

Times as Many



Grade 4 | NC.4.OA.1

Teacher scripts • Visual models and organizers
30 choice + 30 open/performance tasks
Worked keys • Individual evidence records

Current NC standards: 2026-27 and 2027-28. A reusable bank across several sessions, not a single 60-item test.

Free sample | Contents

NC.4.OA.1 | Fourth Grade mathematics

This sample contains 19 complete selected pages from the 92-page resource, plus this sample contents page. Original printed page numbers are retained. Gaps are intentional.

Included original pages: 1-15, 30-31, 60, 75

Representative activities

M01: sample PDF page(s) 16; original page(s) 15

M02: sample PDF page(s) 16; original page(s) 15

O01: sample PDF page(s) 17; original page(s) 30

O02: sample PDF page(s) 18; original page(s) 31

Selected teacher prompts and keys: original page(s) 60, 75

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

Standard and learning targets

Interpret a multiplication equation as a comparison. Multiply or divide to solve word problems involving multiplicative comparisons using models and equations with a symbol for the unknown number. Distinguish multiplicative comparison from additive comparison.

I can...

- Interpret a multiplication equation as a comparison of two quantities.
- Solve for a larger amount, smaller amount or comparison factor using a model and an unknown equation.
- Distinguish times as many from more than.

Essential question: How can a model and an equation explain why my answer makes sense? MP2 connects quantities to symbols; MP3 supports explanation and critique; MP5 selects tools; MP7 examines structure.

TEACHER GUIDE

Plan, access and materials

Use four sessions of about 20-30 minutes, adjusted to need. Session 1: warm-up and model (M01, O01, M05, O05). Session 2: shared and partner work (M09, O09, M14, O14). Session 3: independent evidence (M19, O19). Session 4: reteach and exit (M24, O24, M28, O28). Remaining tasks are optional spaced practice and fresh checks.

Prerequisites: Equal groups, multiplication and division facts, additive comparison, labels for two quantities.

Materials: pencil, paper and the supplied organizers. Optional large square blocks are teaching supports. All required diagrams are printed; no companion file is needed. Adults handle any cutting. Contexts are invented for instruction.

Vocabulary: comparison, times as many, more than, factor, unknown, equation. Model and gesture before asking for formal language. Invite explanations in a familiar language, then connect the terms.

Allow neutral read-aloud, enlarged print, breaks, AAC, signing and dictated explanations. Do not score handwriting, decoding or accent. Preserve the mathematical task: naming an operation, providing a factor or completing a rule is an answer-supplying cue, not neutral access.

Collect individual evidence even during partner work. Observe models, equations, calculation and interpretation separately. Keep keys and worked examples out of view during independent checks. No fixed speed cutoff or official mastery threshold is claimed.

TEACHER GUIDE

Contents and coverage

Guide and model pages come first, followed by seven teaching scripts, the student choice and performance banks, teacher-only worked keys, scoring, a reusable evidence record and sources. Print only selected student pages.

Warm-up: M01-M04 / O01-O04

I Do: M05-M08 / O05-O08

We Do: M09-M13 / O09-O13

Collaborative practice: M14-M18 / O14-O18

Independent practice: M19-M23 / O19-O23

Small-group reteach: M24-M27 / O24-O27

Exit ticket: M28-M30 / O28-O30

Every open task collects the actual performance, not just recognition. Use task IDs to match each page with its key. Targets printed with keys clarify the evidence expected. Revisit with a fresh item rather than treating a corrected response as new independent evidence.

WORKED TEACHER MODEL

One unit, several copies

Mina has 5 cards. Joel has 3 times as many.

Smaller amount



5 in one unit

Larger amount



One unit = 5. Three units = $3 \times 5 = 15$.

$n = 3 \times 5$; $n = 15$ cards.

To find the smaller amount: $3 \times n = 15$, so $n = 5$.

To find the factor: $5 \times n = 15$, so $n = 3$.

Contrast: 3 MORE than 5 is $5 + 3 = 8$. An additive comparison adds a fixed extra amount. A multiplicative comparison copies the entire reference amount.

STUDENT VISUAL TOOL

Compare equal units

Use this example during shared practice. The smaller amount is one unit of 5; the larger amount has three equal units. Trace one unit, then the three copies.

Smaller amount



5 in one unit

Larger amount



Write the comparison equation / label both amounts

STUDENT TOOL

Reusable reasoning organizer

Name: _____ Date: _____

Use words, drawings, blocks or equations. Label quantities.

Reference amount / comparison factor / unknown**Draw and label both compared amounts****Equation and solution****Additive or multiplicative? Explain.**

TEACHER GUIDE

Warm-up teaching script

Select M01 and O01. Save the remaining items in this section for later practice. Timing is flexible; the whole bank is never assigned at once.

1-2 minutes | Launch

Ask: "What does times as many compare? What would more than mean?" Have learners show 3 groups of 4 and 4 plus 3 separately.

3-6 minutes | Model or elicit

Use O01 before M01 when collecting independent evidence. During I Do, think aloud and connect each drawing part to its equation. During We Do, pause for learners to suggest the next step. During independent and exit work, remain neutral.

3-5 minutes | Examine

Listen for: Interpret a multiplication equation as a comparison of two quantities. Ask: "What does each quantity mean? How can you check that your model matches?"

2-4 minutes | Respond

After recording the first response, use the worked model or blank organizer to revisit the structure. Ask the learner to locate the first mismatch. Record any supplied step separately; do not overwrite the initial evidence.

1-3 minutes | Close

Ask the learner to create a different example following the same structure and justify it. Record the exact response, support and next teaching step. Use a fresh item from this section on another day to check transfer.

TEACHER GUIDE

I Do teaching script

Select M05 and O05. Save the remaining items in this section for later practice. Timing is flexible; the whole bank is never assigned at once.

1-2 minutes | Launch

Say: "Mina has 5. Joel has 3 times as many. One unit represents Mina's 5, so Joel needs three copies: $n = 3 \times 5 = 15$." Compare with $5+3=8$.

3-6 minutes | Model or elicit

Use O05 before M05 when collecting independent evidence. During I Do, think aloud and connect each drawing part to its equation. During We Do, pause for learners to suggest the next step. During independent and exit work, remain neutral.

3-5 minutes | Examine

Listen for: Solve for a larger amount, smaller amount or comparison factor using a model and an unknown equation. Ask: "What does each quantity mean? How can you check that your model matches?"

2-4 minutes | Respond

After recording the first response, use the worked model or blank organizer to revisit the structure. Ask the learner to locate the first mismatch. Record any supplied step separately; do not overwrite the initial evidence.

1-3 minutes | Close

Ask the learner to create a different example following the same structure and justify it. Record the exact response, support and next teaching step. Use a fresh item from this section on another day to check transfer.

TEACHER GUIDE

We Do teaching script

Select M09 and O09. Save the remaining items in this section for later practice. Timing is flexible; the whole bank is never assigned at once.

1-2 minutes | Launch

Use $24 = 4 \times n$. Ask: "Which amount is one unit?" Partition 24 into four equal parts to find $n=6$. Then compare 24 to 6 to find the factor 4.

3-6 minutes | Model or elicit

Use O09 before M09 when collecting independent evidence. During I Do, think aloud and connect each drawing part to its equation. During We Do, pause for learners to suggest the next step. During independent and exit work, remain neutral.

3-5 minutes | Examine

Listen for: Solve for a larger amount, smaller amount or comparison factor using a model and an unknown equation. Ask: "What does each quantity mean? How can you check that your model matches?"

2-4 minutes | Respond

After recording the first response, use the worked model or blank organizer to revisit the structure. Ask the learner to locate the first mismatch. Record any supplied step separately; do not overwrite the initial evidence.

1-3 minutes | Close

Ask the learner to create a different example following the same structure and justify it. Record the exact response, support and next teaching step. Use a fresh item from this section on another day to check transfer.

TEACHER GUIDE

Collaborative practice teaching script

Select M14 and O14. Save the remaining items in this section for later practice. Timing is flexible; the whole bank is never assigned at once.

1-2 minutes | Launch

Partners each draw a model before comparing. One explains the unit; the other checks the number of copies. Switch roles with a smaller-amount unknown.

3-6 minutes | Model or elicit

Use O14 before M14 when collecting independent evidence. During I Do, think aloud and connect each drawing part to its equation. During We Do, pause for learners to suggest the next step. During independent and exit work, remain neutral.

3-5 minutes | Examine

Listen for: Solve for a larger amount, smaller amount or comparison factor using a model and an unknown equation. Ask: "What does each quantity mean? How can you check that your model matches?"

2-4 minutes | Respond

After recording the first response, use the worked model or blank organizer to revisit the structure. Ask the learner to locate the first mismatch. Record any supplied step separately; do not overwrite the initial evidence.

1-3 minutes | Close

Ask the learner to create a different example following the same structure and justify it. Record the exact response, support and next teaching step. Use a fresh item from this section on another day to check transfer.

TEACHER GUIDE

Independent practice teaching script

Select M19 and O19. Save the remaining items in this section for later practice. Timing is flexible; the whole bank is never assigned at once.

1-2 minutes | Launch

Keep worked bars out of view. Ask for the unknown equation, model and interpretation. Do not name multiplication or division for the learner.

3-6 minutes | Model or elicit

Use O19 before M19 when collecting independent evidence. During I Do, think aloud and connect each drawing part to its equation. During We Do, pause for learners to suggest the next step. During independent and exit work, remain neutral.

3-5 minutes | Examine

Listen for: Solve for a larger amount, smaller amount or comparison factor using a model and an unknown equation. Ask: "What does each quantity mean? How can you check that your model matches?"

2-4 minutes | Respond

After recording the first response, use the worked model or blank organizer to revisit the structure. Ask the learner to locate the first mismatch. Record any supplied step separately; do not overwrite the initial evidence.

1-3 minutes | Close

Ask the learner to create a different example following the same structure and justify it. Record the exact response, support and next teaching step. Use a fresh item from this section on another day to check transfer.

TEACHER GUIDE

Small-group reteach teaching script

Select M24 and O24. Save the remaining items in this section for later practice. Timing is flexible; the whole bank is never assigned at once.

1-2 minutes | Launch

If the learner adds the comparison factor, build a single unit and copy that entire unit. Contrast one extra block with one extra group.

3-6 minutes | Model or elicit

Use O24 before M24 when collecting independent evidence. During I Do, think aloud and connect each drawing part to its equation. During We Do, pause for learners to suggest the next step. During independent and exit work, remain neutral.

3-5 minutes | Examine

Listen for: Solve for a larger amount, smaller amount or comparison factor using a model and an unknown equation. Ask: "What does each quantity mean? How can you check that your model matches?"

2-4 minutes | Respond

After recording the first response, use the worked model or blank organizer to revisit the structure. Ask the learner to locate the first mismatch. Record any supplied step separately; do not overwrite the initial evidence.

1-3 minutes | Close

Ask the learner to create a different example following the same structure and justify it. Record the exact response, support and next teaching step. Use a fresh item from this section on another day to check transfer.

TEACHER GUIDE

Exit ticket teaching script

Select M28 and O28. Save the remaining items in this section for later practice. Timing is flexible; the whole bank is never assigned at once.

1-2 minutes | Launch

Ask for a fresh model and equation. Record whether the learner distinguishes the amount from the comparison factor.

3-6 minutes | Model or elicit

Use O28 before M28 when collecting independent evidence. During I Do, think aloud and connect each drawing part to its equation. During We Do, pause for learners to suggest the next step. During independent and exit work, remain neutral.

3-5 minutes | Examine

Listen for: Solve for a larger amount, smaller amount or comparison factor using a model and an unknown equation. Ask: "What does each quantity mean? How can you check that your model matches?"

2-4 minutes | Respond

After recording the first response, use the worked model or blank organizer to revisit the structure. Ask the learner to locate the first mismatch. Record any supplied step separately; do not overwrite the initial evidence.

1-3 minutes | Close

Ask the learner to create a different example following the same structure and justify it. Record the exact response, support and next teaching step. Use a fresh item from this section on another day to check transfer.

STUDENT BANK

Choice practice 1-2

M01 Joel has 50 cards, which is 5 times as many as Mina has. How many cards does Mina have?

- | | |
|-------|-------|
| A. 50 | B. 13 |
| C. 8 | D. 10 |

Choose one. Be ready to explain your reasoning.

M02 Mina has 7 cards. Joel has 8 times as many cards as Mina. How many cards does Joel have?

- | | |
|-------|-------|
| A. 15 | B. 58 |
| C. 56 | D. 59 |

Choose one. Be ready to explain your reasoning.

STUDENT PERFORMANCE

001 | Warm-up

The equation $20 = 5 \times 4$ compares Joel's 20 cards with Mina's 4 cards. How many times as many cards does Joel have? Draw a labeled comparison model. Write an equation with n for the unknown, solve it, and explain whether the comparison is additive or multiplicative.

Model: label both amounts

Unknown equation / solution / comparison explanation

STUDENT PERFORMANCE

002 | Warm-up

Mina has 11 cards. Joel has 8 MORE cards than Mina. How many cards does Joel have? Draw a labeled comparison model. Write an equation with n for the unknown, solve it, and explain whether the comparison is additive or multiplicative.

Model: label both amounts

Unknown equation / solution / comparison explanation

TEACHER ONLY

M keys 1-2

M01: D. 10

Target: Solve for a larger amount, smaller amount or comparison factor using a model and an unknown equation.

$5 \times n = 50$. $50 \div 5 = 10$. Draw Joel as 5 equal units with total 50; Mina has one unit, 10 cards. The letter n stands for the quantity asked for.

Other choices: 50, 13, 8. Each fails the stated calculation or rule. Ask the learner to show the operation/model before attributing a misconception; one choice alone cannot diagnose thinking.

M02: C. 56

Target: Solve for a larger amount, smaller amount or comparison factor using a model and an unknown equation.

$n = 8 \times 7$. $8 \times 7 = 56$. Draw Mina as one unit of 7 and Joel as 8 equal units, totaling 56 cards. The letter n stands for the quantity asked for.

Other choices: 15, 58, 59. Each fails the stated calculation or rule. Ask the learner to show the operation/model before attributing a misconception; one choice alone cannot diagnose thinking.

TEACHER ONLY

0 keys 1-2

001: 5

Target: Interpret a multiplication equation as a comparison of two quantities.

$20 = n \times 4$. The factor 5 means Joel's amount is 5 copies of Mina's amount. $20 \div 4 = 5$; an additive comparison would be 16 more cards. The letter n stands for the quantity asked for.

Accept equivalent correct models and explanations. Score each requested dimension separately; the sample is not required wording.

002: 19

Target: Distinguish times as many from more than.

$n = 11 + 8$. $11 + 8 = 19$. Draw one bar of 11 and an extra part of 8. This is additive comparison. If the story said 8 TIMES as many, the answer would instead be $8 \times 11 = 88$. The letter n stands for the quantity asked for.

Accept equivalent correct models and explanations. Score each requested dimension separately; the sample is not required wording.