

NORTH CAROLINA MATHEMATICS • 2026-27

One Whole, Different Parts



Kindergarten • Operations and Algebraic Thinking

NC.K.OA.3 • Decomposing numbers to 10

Seven teaching phases, detailed adult scripts, original countable models, reusable organizers, individual performance evidence and complete keys.

30 choice prompts + 30 open/performance tasks. Choose short activities across days. This reusable bank is not a 60-item sitting.

Current SCOS; 2025 Kindergarten Quick Reference Guide; not the 2026 standards scheduled for 2028-29.

Free sample | Contents

NC.K.OA.3 | Kindergarten mathematics

This sample contains 19 complete selected pages from the 64-page resource, plus this sample contents page. Original printed page numbers are retained. Gaps are intentional.

Included original pages: 1-17, 48-49

Representative activities

M01: sample PDF page(s) 17; original page(s) 16

M02: sample PDF page(s) 18; original page(s) 17

O01: sample PDF page(s) 17; original page(s) 16

O02: sample PDF page(s) 18; original page(s) 17

Selected teacher prompts and keys: original page(s) 48-49

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.

START HERE

Use the packet well

Teacher guide → models and reusable tools → 30 paired student activity pages → individual evidence records → complete keys → sources. Student activity pages each hold M01/O01 through M30/O30; match IDs in the guide and keys.

Selected core across five days

Day 1, 12-15 minutes: Warm-up M01/O01, then I Do M05/O05.

Day 2, 10-12 minutes: We Do M09/O09, repeat the model with a new set.

Day 3, 10-12 minutes: Partner M14/O14; collect a separate demonstration from each child.

Day 4, 10-12 minutes: Independent M19/O19; use small-group M24/O24 only if evidence calls for it.

Day 5, 5-8 minutes: Exit M28/O28 and the additional coverage check below.

Additional coverage check

Observe O28 or O29 individually. A single correct pair is not enough: the child must produce and record at least two ways for the same whole.

Print selectively

Keep teacher scripts and keys away from students. Read each prompt and all options without emphasizing a choice. A correct choice is recognition evidence only. Have the child construct or draw the open task before using any answer-supplying cues.

TEACHER GUIDE

Exact standard and targets

NC.K.OA.3

Decompose numbers less than or equal to 10 into pairs in more than one way using objects or drawings, and record each decomposition by a drawing or expression.

Scope guardrails

Use whole-number totals from 0 to 10. The task is to find more than one pair for a given whole and record each with a drawing or expression. For zero, only 0 and 0 is possible; use totals of 2-10 for the multiple-way evidence tasks. Speed and memorized facts are not this standard.

Daily I Can targets

I can split one whole into two parts. I can make a different pair for that same whole. I can draw or record both ways and check them.

Essential question

How can the same whole have different pairs of parts?

TEACHER GUIDE

Prepare for access and learning

Materials and prior learning

Large age-appropriate counters, two paper mats, crayons, blank paper and the reusable organizers. Prior learning: match one object to each count word, know the last number names the total, and distinguish an empty group. Begin with totals of 2-5 if counting accuracy blocks the operation. Avoid small choking hazards; do not use food as a required manipulative.

Neutral language and response routes

Read every prompt and option in a steady voice. Repeat the whole prompt on request. Explain unfamiliar object names before the task without demonstrating its solution. Children may speak, sign, point, use AAC, dictate labels, move large objects or draw. Scribe exactly what the child indicates. Do not score handwriting, accent, spelling or English decoding.

Keep the mathematical evidence intact

Use two large trays and easy-to-move objects. An adult may draw marks where the child points or scribe an expression the child dictates. Record who decided the parts; the child must determine both decompositions.

Useful words

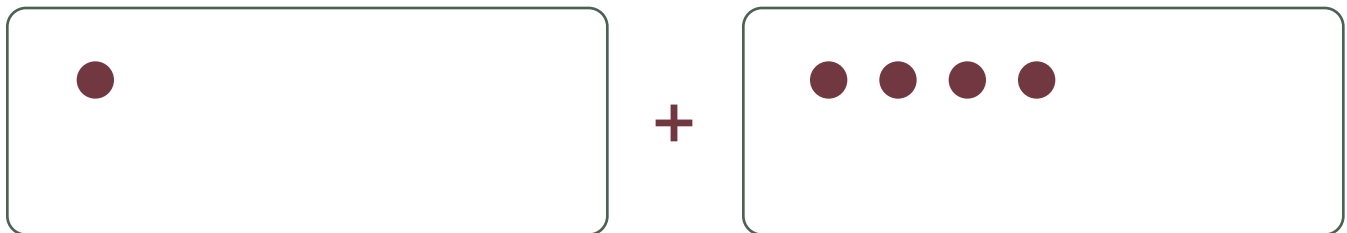
whole / altogether: all the objects; part: one group; join: bring groups together; take away: remove objects; left: what stays; empty: no objects. Pair each word with an action before assessment.

TEACHER MODEL • EXPLICIT DEMONSTRATION

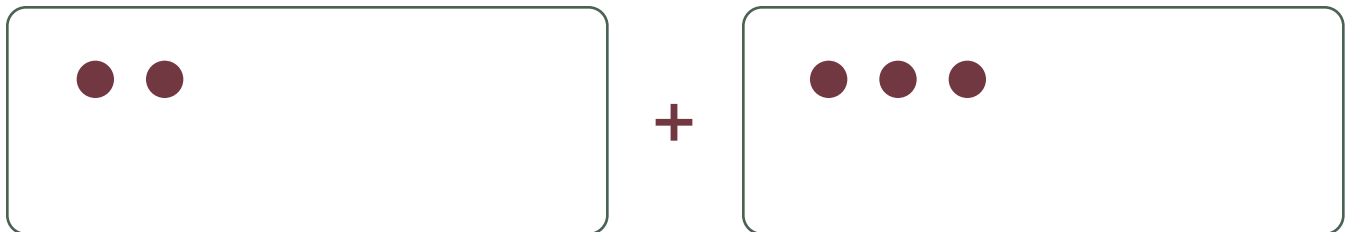
Watch, connect, and check

Set out 5 large counters and two mats. This is an instructional demonstration; do not score children for copying it.

Say: “My whole is 5. I put 1 counter here and 4 here. I still have all 5.” Point and count each part, then the whole. “I record this way: $1 + 4 = 5$.” Draw one dot on the first mat and four on the second.



Move one counter from the group of 4 to the group of 1. Say: “Now I have 2 and 3. I did not add or lose counters. I record $2 + 3 = 5$.”



Compare the records. Say: “The parts changed; the whole stayed 5. These are two different ways.” Check each record by matching one dot to each counter. A correct spoken pair without a drawing or expression needs a record before evidence is complete.

REUSABLE STUDENT TOOL

My two mats

Show the parts with objects or drawings.

Mat 1

Mat 2

Tell or show what your model means.

Adult: label parts only when the child has identified them. Record required supports separately.

REUSABLE STUDENT TOOL

My model and my record

Keep the whole. Show and record two ways.

Way 1

Way 2

I checked by...

Adult may scribe the child's explanation. Objects, dictated expressions and accessible drawings are valid. Do not supply the parts or action.

TEACHER SCRIPT • WARM-UP

Warm-up in a short session

Reusable bank: M01-M04 and O01-O04. Selected core: M01/O01. Choose alternatives later; do not assign the whole range at once.

0-2 minutes • Launch

Set out only the objects named in the selected task. Say: “Listen to the whole task. You can show your thinking with these objects or a drawing. Tell me when you are ready.” Read: “Use 2 counters to stand for shells. Split them into two groups in two different ways. Draw both ways. Check the whole each time.”

2-5 minutes • Explore

Invite the child to count the available set and show an empty mat. Ask, “What do you notice?” Watch one-to-one correspondence before giving the operation prompt.

Expected mathematics: Sample: $0 + 2 = 2$ and $1 + 1 = 2$. Draw 2 dots in one part and none in the other for the first record; draw 1 and 1 for the second. Other valid pairs: $0+2$, $1+1$, $2+0$. Accept any two distinct recorded pairs with the same total. A swapped pair is acceptable; invite a changed part size when ready. Two copies of one pair do not meet “more than one way.”

5-8 minutes • Connect and check

Ask: “Which two records show different ways? How do you know each makes the same whole?” Count the whole after each split; compare the records to the actual objects.

Read the selected M prompt and all four options neutrally. Ask the child to point to one. Use the M response to plan discussion; do not replace O evidence with it.

8-10 minutes • Respond and record

If the child loses track, return objects to the starting set and invite one-to-one matching. If the mathematical action is wrong, reenact the task slowly after recording the first attempt. Record date, ID, exact model/record, support, and next step. Early finisher: show why one incorrect choice does not fit, using objects rather than guessing.

TEACHER SCRIPT • I DO

I Do in a short session

Reusable bank: M05-M08 and O05-O08. Selected core: M05/O05. Choose alternatives later; do not assign the whole range at once.

0-2 minutes • Launch

Set out only the objects named in the selected task. Say: “Listen to the whole task. You can show your thinking with these objects or a drawing. Tell me when you are ready.” Read: “Use 5 counters to stand for leaves. Split them into two groups in two different ways. Draw both ways. Check the whole each time.”

2-5 minutes • Model

Think aloud using the worked-model page first. Point from every object to its matching mark. Then use the selected task below as a guided imitation; label this as modeled practice, not independent evidence.

Expected mathematics: Sample: $0 + 5 = 5$ and $1 + 4 = 5$. Draw 5 dots in one part and none in the other for the first record; draw 1 and 4 for the second. Other valid pairs: $0+5$, $1+4$, $2+3$, $3+2$, $4+1$, $5+0$. Accept any two distinct recorded pairs with the same total. A swapped pair is acceptable; invite a changed part size when ready. Two copies of one pair do not meet “more than one way.”

5-8 minutes • Connect and check

Ask: “Which two records show different ways? How do you know each makes the same whole?” Count the whole after each split; compare the records to the actual objects.

Read the selected M prompt and all four options neutrally. Ask the child to point to one. Use the M response to plan discussion; do not replace O evidence with it.

8-10 minutes • Respond and record

If the child loses track, return objects to the starting set and invite one-to-one matching. If the mathematical action is wrong, reenact the task slowly after recording the first attempt. Record date, ID, exact model/record, support, and next step. Early finisher: show why one incorrect choice does not fit, using objects rather than guessing.

TEACHER SCRIPT • WE DO

We Do in a short session

Reusable bank: M09-M13 and O09-O13. Selected core: M09/O09. Choose alternatives later; do not assign the whole range at once.

0-2 minutes • Launch

Set out only the objects named in the selected task. Say: “Listen to the whole task. You can show your thinking with these objects or a drawing. Tell me when you are ready.”
Read: “Use 9 counters to stand for toy ducks. Split them into two groups in two different ways. Draw both ways. Check the whole each time.”

2-5 minutes • Explore

Ask one child to choose the starting model and another to check each quantity. Pause before moving objects. Ask, “What should our model show next? How does the task tell us?”

Expected mathematics: Sample: $0 + 9 = 9$ and $1 + 8 = 9$. Draw 9 dots in one part and none in the other for the first record; draw 1 and 8 for the second. Other valid pairs: $0+9$, $1+8$, $2+7$, $3+6$, $4+5$, $5+4$, $6+3$, $7+2$, $8+1$, $9+0$. Accept any two distinct recorded pairs with the same total. A swapped pair is acceptable; invite a changed part size when ready. Two copies of one pair do not meet “more than one way.”

5-8 minutes • Connect and check

Ask: “Which two records show different ways? How do you know each makes the same whole?” Count the whole after each split; compare the records to the actual objects.

Read the selected M prompt and all four options neutrally. Ask the child to point to one. Use the M response to plan discussion; do not replace O evidence with it.

8-10 minutes • Respond and record

If the child loses track, return objects to the starting set and invite one-to-one matching. If the mathematical action is wrong, reenact the task slowly after recording the first attempt. Record date, ID, exact model/record, support, and next step. Early finisher: show why one incorrect choice does not fit, using objects rather than guessing.

TEACHER SCRIPT • COLLABORATIVE PRACTICE

Collaborative practice in a short session

Reusable bank: M14-M18 and O14-O18. Selected core: M14/O14. Choose alternatives later; do not assign the whole range at once.

0-2 minutes • Launch

Set out only the objects named in the selected task. Say: “Listen to the whole task. You can show your thinking with these objects or a drawing. Tell me when you are ready.” Read: “Use 8 counters to stand for balls. Put them on two mats in two different ways. Record each way with a drawing or expression. Show that both make the same whole.”

2-5 minutes • Explore

Partner A models the task; Partner B checks without moving A’s objects. Then swap roles using the next item in the range. Each child must explain or point out their own model; do not give both children one shared score.

Expected mathematics: Sample: $0 + 8 = 8$ and $1 + 7 = 8$. Draw 8 dots in one part and none in the other for the first record; draw 1 and 7 for the second. Other valid pairs: $0+8$, $1+7$, $2+6$, $3+5$, $4+4$, $5+3$, $6+2$, $7+1$, $8+0$. Accept any two distinct recorded pairs with the same total. A swapped pair is acceptable; invite a changed part size when ready. Two copies of one pair do not meet “more than one way.”

5-8 minutes • Connect and check

Ask: “Which two records show different ways? How do you know each makes the same whole?” Count the whole after each split; compare the records to the actual objects.

Read the selected M prompt and all four options neutrally. Ask the child to point to one. Use the M response to plan discussion; do not replace O evidence with it.

8-10 minutes • Respond and record

If the child loses track, return objects to the starting set and invite one-to-one matching. If the mathematical action is wrong, reenact the task slowly after recording the first attempt. Record date, ID, exact model/record, support, and next step. Early finisher: show why one incorrect choice does not fit, using objects rather than guessing.

TEACHER SCRIPT • INDEPENDENT PRACTICE

Independent practice in a short session

Reusable bank: M19-M23 and O19-O23. Selected core: M19/O19. Choose alternatives later; do not assign the whole range at once.

0-2 minutes • Launch

Set out only the objects named in the selected task. Say: “Listen to the whole task. You can show your thinking with these objects or a drawing. Tell me when you are ready.” Read: “Use 8 counters to stand for flags. Put them on two mats in two different ways. Record each way with a drawing or expression. Show that both make the same whole.”

2-5 minutes • Explore

Read the task and provide materials, then wait. Do not point to an option, rearrange objects or confirm intermediate answers. Repeat neutral directions as needed. Record the first complete attempt before feedback.

Expected mathematics: Sample: $0 + 8 = 8$ and $1 + 7 = 8$. Draw 8 dots in one part and none in the other for the first record; draw 1 and 7 for the second. Other valid pairs: $0+8$, $1+7$, $2+6$, $3+5$, $4+4$, $5+3$, $6+2$, $7+1$, $8+0$. Accept any two distinct recorded pairs with the same total. A swapped pair is acceptable; invite a changed part size when ready. Two copies of one pair do not meet “more than one way.”

5-8 minutes • Connect and check

Ask: “Which two records show different ways? How do you know each makes the same whole?” Count the whole after each split; compare the records to the actual objects.

Read the selected M prompt and all four options neutrally. Ask the child to point to one. Use the M response to plan discussion; do not replace O evidence with it.

8-10 minutes • Respond and record

If the child loses track, return objects to the starting set and invite one-to-one matching. If the mathematical action is wrong, reenact the task slowly after recording the first attempt. Record date, ID, exact model/record, support, and next step. Early finisher: show why one incorrect choice does not fit, using objects rather than guessing.

TEACHER SCRIPT • SMALL-GROUP RETEACH

Small-group reteach in a short session

Reusable bank: M24-M27 and O24-O27. Selected core: M24/O24. Choose alternatives later; do not assign the whole range at once.

0-2 minutes • Launch

Set out only the objects named in the selected task. Say: “Listen to the whole task. You can show your thinking with these objects or a drawing. Tell me when you are ready.” Read: “Use 5 counters to stand for seeds. Make one pair of parts. Move a counter to make a different pair. Draw or record both pairs and check the whole.”

2-5 minutes • Explore

Use a smaller whole of 3 first, model once, then return to the selected task. Ask the child to touch each object exactly once. Separate access support from hints that supply the mathematical answer.

Expected mathematics: Sample: $0 + 5 = 5$ and $1 + 4 = 5$. Draw 5 dots in one part and none in the other for the first record; draw 1 and 4 for the second. Other valid pairs: $0+5$, $1+4$, $2+3$, $3+2$, $4+1$, $5+0$. Accept any two distinct recorded pairs with the same total. A swapped pair is acceptable; invite a changed part size when ready. Two copies of one pair do not meet “more than one way.”

5-8 minutes • Connect and check

Ask: “Which two records show different ways? How do you know each makes the same whole?” Count the whole after each split; compare the records to the actual objects.

Read the selected M prompt and all four options neutrally. Ask the child to point to one. Use the M response to plan discussion; do not replace O evidence with it.

8-10 minutes • Respond and record

If the child loses track, return objects to the starting set and invite one-to-one matching. If the mathematical action is wrong, reenact the task slowly after recording the first attempt. Record date, ID, exact model/record, support, and next step. Early finisher: show why one incorrect choice does not fit, using objects rather than guessing.

TEACHER SCRIPT • EXIT TICKET

Exit ticket in a short session

Reusable bank: M28-M30 and O28-O30. Selected core: M28/O28. Choose alternatives later; do not assign the whole range at once.

0-2 minutes • Launch

Set out only the objects named in the selected task. Say: “Listen to the whole task. You can show your thinking with these objects or a drawing. Tell me when you are ready.” Read: “Use 10 counters to stand for pom-poms. Make one pair of parts. Move a counter to make a different pair. Draw or record both pairs and check the whole.”

2-5 minutes • Explore

Use a fresh setup. Read the task once, then repeat neutrally if requested. Collect an individual model and explanation before the choice prompt if you want a less-cued performance sample.

Expected mathematics: Sample: $0 + 10 = 10$ and $1 + 9 = 10$. Draw 10 dots in one part and none in the other for the first record; draw 1 and 9 for the second. Other valid pairs: $0+10$, $1+9$, $2+8$, $3+7$, $4+6$, $5+5$, $6+4$, $7+3$, $8+2$, $9+1$, $10+0$. Accept any two distinct recorded pairs with the same total. A swapped pair is acceptable; invite a changed part size when ready. Two copies of one pair do not meet “more than one way.”

5-8 minutes • Connect and check

Ask: “Which two records show different ways? How do you know each makes the same whole?” Count the whole after each split; compare the records to the actual objects.

Read the selected M prompt and all four options neutrally. Ask the child to point to one. Use the M response to plan discussion; do not replace O evidence with it.

8-10 minutes • Respond and record

If the child loses track, return objects to the starting set and invite one-to-one matching. If the mathematical action is wrong, reenact the task slowly after recording the first attempt. Record date, ID, exact model/record, support, and next step. Early finisher: show why one incorrect choice does not fit, using objects rather than guessing.

TEACHER PLANNING

Diagnose and extend

Misconception → response

Adds objects while changing the split → start with a fixed tray of counters and move, rather than add. Repeats the same pair twice → compare the records and move one counter. Gives two totals instead of two parts → circle the whole and point to both parts that compose it.

Two-session inquiry • strategic reasoning

Session A: Choose a whole from 4-8. Record several pairs by moving one counter at a time. Session B: Compare your records with a partner. Find any repeated pairs and search for a missing pair. Explain how you know each record preserves the whole. Exhaustive lists are an extension, not the minimum standard.

Mathematical practices

Make sense of the task (MP1), connect quantities to a model (MP2/MP4), justify a model and check a partner's claim (MP3), use counters and drawings thoughtfully (MP5), and attend to what each number counts (MP6). These practices are integrated, not separate packet standards.

Optional home connection

Invite a family member to use up to 10 large household objects. The child shows a joining/taking-away story or two parts of a whole, aligned to the lesson. Adult asks "How do you know?" No worksheet, photograph, purchase or internet access is required.

WARM-UP • ACTIVITY 1

Listen, choose, and show

Name _____ Date _____

Adult: read the prompt and all choices neutrally.

M01 • The dots stand for 2 shells. Which pair makes the whole?



A. 0 and 0

B. 1 and 1

C. 1 and 2

D. 1 and 0

O01 • Use 2 counters to stand for shells. Split them into two groups in two different ways. Draw both ways. Check the whole each time.

Way 1

Way 2

Use this space or real objects. Tell or show your thinking; an adult may record it.

WARM-UP • ACTIVITY 2

Listen, choose, and show

Name _____ Date _____

Adult: read the prompt and all choices neutrally.

M02 • The dots stand for 3 blocks. Which pair makes the whole?



A. 2 and 1

B. 2 and 3

C. 2 and 4

D. 2 and 2

O02 • Use 3 counters to stand for blocks. Split them into two groups in two different ways. Draw both ways. Check the whole each time.

Way 1

Way 2

Use this space or real objects. Tell or show your thinking; an adult may record it.

TEACHER-ONLY KEYS

How to use the keys

The following pages key every M and O item. The O response is a sample: accept equivalent correct objects, drawings, communication and valid decompositions. Do not require children to repeat the sample words or write equations unless they choose expressions as their record.

When an O task uses the same quantities as its paired M task, collect O first for less-cued individual evidence. For independent transfer, choose another O task on a later day.

Number and diagram checks

All pictured circles are countable original vector graphics. Crossed-out circles remain visible to show the starting whole; only un-crossed circles count as left. Empty parts are labeled “empty.” Every operation uses whole-number quantities from 0 to 10 and addition totals no greater than 10.

Reading the diagnostic notes

A wrong numerical choice may come from miscounting, misreading a model or confusing the whole and a part. The key identifies its mathematical difference; it is a hypothesis for a follow-up observation, not a diagnosis from one choice.

Coverage matrix

Multiple decompositions and records: M01, O01, M02, O02, M03, O03, M04, O04, M05, O05, M06, O06, M07, O07, M08, O08, M09, O09, M10, O10, M11, O11, M12, O12, M13, O13, M14, O14, M15, O15, M16, O16, M17, O17, M18, O18, M19, O19, M20, O20, M21, O21, M22, O22, M23, O23, M24, O24, M25, O25, M26, O26, M27, O27, M28, O28, M29, O29, M30, O30

TEACHER-ONLY COMPLETE KEY

Items 01-02

M01 • Warm-up

Target: Recognize two parts with the given whole

B: 1 and 1. The two parts total 2; check $1 + 1 = 2$.

Distractors: A (0 and 0): parts total 0, not 2; C (1 and 2): parts total 3, not 2; D (1 and 0): parts total 1, not 2

O01 • Model and explain

Target: Decompose the same whole in more than one way and record each

Sample: $0 + 2 = 2$ and $1 + 1 = 2$. Draw 2 dots in one part and none in the other for the first record; draw 1 and 1 for the second. Other valid pairs: $0+2$, $1+1$, $2+0$. Accept any two distinct recorded pairs with the same total. A swapped pair is acceptable; invite a changed part size when ready. Two copies of one pair do not meet "more than one way."

Look for the actual model/record. Apply the dimension rubric; retain access supports and document any answer-supplying cue.

M02 • Warm-up

Target: Recognize two parts with the given whole

A: 2 and 1. The two parts total 3; check $2 + 1 = 3$.

Distractors: B (2 and 3): parts total 5, not 3; C (2 and 4): parts total 6, not 3; D (2 and 2): parts total 4, not 3

O02 • Model and explain

Target: Decompose the same whole in more than one way and record each

Sample: $0 + 3 = 3$ and $1 + 2 = 3$. Draw 3 dots in one part and none in the other for the first record; draw 1 and 2 for the second. Other valid pairs: $0+3$, $1+2$, $2+1$, $3+0$. Accept any two distinct recorded pairs with the same total. A swapped pair is acceptable; invite a changed part size when ready. Two copies of one pair do not meet "more than one way."

Look for the actual model/record. Apply the dimension rubric; retain access supports and document any answer-supplying cue.