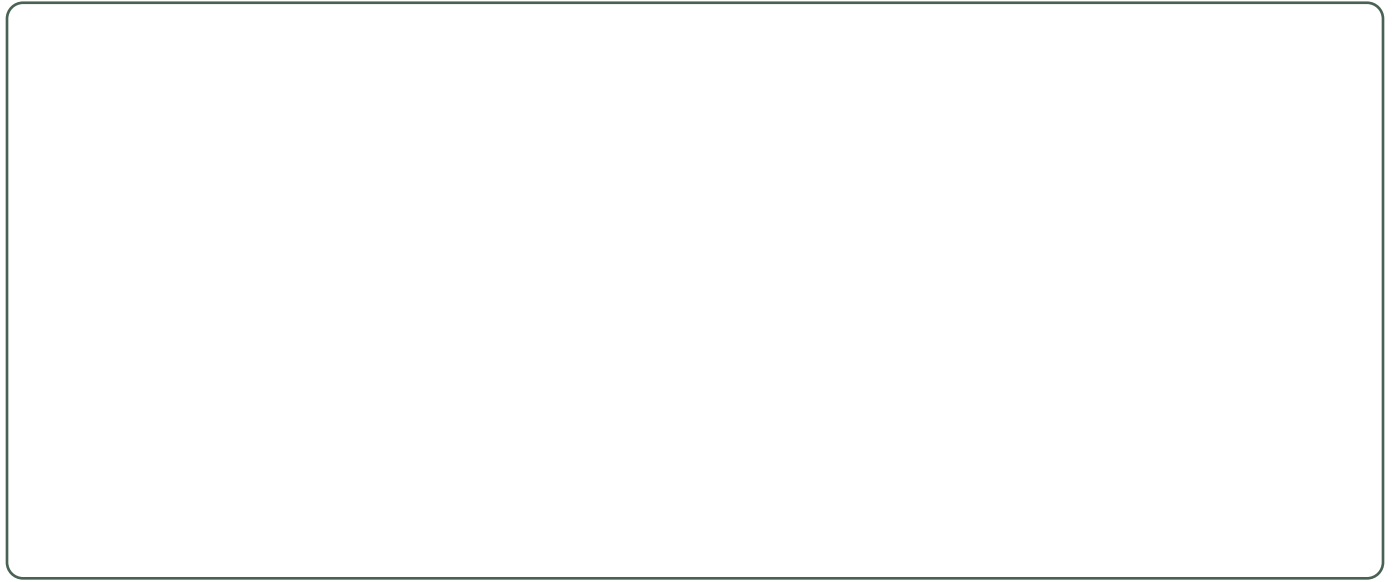
Measure target F. A puppet left gaps. Fix the measuring row, then record the length.



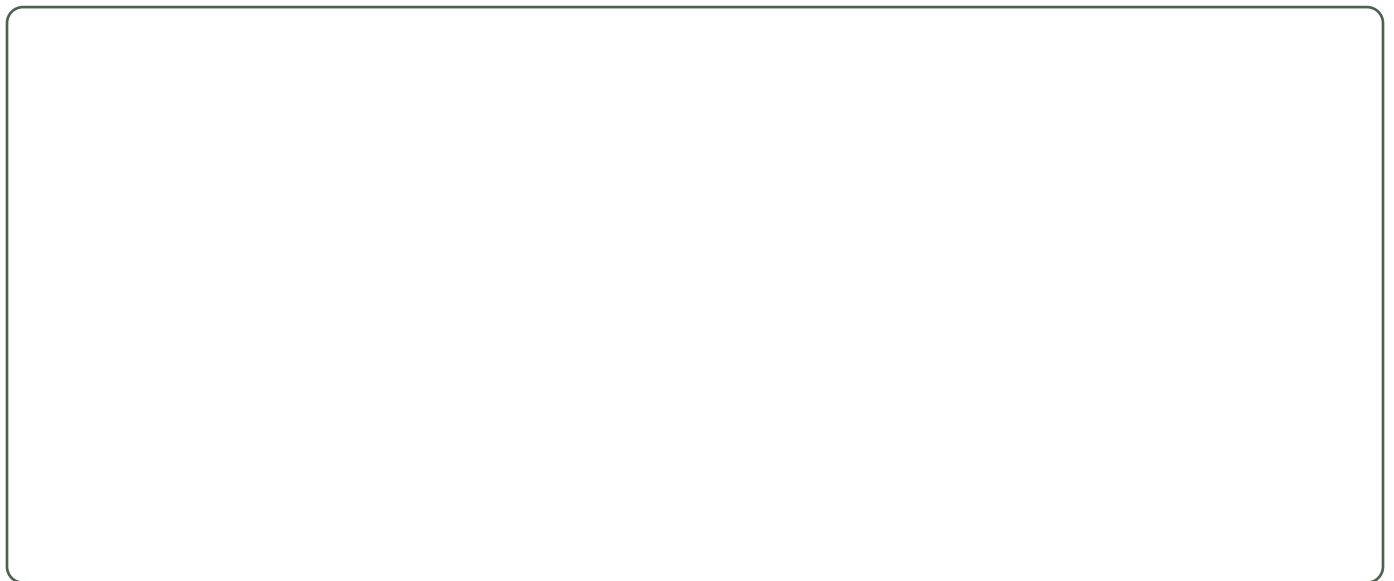
SHOW YOUR THINKING

027 and 028**027 | Small-group reteach**

Measure target H with the unit cards. Record its length and show how you know. Check the other end, too.

**028 | Exit ticket**

Build a straight path 3 unit cards long. Draw it. Explain how you made a fair measurement.



TEACHER ONLY | DO NOT DISPLAY DURING ASSESSMENT

M01-M04 | full keys

M01 - D. 6

Count the 6 equal units, once each. They meet end to end with the first and last endpoints matching the object. The length is 6 units. Distractors count a different number of units.

M02 - C. 3

Count the 3 equal units, once each. They meet end to end with the first and last endpoints matching the object. The length is 3 units. Distractors count a different number of units.

M03 - A. 9

Count the 9 equal units, once each. They meet end to end with the first and last endpoints matching the object. The length is 9 units. Distractors count a different number of units.

M04 - A. 4

Count the 4 equal units, once each. They meet end to end with the first and last endpoints matching the object. The length is 4 units. Distractors count a different number of units.

TEACHER ONLY | DO NOT DISPLAY DURING ASSESSMENT

001-003 | full keys

001 - sample performance

Preparation: Use target H and multiple supplied unit cards printed at the SAME scale. Target length is 6 card lengths. Keep target-reference labels; do not tell the count.

Target H: 6 unit cards. Child aligns the first endpoint, places 6 equal copies touching end to end without overlaps, matches the far endpoint, and records or says "6 unit cards." Counting alone without laying copies is partial evidence.

Target: Measure by iterating copies and express the result. Accept equivalent correct explanations and valid response routes.

002 - sample performance

Preparation: Use target A and multiple supplied unit cards printed at the SAME scale. Target length is 7 card lengths. Keep target-reference labels; do not tell the count.

Target A: 7 unit cards. Child aligns the first endpoint, places 7 equal copies touching end to end without overlaps, matches the far endpoint, and records or says "7 unit cards." Counting alone without laying copies is partial evidence.

Target: Measure by iterating copies and express the result. Accept equivalent correct explanations and valid response routes.

003 - sample performance

Preparation: Supply 12 equal unit cards and a blank surface. Do not build the path first.

A straight chain of 5 equal unit cards, touching end to end with no overlap, represents 5 card lengths. The child counts each card once and explains that gaps or overlaps change the measured length.

Target: Construct and explain repeated length units. Accept equivalent correct explanations and valid response routes.