

Estimate, Decompose and Check



Grade 3 | NC.3.NBT.2

Teacher scripts • Original visual tools • 60-item bank
Worked solutions • Individual performance records

Current NC standards for 2026-27 and 2027-28. Select short lessons across several sessions. This reusable bank is not a single 60-item test.

Free sample | Contents

NC.3.NBT.2 | Third 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

Add and subtract whole numbers up to and including 1,000.

- Use estimation strategies to assess reasonableness of answers.
- Model and explain how the relationship between addition and subtraction can be applied to solve addition and subtraction problems.
- Use expanded form to decompose numbers and then find sums and differences.

Learning targets

- Add and subtract whole numbers through 1,000.
- Estimate and judge the reasonableness of an exact answer.
- Model and explain addition-subtraction relationships.
- Decompose in expanded form to find sums and differences, including exchanges.

Mathematical practices: MP2 connects quantities and symbols; MP3 explains and critiques reasoning; MP5 chooses useful tools; MP7 uses mathematical structure. Record actual performances, not only correct choices.

TEACHER GUIDE

Plan, access and materials

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

Prerequisites: equal groups and fact families for operations; rows, columns and skip-counting for patterns; place-value units and exchanges for base-ten work. Check these before increasing complexity.

Materials: pencil, blank paper and the supplied reproducible tools. Optional large blocks support teaching; adults prepare any cut materials. All contexts are invented for instruction.

Read directions neutrally. Allow speech, signing, AAC, dictation and drawing. Enlarge print and offer breaks. Do not score handwriting, spelling or decoding. Record access supports separately from hints that supply a mathematical step.

Vocabulary: factor, product, divisor, quotient, equal groups, unknown, equation, pattern, estimate, expanded form and exchange. Invite learners to point, model and explain in a familiar language.

Fluency includes accuracy, efficiency and flexibility. For products, NC.3.OA.7 also requires memory. Observe initial answers before tools, then assess reasoning afterward. Do not invent a fixed speed cutoff or infer full fluency from multiple-choice recognition.

TEACHER GUIDE

Contents and bank navigation

Following these guide pages: visual models and reproducible tools; seven teaching scripts; choice bank; open performance bank; teacher-only worked keys; scoring and evidence records; source notes. Each page has a footer number; each task has a stable ID.

Warm-up: M01-M04 and O01-O04

I Do: M05-M08 and O05-O08

We Do: M09-M13 and O09-O13

Collaborative practice: M14-M18 and O14-O18

Independent practice: M19-M23 and O19-O23

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

Exit ticket: M28-M30 and O28-O30

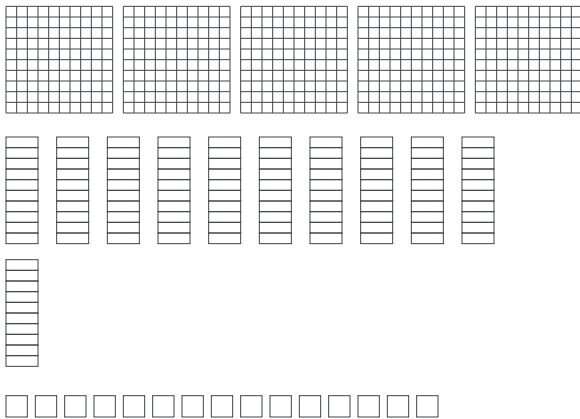
Give each learner their own response opportunity during partner work. Print only selected student pages. Keep worked examples, answers and answer-supplying support out of view during independent evidence collection.

WORKED TEACHER MODEL

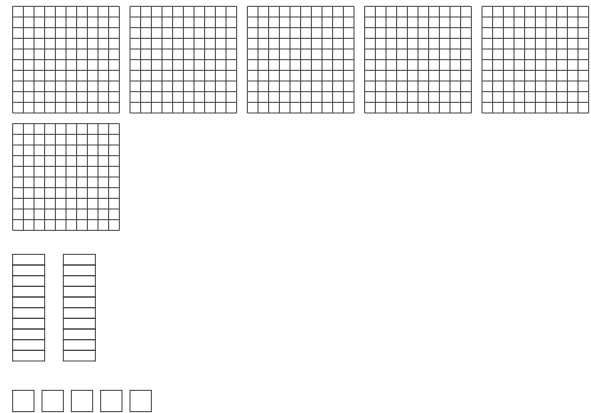
Model: 368 + 257

$368 + 257 = 625$. Estimate to the nearest hundred: $400 + 300 = 700$. Exact result differs from this estimate by 75; each rounded operand changes by at most 50, so a difference of up to 100 is consistent. An estimate is a check, not proof. Expanded form: $(300 + 60 + 8) + (200 + 50 + 7) = 500 + 110 + 15 = 625$. Model: Combine 5 hundreds, 11 tens and 15 ones; exchange ten of a unit for one of the next as needed. Relationship check: $625 - 257 = 368$. Addition composes the whole; subtraction finds a missing part.

Combined before exchange



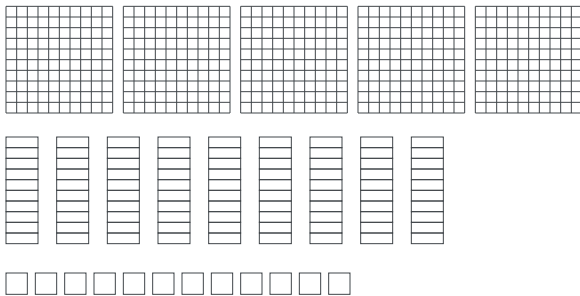
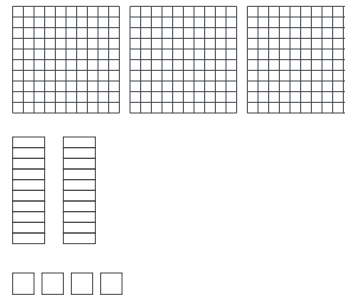
After exchange: 625



WORKED TEACHER MODEL

Model: 602 - 278

$602 - 278 = 324$. Estimate to the nearest hundred: $600 - 300 = 300$. Exact result differs from this estimate by 24; each rounded operand changes by at most 50, so a difference of up to 100 is consistent. An estimate is a check, not proof. Expanded form: $602 = 500 + 90 + 12$. $278 = 200 + 70 + 8$. Subtract like units: $(500 - 200) + (90 - 70) + (12 - 8) = 324$. Model: Represent 602 with 5 hundreds, 9 tens and 12 ones after exchanges; remove the units of 278. The remaining units have value 324. Relationship check: $278 + 324 = 602$. Addition composes the whole; subtraction finds a missing part.

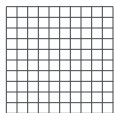
602 after exchanges**After removing 278: 324**

REUSABLE STUDENT SUPPORT

Place-value and number-line mat

A flat has 100 unit squares. A rod has 10. A small square has 1.
Exchange equal values; never change the whole.

Unit reference



Hundreds	Tens	Ones

Use an open number line to model a related addition or subtraction.
Label the jumps and endpoints.

TEACHER GUIDE

Warm-up teaching script

Select M01 and O01; keep M02-M04 and O02-O04 for later evidence. Times are flexible teaching segments, not test limits.

1-2 minutes | Launch

Ask learners to name the value of each digit and exchange one hundred for ten tens. Compare approximate and exact quantities.

3-6 minutes | Elicit

Use O01 before the choice item when assessing independent performance. Ask: "What do the quantities mean? What will you show?" During I Do, think aloud; during We Do invite each next step; during independent/exit work remain neutral.

3-5 minutes | Examine evidence

Ask: "How does your representation match your equation? Why does that step work?" Listen for the specific target: Estimate, compute with expanded form, and model/check the inverse relationship.

2-4 minutes | Respond

If reasoning is unclear, ask for a new example or a check. After recording the initial response, use the model page to rebuild the relevant structure. Label this later work as supported; do not replace the first record.

1-3 minutes | Close

Record the exact response, strategy, representation, explanation and support. Extension: create a new example that uses the same structure and explain why it fits. Select a fresh item from this section to check transfer on another day.

TEACHER GUIDE

I Do teaching script

Select M05 and O05; keep M06-M08 and O06-O08 for later evidence. Times are flexible teaching segments, not test limits.

1-2 minutes | Launch

Model $368 + 257$. Estimate $400 + 300 = 700$. Decompose, combine $500 + 110 + 15$, and exchange to obtain 625. Check $625 - 257 = 368$.

3-6 minutes | Elicit

Use O05 before the choice item when assessing independent performance. Ask: "What do the quantities mean? What will you show?" During I Do, think aloud; during We Do invite each next step; during independent/exit work remain neutral.

3-5 minutes | Examine evidence

Ask: "How does your representation match your equation? Why does that step work?" Listen for the specific target: Estimate, compute with expanded form, and model/check the inverse relationship.

2-4 minutes | Respond

If reasoning is unclear, ask for a new example or a check. After recording the initial response, use the model page to rebuild the relevant structure. Label this later work as supported; do not replace the first record.

1-3 minutes | Close

Record the exact response, strategy, representation, explanation and support. Extension: create a new example that uses the same structure and explain why it fits. Select a fresh item from this section to check transfer on another day.

TEACHER GUIDE

We Do teaching script

Select M09 and O09; keep M10-M13 and O10-O13 for later evidence. Times are flexible teaching segments, not test limits.

1-2 minutes | Launch

Model $602 - 278$. Exchange to $500 + 90 + 12$ before subtracting. Ask why 602 has not changed value. Connect the result 324 to $278 + 324 = 602$.

3-6 minutes | Elicit

Use O09 before the choice item when assessing independent performance. Ask: "What do the quantities mean? What will you show?" During I Do, think aloud; during We Do invite each next step; during independent/exit work remain neutral.

3-5 minutes | Examine evidence

Ask: "How does your representation match your equation? Why does that step work?" Listen for the specific target: Estimate, compute with expanded form, and model/check the inverse relationship.

2-4 minutes | Respond

If reasoning is unclear, ask for a new example or a check. After recording the initial response, use the model page to rebuild the relevant structure. Label this later work as supported; do not replace the first record.

1-3 minutes | Close

Record the exact response, strategy, representation, explanation and support. Extension: create a new example that uses the same structure and explain why it fits. Select a fresh item from this section to check transfer on another day.

TEACHER GUIDE

Collaborative practice teaching script

Select M14 and O14; keep M15-M18 and O15-O18 for later evidence. Times are flexible teaching segments, not test limits.

1-2 minutes | Launch

Partners independently estimate and solve. Compare expanded forms and label both models. Explain why differently grouped decompositions can have the same value.

3-6 minutes | Elicit

Use O14 before the choice item when assessing independent performance. Ask: "What do the quantities mean? What will you show?" During I Do, think aloud; during We Do invite each next step; during independent/exit work remain neutral.

3-5 minutes | Examine evidence

Ask: "How does your representation match your equation? Why does that step work?" Listen for the specific target: Estimate, compute with expanded form, and model/check the inverse relationship.

2-4 minutes | Respond

If reasoning is unclear, ask for a new example or a check. After recording the initial response, use the model page to rebuild the relevant structure. Label this later work as supported; do not replace the first record.

1-3 minutes | Close

Record the exact response, strategy, representation, explanation and support. Extension: create a new example that uses the same structure and explain why it fits. Select a fresh item from this section to check transfer on another day.

TEACHER GUIDE

Independent practice teaching script

Select M19 and O19; keep M20-M23 and O20-O23 for later evidence. Times are flexible teaching segments, not test limits.

1-2 minutes | Launch

Require an estimate, expanded calculation and a model of the inverse relationship. Do not supply an exchange, rounded number or operation step.

3-6 minutes | Elicit

Use O19 before the choice item when assessing independent performance. Ask: "What do the quantities mean? What will you show?" During I Do, think aloud; during We Do invite each next step; during independent/exit work remain neutral.

3-5 minutes | Examine evidence

Ask: "How does your representation match your equation? Why does that step work?" Listen for the specific target: Estimate, compute with expanded form, and model/check the inverse relationship.

2-4 minutes | Respond

If reasoning is unclear, ask for a new example or a check. After recording the initial response, use the model page to rebuild the relevant structure. Label this later work as supported; do not replace the first record.

1-3 minutes | Close

Record the exact response, strategy, representation, explanation and support. Extension: create a new example that uses the same structure and explain why it fits. Select a fresh item from this section to check transfer on another day.

TEACHER GUIDE

Small-group reteach teaching script

Select M24 and O24; keep M25-M27 and O25-O27 for later evidence. Times are flexible teaching segments, not test limits.

1-2 minutes | Launch

If a learner subtracts the smaller digit from the larger regardless of place, build the starting quantity. Exchange before removing units, then connect each action to expanded form.

3-6 minutes | Elicit

Use O24 before the choice item when assessing independent performance. Ask: "What do the quantities mean? What will you show?" During I Do, think aloud; during We Do invite each next step; during independent/exit work remain neutral.

3-5 minutes | Examine evidence

Ask: "How does your representation match your equation? Why does that step work?" Listen for the specific target: Estimate, compute with expanded form, and model/check the inverse relationship.

2-4 minutes | Respond

If reasoning is unclear, ask for a new example or a check. After recording the initial response, use the model page to rebuild the relevant structure. Label this later work as supported; do not replace the first record.

1-3 minutes | Close

Record the exact response, strategy, representation, explanation and support. Extension: create a new example that uses the same structure and explain why it fits. Select a fresh item from this section to check transfer on another day.

TEACHER GUIDE

Exit ticket teaching script

Select M28 and O28; keep M29-M30 and O29-O30 for later evidence. Times are flexible teaching segments, not test limits.

1-2 minutes | Launch

Use a fresh addition or subtraction. Ask whether the estimate supports the result and how the inverse equation checks it exactly.

3-6 minutes | Elicit

Use O28 before the choice item when assessing independent performance. Ask: "What do the quantities mean? What will you show?" During I Do, think aloud; during We Do invite each next step; during independent/exit work remain neutral.

3-5 minutes | Examine evidence

Ask: "How does your representation match your equation? Why does that step work?" Listen for the specific target: Estimate, compute with expanded form, and model/check the inverse relationship.

2-4 minutes | Respond

If reasoning is unclear, ask for a new example or a check. After recording the initial response, use the model page to rebuild the relevant structure. Label this later work as supported; do not replace the first record.

1-3 minutes | Close

Record the exact response, strategy, representation, explanation and support. Extension: create a new example that uses the same structure and explain why it fits. Select a fresh item from this section to check transfer on another day.

STUDENT BANK

Choice practice 1-2

M01 Find $368 + 257$.

A. 725

B. 525

C. 624

D. 625

Choose one. Explain your thinking to your teacher.

M02 Find $602 - 278$.

A. 334

B. 424

C. 324

D. 325

Choose one. Explain your thinking to your teacher.

STUDENT PERFORMANCE

001 | Warm-up

Find $1000 - 637$. First estimate. Use expanded form to find the exact answer. Draw a base-ten or number-line model, explain a related equation, and judge whether the answer is reasonable.

Estimate and expanded-form computation

Model and related equation

Reasonableness: explain how the estimate supports or challenges your exact result.

STUDENT PERFORMANCE

002 | Warm-up

Find $458 + 342$. First estimate. Use expanded form to find the exact answer. Draw a base-ten or number-line model, explain a related equation, and judge whether the answer is reasonable.

Estimate and expanded-form computation

Model and related equation

Reasonableness: explain how the estimate supports or challenges your exact result.

TEACHER ONLY

M keys 1-2

M01: D. 625

$368 + 257 = 625$. Estimate to the nearest hundred: $400 + 300 = 700$. Exact result differs from this estimate by 75; each rounded operand changes by at most 50, so a difference of up to 100 is consistent. An estimate is a check, not proof. Expanded form: $(300 + 60 + 8) + (200 + 50 + 7) = 500 + 110 + 15 = 625$. Model: Combine 5 hundreds, 11 tens and 15 ones; exchange ten of a unit for one of the next as needed. Relationship check: $625 - 257 = 368$. Addition composes the whole; subtraction finds a missing part.

Diagnostic follow-up: 725: May mishandle a hundred exchange. 525: May remove an extra hundred or lose a hundred in an exchange. 624: One unit too few; inspect the ones calculation.

M02: C. 324

$602 - 278 = 324$. Estimate to the nearest hundred: $600 - 300 = 300$. Exact result differs from this estimate by 24; each rounded operand changes by at most 50, so a difference of up to 100 is consistent. An estimate is a check, not proof. Expanded form: $602 = 500 + 90 + 12$. $278 = 200 + 70 + 8$. Subtract like units: $(500 - 200) + (90 - 70) + (12 - 8) = 324$. Model: Represent 602 with 5 hundreds, 9 tens and 12 ones after exchanges; remove the units of 278. The remaining units have value 324. Relationship check: $278 + 324 = 602$. Addition composes the whole; subtraction finds a missing part.

Diagnostic follow-up: 334: May omit or add an exchange of one ten. 424: May mishandle a hundred exchange. 325: One unit too many; inspect the ones calculation.

TEACHER ONLY

0 keys 1-2

001: 363

$1000 - 637 = 363$. Estimate to the nearest hundred: $1000 - 600 = 400$. Exact result differs from this estimate by 37; each rounded operand changes by at most 50, so a difference of up to 100 is consistent. An estimate is a check, not proof. Expanded form: $1000 = 900 + 90 + 10$. $637 = 600 + 30 + 7$. Subtract like units: $(900 - 600) + (90 - 30) + (10 - 7) = 363$. Model: Represent 1000 with 9 hundreds, 9 tens and 10 ones after exchanges; remove the units of 637. The remaining units have value 363. Relationship check: $637 + 363 = 1000$. Addition composes the whole; subtraction finds a missing part.

Accept equivalent accurate models/equations and explanations. Evaluate the requested reasoning separately from the numerical answer.

002: 800

$458 + 342 = 800$. Estimate to the nearest hundred: $500 + 300 = 800$. Exact result differs from this estimate by 0; each rounded operand changes by at most 50, so a difference of up to 100 is consistent. An estimate is a check, not proof. Expanded form: $(400 + 50 + 8) + (300 + 40 + 2) = 700 + 90 + 10 = 800$. Model: Combine 7 hundreds, 9 tens and 10 ones; exchange ten of a unit for one of the next as needed. Relationship check: $800 - 342 = 458$. Addition composes the whole; subtraction finds a missing part.

Accept equivalent accurate models/equations and explanations. Evaluate the requested reasoning separately from the numerical answer.