

Compare equal-whole fractions



GRADE 3 | NC.3.NF.4

Seven teaching sections • 30 choice tasks • 30 open/performance tasks

Includes teacher scripts, models, student organizers, original visuals, worked keys and individual evidence records.

Use selected tasks across several lessons. The 60-item bank is not a one-sitting test.

Aligned to the current 2026-27 / 2027-28 NC standards.

Free sample | Contents

NC.3.NF.4 | Third Grade mathematics

This sample contains 20 complete selected pages from the 108-page resource, plus this sample contents page. Original printed page numbers are retained. Gaps are intentional.

Included original pages: 1-16, 45-46, 78, 93

Representative activities

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

M02: sample PDF page(s) 17; original page(s) 16

O01: sample PDF page(s) 18; original page(s) 45

O02: sample PDF page(s) 19; original page(s) 46

Selected teacher prompts and keys: original page(s) 78, 93

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

Contents and teaching route

Teacher reference: exact standard and targets; prerequisites and access; worked model; seven section scripts; reusable organizers.

Student bank: M01-M30 are choice practice, O01-O30 are open/performance tasks. Print only selected pages. Teacher-only keys and evidence records follow.

Suggested route: Day 1 warm-up + I Do (about 20 minutes); Day 2 We Do + collaborative practice (about 28 minutes); Day 3 independent practice + exit (about 22 minutes). Use a separate 10-minute reteach after interpreting evidence.

Return to fresh tasks over several days until each required comparison, model or time performance has been observed. Use short discussions rather than completing the whole bank at once.

Worked examples and partner-supported responses are practice. Use fresh individual items to collect independent evidence. Recognition alone cannot establish the ability to build, measure, collect or explain.

Each item names its target in the teacher key. The standard-to-evidence page describes which observations complete the coverage.

TEACHER GUIDE

The exact NC standard

NC.3.NF.4: Compare two fractions with the same numerator or the same denominator by reasoning about their size, using area and length models, and using the $>$, $<$, and $=$ symbols. Recognize that comparisons are valid only when the two fractions refer to the same whole with denominators: halves, fourths and eighths; thirds and sixths.

Learning targets

A | Compare same-denominator fractions using area and length models.

B | Compare same-numerator fractions using area and length models.

C | Use $>$, $<$ and $=$ and explain the same-whole requirement.

Essential question: How can a representation, tool or explanation show that an answer makes sense?

TEACHER GUIDE

Prepare, include, and notice

Prerequisites: Recognize equal parts and unit fractions; identify numerator and denominator; build halves, thirds, fourths, sixths and eighths.

Materials: Equal-sized paper rectangles, pencils and the supplied organizers; adult scissors if cutting strips. Models compare a single same-sized whole. Use only the named denominators.

Access: read directions neutrally; offer enlarged print, high contrast, speech, pointing, signed/AAC response or a scribe. Do not supply fraction-size reasoning, read the clock hands, name the operation, choose the graph scale or perform a measurement for the learner.

Record answer-supplying cues separately. Physical access may use child-directed tool manipulation when the learner controls placement and reading. If access prevents seeing the skill, record N/O and arrange a valid alternative.

Misconception response: If a student says $\frac{1}{8} > \frac{1}{4}$ because $8 > 4$, return to equal paper strips. Partition one into eight and one into four; compare a single piece. Do not introduce cross-multiplication or comparisons with both numerator and denominator different.

What to keep: Collect separately: a same-denominator comparison, a same-numerator comparison, equality, area reasoning, length reasoning, and a different-whole explanation.

TEACHER GUIDE

Worked teacher model

Say: "I compare $\frac{3}{4}$ and $\frac{3}{8}$. I begin with two identical rectangles. Both fractions use three pieces, but eighths are smaller than fourths. Three eighths cover less area than three fourths, so $\frac{3}{4} > \frac{3}{8}$." Draw four equal columns in one rectangle and eight in the other; shade three in each. Then mark the same fractions on two equal 0-to-1 lengths. Say: "The endpoint of $\frac{3}{4}$ is farther right. Both models support the same comparison."



A and B use equal-sized wholes. Shading or thick length shows the fraction.

Teacher talk: Same denominator: same-sized pieces, so compare how many. Same numerator: same number of pieces, so compare piece size. Equal numerators and denominators: equal amounts of the same whole. First check the whole; then use $<$, $>$ or $=$.

REUSABLE TEACHING REFERENCE

Anchor chart | make it make sense

Same denominator: same-sized pieces, so compare how many. Same numerator: same number of pieces, so compare piece size. Equal numerators and denominators: equal amounts of the same whole. First check the whole; then use $<$, $>$ or $=$.

1. Name what the numbers, parts, marks or symbols represent.
2. Build or read a representation using equal units and the correct whole/scale.
3. Explain the mathematical decision, not only the final answer.
4. Check the result against the original situation.

Teaching prompt: "Show me the part of your model or tool that supports your claim." For independent evidence, ask this neutrally without pointing to the needed part.

TEACHER GUIDE

Warm-up | teaching script

Purpose: Activate the prerequisite with one familiar representation. Bank allocation: M01-M04 and O01-O04. These are choices across lessons, not a single sitting.

Selected core, about 8 minutes: first 2 minute(s) introduce the target and materials; next 3 minutes work with M01 and O01; last 3 minute(s) compare explanations and record evidence. Extend the physical measurement or survey task to a separate session when needed.

Say and do: Ask: "Are the wholes the same size? Are the denominators or numerators the same? What does that tell you about the pieces?" Point to equal wholes only during teaching. Model a comparison using shaded area, then compare endpoints on equal lengths.

Begin with a neutral reading of the directions. Wait for the learner to choose a method; ask "How do you know?" without naming the answer or operation.

Listen/look for: Collect separately: a same-denominator comparison, a same-numerator comparison, equality, area reasoning, length reasoning, and a different-whole explanation.

If an error appears: If a student says $\frac{1}{8} > \frac{1}{4}$ because $8 > 4$, return to equal paper strips. Partition one into eight and one into four; compare a single piece. Do not introduce cross-multiplication or comparisons with both numerator and denominator different.

Access: allow pointing, speech, signed/AAC answers, dictation or child-directed manipulation. Record access separately from cues that name the operation, count marks, set the scale or select pieces.

Early finisher: construct a new example with the same constraints, solve it and explain why the representation is valid. Record item, actual words/actions, support and one fresh follow-up task.

TEACHER GUIDE

I Do | teaching script

Purpose: Make the reasoning visible; responses here are supported practice. Bank allocation: M05-M08 and O05-O08. These are choices across lessons, not a single sitting.

Selected core, about 12 minutes: first 2 minute(s) introduce the target and materials; next 7 minutes work with M05 and O05; last 3 minute(s) compare explanations and record evidence. Extend the physical measurement or survey task to a separate session when needed.

Say and do: Ask: "Are the wholes the same size? Are the denominators or numerators the same? What does that tell you about the pieces?" Point to equal wholes only during teaching. Model a comparison using shaded area, then compare endpoints on equal lengths.

Use the complete worked model on the model page. Think aloud, point to each representation, then invite learners to restate the reasoning. Never score this demonstration as independent evidence.

Listen/look for: Collect separately: a same-denominator comparison, a same-numerator comparison, equality, area reasoning, length reasoning, and a different-whole explanation.

If an error appears: If a student says $\frac{1}{8} > \frac{1}{4}$ because $8 > 4$, return to equal paper strips. Partition one into eight and one into four; compare a single piece. Do not introduce cross-multiplication or comparisons with both numerator and denominator different.

Access: allow pointing, speech, signed/AAC answers, dictation or child-directed manipulation. Record access separately from cues that name the operation, count marks, set the scale or select pieces.

Early finisher: construct a new example with the same constraints, solve it and explain why the representation is valid. Record item, actual words/actions, support and one fresh follow-up task.

TEACHER GUIDE

We Do | teaching script

Purpose: Share the mathematical decisions, then ask each learner to explain. Bank allocation: M09-M13 and O09-O13. These are choices across lessons, not a single sitting.

Selected core, about 15 minutes: first 2 minute(s) introduce the target and materials; next 10 minutes work with M09 and O09; last 3 minute(s) compare explanations and record evidence. Extend the physical measurement or survey task to a separate session when needed.

Say and do: Ask: "Are the wholes the same size? Are the denominators or numerators the same? What does that tell you about the pieces?" Point to equal wholes only during teaching. Model a comparison using shaded area, then compare endpoints on equal lengths.

Begin with a neutral reading of the directions. Wait for the learner to choose a method; ask "How do you know?" without naming the answer or operation.

Listen/look for: Collect separately: a same-denominator comparison, a same-numerator comparison, equality, area reasoning, length reasoning, and a different-whole explanation.

If an error appears: If a student says $\frac{1}{8} > \frac{1}{4}$ because $8 > 4$, return to equal paper strips. Partition one into eight and one into four; compare a single piece. Do not introduce cross-multiplication or comparisons with both numerator and denominator different.

Access: allow pointing, speech, signed/AAC answers, dictation or child-directed manipulation. Record access separately from cues that name the operation, count marks, set the scale or select pieces.

Early finisher: construct a new example with the same constraints, solve it and explain why the representation is valid. Record item, actual words/actions, support and one fresh follow-up task.

TEACHER GUIDE

Collaborative practice | teaching script

Purpose: Partners compare methods; each learner records an individual response. Bank allocation: M14-M18 and O14-O18. These are choices across lessons, not a single sitting.

Selected core, about 13 minutes: first 2 minute(s) introduce the target and materials; next 8 minutes work with M14 and O14; last 3 minute(s) compare explanations and record evidence. Extend the physical measurement or survey task to a separate session when needed.

Say and do: Ask: "Are the wholes the same size? Are the denominators or numerators the same? What does that tell you about the pieces?" Point to equal wholes only during teaching. Model a comparison using shaded area, then compare endpoints on equal lengths.

Begin with a neutral reading of the directions. Wait for the learner to choose a method; ask "How do you know?" without naming the answer or operation.

Listen/look for: Collect separately: a same-denominator comparison, a same-numerator comparison, equality, area reasoning, length reasoning, and a different-whole explanation.

If an error appears: If a student says $\frac{1}{8} > \frac{1}{4}$ because $8 > 4$, return to equal paper strips. Partition one into eight and one into four; compare a single piece. Do not introduce cross-multiplication or comparisons with both numerator and denominator different.

Access: allow pointing, speech, signed/AAC answers, dictation or child-directed manipulation. Record access separately from cues that name the operation, count marks, set the scale or select pieces.

Early finisher: construct a new example with the same constraints, solve it and explain why the representation is valid. Record item, actual words/actions, support and one fresh follow-up task.

TEACHER GUIDE

Independent practice | teaching script

Purpose: Collect fresh evidence without supplying mathematical steps. Bank allocation: M19-M23 and O19-O23. These are choices across lessons, not a single sitting.

Selected core, about 17 minutes: first 2 minute(s) introduce the target and materials; next 12 minutes work with M19 and O19; last 3 minute(s) compare explanations and record evidence. Extend the physical measurement or survey task to a separate session when needed.

Say and do: Say: "Work on the selected task on your own. Show your thinking in a way that works for you." Read directions neutrally if needed. Do not point to a part, count ticks, name an operation, supply a scale or align the tool. Ask only "How do you know?" after the attempt.

Begin with a neutral reading of the directions. Wait for the learner to choose a method; ask "How do you know?" without naming the answer or operation.

Listen/look for: Collect separately: a same-denominator comparison, a same-numerator comparison, equality, area reasoning, length reasoning, and a different-whole explanation.

If an error appears: If a student says $\frac{1}{8} > \frac{1}{4}$ because $8 > 4$, return to equal paper strips. Partition one into eight and one into four; compare a single piece. Do not introduce cross-multiplication or comparisons with both numerator and denominator different.

Access: allow pointing, speech, signed/AAC answers, dictation or child-directed manipulation. Record access separately from cues that name the operation, count marks, set the scale or select pieces.

Early finisher: construct a new example with the same constraints, solve it and explain why the representation is valid. Record item, actual words/actions, support and one fresh follow-up task.

TEACHER GUIDE

Small-group reteach | teaching script

Purpose: Use the diagnosed misconception to rebuild the concept. Bank allocation: M24-M27 and O24-O27. These are choices across lessons, not a single sitting.

Selected core, about 10 minutes: first 2 minute(s) introduce the target and materials; next 5 minutes work with M24 and O24; last 3 minute(s) compare explanations and record evidence. Extend the physical measurement or survey task to a separate session when needed.

Say and do: Ask: "Are the wholes the same size? Are the denominators or numerators the same? What does that tell you about the pieces?" Point to equal wholes only during teaching. Model a comparison using shaded area, then compare endpoints on equal lengths.

Begin with a neutral reading of the directions. Wait for the learner to choose a method; ask "How do you know?" without naming the answer or operation.

Listen/look for: Collect separately: a same-denominator comparison, a same-numerator comparison, equality, area reasoning, length reasoning, and a different-whole explanation.

If an error appears: If a student says $\frac{1}{8} > \frac{1}{4}$ because $8 > 4$, return to equal paper strips. Partition one into eight and one into four; compare a single piece. Do not introduce cross-multiplication or comparisons with both numerator and denominator different.

Access: allow pointing, speech, signed/AAC answers, dictation or child-directed manipulation. Record access separately from cues that name the operation, count marks, set the scale or select pieces.

Early finisher: construct a new example with the same constraints, solve it and explain why the representation is valid. Record item, actual words/actions, support and one fresh follow-up task.

TEACHER GUIDE

Exit ticket | teaching script

Purpose: Collect one brief fresh performance and select a next teaching step. Bank allocation: M28-M30 and O28-O30. These are choices across lessons, not a single sitting.

Selected core, about 5 minutes: first 1 minute(s) introduce the target and materials; next 3 minutes work with M28 and O28; last 1 minute(s) compare explanations and record evidence. Extend the physical measurement or survey task to a separate session when needed.

Say and do: Say: "Work on the selected task on your own. Show your thinking in a way that works for you." Read directions neutrally if needed. Do not point to a part, count ticks, name an operation, supply a scale or align the tool. Ask only "How do you know?" after the attempt.

Begin with a neutral reading of the directions. Wait for the learner to choose a method; ask "How do you know?" without naming the answer or operation.

Listen/look for: Collect separately: a same-denominator comparison, a same-numerator comparison, equality, area reasoning, length reasoning, and a different-whole explanation.

If an error appears: If a student says $\frac{1}{8} > \frac{1}{4}$ because $8 > 4$, return to equal paper strips. Partition one into eight and one into four; compare a single piece. Do not introduce cross-multiplication or comparisons with both numerator and denominator different.

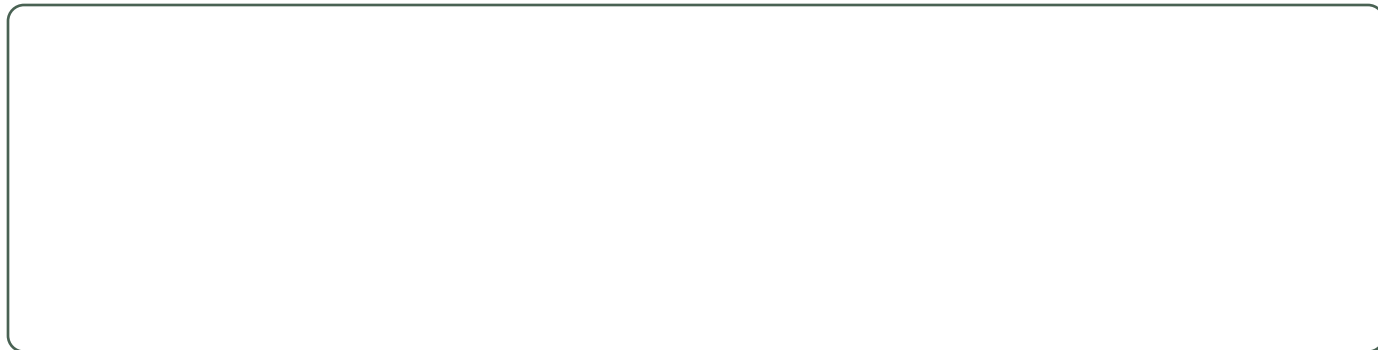
Access: allow pointing, speech, signed/AAC answers, dictation or child-directed manipulation. Record access separately from cues that name the operation, count marks, set the scale or select pieces.

Early finisher: construct a new example with the same constraints, solve it and explain why the representation is valid. Record item, actual words/actions, support and one fresh follow-up task.

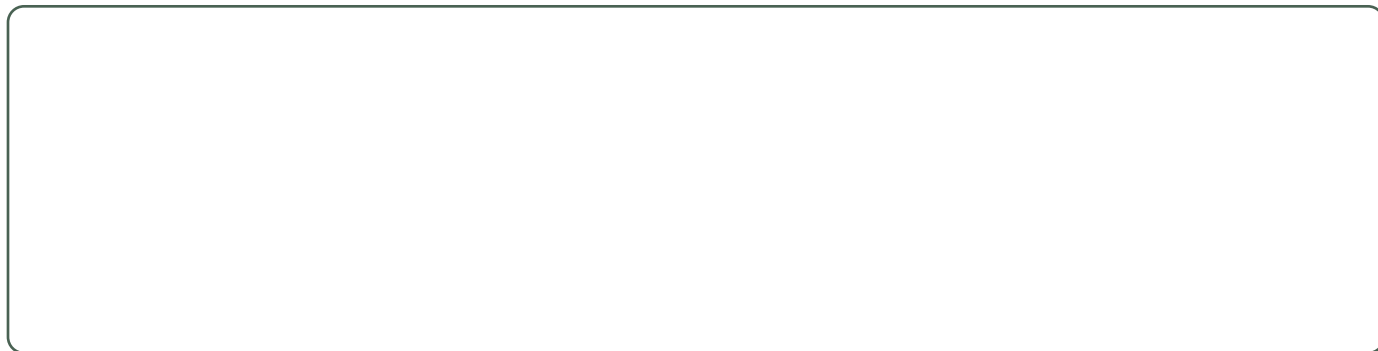
STUDENT RESOURCE

My reusable work organizer

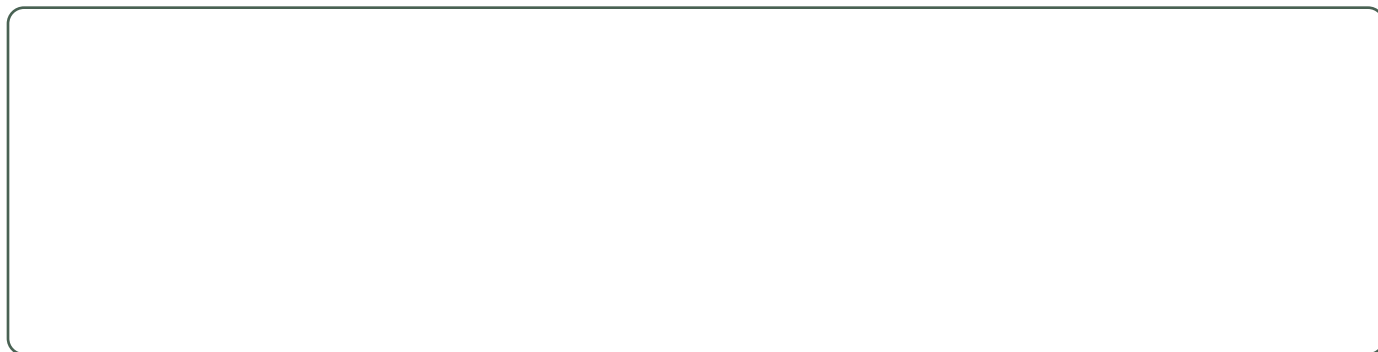
Model A | label fraction and whole



Model B | use the same-sized whole



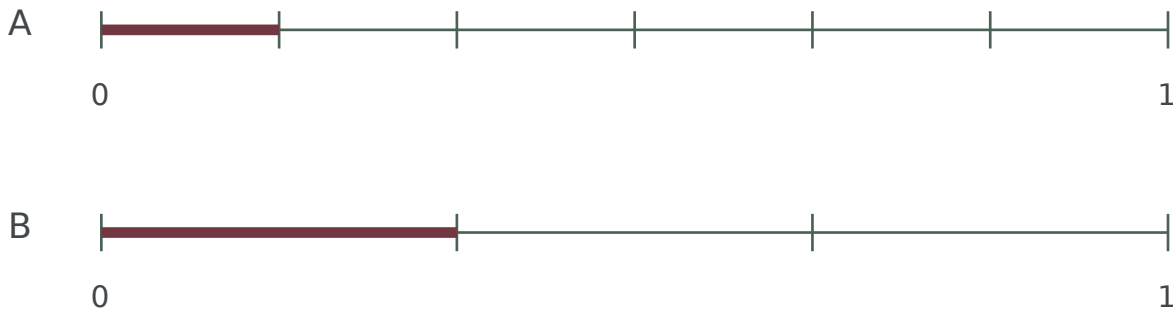
Comparison symbol and reasoning



STUDENT CHOICE PRACTICE

M01 | Warm-up

Compare $A = \frac{1}{6}$ and $B = \frac{1}{3}$. Both use the same-sized whole. Which statement is true?



A and B use equal-sized wholes. Shading or thick length shows the fraction.

- A. $\frac{1}{6} < \frac{1}{3}$
- B. You cannot compare fractions with these denominators.
- C. $\frac{1}{6} > \frac{1}{3}$
- D. $\frac{1}{6} = \frac{1}{3}$

Show or explain how you decided.

STUDENT CHOICE PRACTICE

M02 | Warm-up

Compare $A = \frac{3}{8}$ and $B = \frac{3}{8}$. Both use the same-sized whole. Which statement is true?



A and B use equal-sized wholes. Shading or thick length shows the fraction.

A. $\frac{3}{8} > \frac{3}{8}$

B. $\frac{3}{8} = \frac{3}{8}$

C. $\frac{3}{8} < \frac{3}{8}$

D. You cannot compare fractions with these denominators.

Show or explain how you decided.

STUDENT INDIVIDUAL PERFORMANCE

001 | Warm-up

Compare $\frac{3}{6}$ and $\frac{5}{6}$ using a area model of each fraction. Use equal-sized wholes. Write $>$, $<$ or $=$ and explain the size of the pieces or amount shown.

Model A



Model B



Comparison and explanation



STUDENT INDIVIDUAL PERFORMANCE

002 | Warm-up

Compare $\frac{1}{8}$ and $\frac{6}{8}$ using a area model of each fraction. Use equal-sized wholes. Write $>$, $<$ or $=$ and explain the size of the pieces or amount shown.

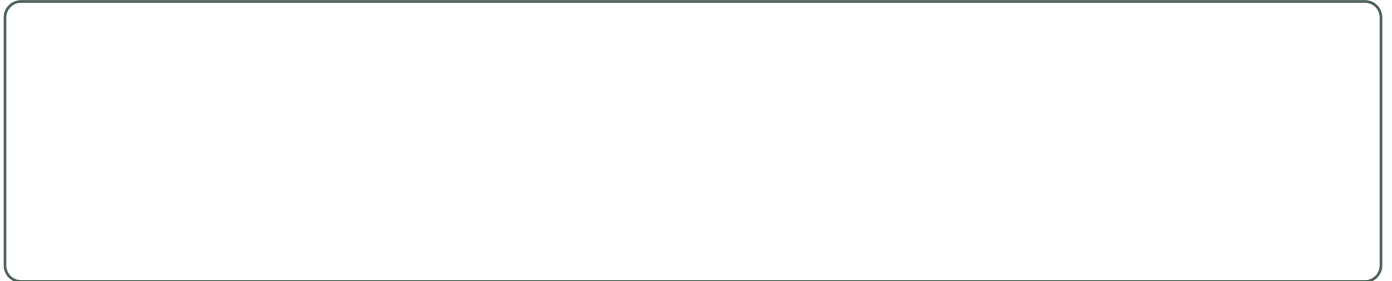
Model A

A large, empty rectangular box with rounded corners, intended for drawing an area model for the fraction 1/8.

Model B

A large, empty rectangular box with rounded corners, intended for drawing an area model for the fraction 6/8.

Comparison and explanation

A large, empty rectangular box with rounded corners, intended for writing the comparison and explanation of the fractions.

TEACHER ONLY | DO NOT GIVE WITH TASKS

M01-M02 | worked keys

M01 | A. $\frac{1}{6} < \frac{1}{3}$

$\frac{1}{6} < \frac{1}{3}$. Both use 1 pieces. Dividing the same whole into more equal parts makes each part smaller; compare piece sizes. The second shaded area or marked length is larger. Both models must represent the same-sized whole.

Other choices: B (You cannot compare fractions with these denominators.): This reverses the comparison or overlooks equal pieces/wholes; check the two models. C ($\frac{1}{6} > \frac{1}{3}$): This reverses the comparison or overlooks equal pieces/wholes; check the two models. D ($\frac{1}{6} = \frac{1}{3}$): This reverses the comparison or overlooks equal pieces/wholes; check the two models.

Target B: Compare same-numerator fractions using area and length models.

M02 | B. $\frac{3}{8} = \frac{3}{8}$

$\frac{3}{8} = \frac{3}{8}$. The pieces are the same size because both wholes are partitioned into 8 equal parts. Compare 3 and 3 pieces. The two shaded areas match. Both models must represent the same-sized whole.

Other choices: A ($\frac{3}{8} > \frac{3}{8}$): This reverses the comparison or overlooks equal pieces/wholes; check the two models. C ($\frac{3}{8} < \frac{3}{8}$): This reverses the comparison or overlooks equal pieces/wholes; check the two models. D (You cannot compare fractions with these denominators.): This reverses the comparison or overlooks equal pieces/wholes; check the two models.

Target A: Compare same-denominator fractions using area and length models.

TEACHER ONLY | DO NOT GIVE WITH TASKS

001-002 | worked keys

001 | expected performance

$\frac{3}{6} < \frac{5}{6}$. The pieces are the same size because both wholes are partitioned into 6 equal parts. Compare 3 and 5 pieces. The second shaded area or marked length is larger. Both models must represent the same-sized whole.

Target A: Compare same-denominator fractions using area and length models.

002 | expected performance

$\frac{1}{8} < \frac{6}{8}$. The pieces are the same size because both wholes are partitioned into 8 equal parts. Compare 1 and 6 pieces. The second shaded area or marked length is larger. Both models must represent the same-sized whole.

Target A: Compare same-denominator fractions using area and length models.