

North Carolina mathematics

Grade 4 | Geometry

Classify by precise attributes



NC.4.G.2

Teacher scripts • original visual models • 30 choice checks • 30 open/performance tasks • worked keys • observation records

Current NC standards for 2026-27 and 2027-28. Use the selected core across short sessions; the reusable bank is not a single test.

Free sample | Contents

NC.4.G.2 | Fourth Grade mathematics

This sample contains 22 complete selected pages from the 110-page resource, plus this sample contents page. Original printed page numbers are retained. Gaps are intentional.

Included original pages: 1-20, 77-78

Representative activities

M01: sample PDF page(s) 18; original page(s) 17

M02: sample PDF page(s) 20; original page(s) 19

O01: sample PDF page(s) 19; original page(s) 18

O02: sample PDF page(s) 21; original page(s) 20

Selected teacher prompts and keys: original page(s) 77-78

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.

Contents and planning

Choose a focused lesson

Guide: exact standard, targets, preparation, worked models and seven detailed section scripts. Student resources: reusable organizer and 30 choice plus 30 open/performance tasks. Teacher resources: worked item keys, rubric, evidence record, inquiry and official sources. Use the printed page numbers and item IDs to select copies.

Selected core, not a 60-item test

An 80-minute selected core can be split across three or more sessions. Warm-up 8 min; I Do 12; We Do 15; collaborative practice 13; independent practice 17; small-group reteach 10; exit 5. Use the first M and O in each section; other items provide transfer or later observation. Do not ask learners to complete the whole bank in one sitting.

Section bank allocations: 01-04 warm-up; 05-08 I Do; 09-13 We Do; 14-18 collaborative; 19-23 independent; 24-27 reteach; 28-30 exit. Each range includes both M choice and O performance items. Choice success does not replace actual drawing, measurement or explanation.

Suggested split

Day 1: warm-up, models and shared work. Day 2: partner and individual practice. Day 3: targeted reteach, fresh exit and a later extension. Adjust minutes for access and evidence; times are never scoring cutoffs.

Visual support

Accurate original triangles and quadrilaterals appear in varied orientations for direct ruler/protractor classification.

Exact official standard

What learners demonstrate

NC.4.G.2 | Classify quadrilaterals and triangles based on angle measure, side lengths, and the presence or absence of parallel or perpendicular lines.

I can targets

A | I can classify triangles by side lengths and angle types, including cross-classification.

B | I can classify quadrilaterals by lengths, angles, parallel and perpendicular sides.

C | I can justify overlapping categories and test claims with examples and counterexamples.

Essential question

How do side and angle properties decide which families a shape belongs to?

Collect the actual drawing or construction, the measurement/calculation when relevant, and the learner's explanation. Targets are instructional descriptions, not official mastery cutoffs.

Preparation and access

Prepare tools, preserve thinking

Materials

Pencils, straightedge/ruler, blank paper and copies of selected pages. Provide rulers and protractors or right-angle corners. Compare side lengths on the actual print; uniform page scaling preserves equality and angle properties.

Prior learning and limits

Recognize closed three- and four-sided figures; compare lengths; distinguish acute/right/obtuse angles; identify parallel/perpendicular lines. Triangle and quadrilateral interior-angle sums are not required in Grade 4.

Vocabulary

quadrilateral, triangle, equilateral, isosceles, scalene, acute, right, obtuse, trapezoid, parallelogram, rectangle, rhombus, square

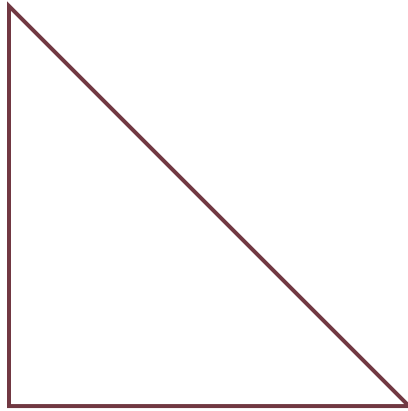
Access without supplying answers

Read prompts and labels neutrally. Allow oral, signed, AAC, drawn or learner-directed responses. A learner may direct an adult's physical marks when motor access is needed, but must choose locations and relationships. Do not place the protractor, identify a symmetry line, select a partition or name a shape for the learner during an independent check. Record physical access separately from mathematical cues. Do not score handwriting, spelling or reading speed.

Teacher-only worked model

Use both triangle attributes

The pictured triangle has two equal sides and one right angle. It is a right isosceles triangle. Measure or compare all three sides, then check each angle. Equilateral: all sides equal; isosceles: at least two equal; scalene: all different. In two-label tasks, use equilateral when all three are equal. No triangle angle-sum calculation is required.



Use labeled lengths for area tasks. Shape/angle attributes are drawn accurately.

Invite evidence

Say: "Show what in the model proves the claim. How could we check it a different way?" Ask the learner to perform the action, not merely repeat the vocabulary. Hide this completed model for uncued work.

If a rotated square is rejected, measure its sides and check all four right angles. If a triangle is labeled only by side length, check angles separately. If a square is excluded from rectangle/rhombus families, test each defining condition. Trapezoids have exactly one parallel pair here.

Teacher-only worked model

Families can overlap

A square has four equal sides and four right angles. It is also a rectangle, rhombus and parallelogram. A rectangle need not have all sides equal. A rhombus need not have right angles. Say: "A more specific name does not erase the broader family." Classify from attributes rather than the usual upright picture.



Use labeled lengths for area tasks. Shape/angle attributes are drawn accurately.

Invite evidence

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Teacher-only worked model

The NC trapezoid definition

A trapezoid has exactly one pair of parallel sides. The pictured right trapezoid has two right angles. Its top and bottom are parallel; the other sides are not. It is not a parallelogram, which requires two parallel pairs. This exclusive definition is specified in NC supporting guidance.



Use labeled lengths for area tasks. Shape/angle attributes are drawn accurately.

Invite evidence

Say: "Show what in the model proves the claim. How could we check it a different way?" Ask the learner to perform the action, not merely repeat the vocabulary. Hide this completed model for uncued work.

If a rotated square is rejected, measure its sides and check all four right angles. If a triangle is labeled only by side length, check angles separately. If a square is excluded from rectangle/rhombus families, test each defining condition. Trapezoids have exactly one parallel pair here.

Teacher script | Warm-up

Warm-up | 8 minutes

Select M01 and O01. Reserve M/O01-04 for transfer or later practice. Target: Classify quadrilaterals by lengths, angles, parallel and perpendicular sides.

0-2 min | launch

Say: "Classify this figure. Use a ruler and a right-angle corner or protractor to compare sides and angles. List all applicable familiar families, and justify each decision." Ask the learner to explain what must be found or drawn before choosing a method. Read printed labels without interpreting them.

2-5 min | work and observe

Invite a drawing, physical tool use or calculation. Say: "What feature matters here? Show each step so another person can check." In shared work, compare two proposed methods and test them against the figure.

5-8 min | check and record

Look/listen for: 2 pair(s) of parallel sides; 4 right angle(s). Four equal sides. It also belongs to rectangle, rhombus and parallelogram families. All are quadrilaterals. Include broader categories: squares are rectangles, rhombuses and parallelograms; rectangles/rhombuses are parallelograms; trapezoids are not parallelograms under NC's exclusive definition. Use M01 as a quick recognition check; the performance remains the stronger evidence.

Record item, actual action, explanation, neutral access and mathematical cues separately. Early finishers create a second valid example or a counterexample, then explain why it works.

Teacher script | I Do

I Do | 12 minutes

Select M05 and O05. Reserve M/O05-08 for transfer or later practice. Target: Classify quadrilaterals by lengths, angles, parallel and perpendicular sides.

0-2 min | launch

Say: "Classify this figure. Use a ruler and a right-angle corner or protractor to compare sides and angles. List all applicable familiar families, and justify each decision." Ask the learner to explain what must be found or drawn before choosing a method. Read printed labels without interpreting them.

2-9 min | model

Model the selected performance completely: 2 pair(s) of parallel sides; 0 right angle(s). Four equal sides but no right angles. It is also a parallelogram. All are quadrilaterals. Include broader categories: squares are rectangles, rhombuses and parallelograms; rectangles/rhombuses are parallelograms; trapezoids are not parallelograms under NC's exclusive definition. Say: "I will check the features in the actual drawing, not trust a label." Invite learners to describe the next step before you take it.

9-12 min | check and record

Look/listen for: 2 pair(s) of parallel sides; 0 right angle(s). Four equal sides but no right angles. It is also a parallelogram. All are quadrilaterals. Include broader categories: squares are rectangles, rhombuses and parallelograms; rectangles/rhombuses are parallelograms; trapezoids are not parallelograms under NC's exclusive definition. Use M05 as a quick recognition check; the performance remains the stronger evidence.

Record item, actual action, explanation, neutral access and mathematical cues separately. Early finishers create a second valid example or a counterexample, then explain why it works.

Teacher script | We Do

We Do | 15 minutes

Select M09 and O09. Reserve M/O09-13 for transfer or later practice. Target: Classify quadrilaterals by lengths, angles, parallel and perpendicular sides.

0-2 min | launch

Say: "Classify this figure. Use a ruler and a right-angle corner or protractor to compare sides and angles. List all applicable familiar families, and justify each decision." Ask the learner to explain what must be found or drawn before choosing a method. Read printed labels without interpreting them.

2-12 min | work and observe

Invite a drawing, physical tool use or calculation. Say: "What feature matters here? Show each step so another person can check." In shared work, compare two proposed methods and test them against the figure.

12-15 min | check and record

Look/listen for: 1 pair(s) of parallel sides; 2 right angle(s). Exactly one parallel pair and two right angles. All are quadrilaterals. Include broader categories: squares are rectangles, rhombuses and parallelograms; rectangles/rhombuses are parallelograms; trapezoids are not parallelograms under NC's exclusive definition. Use M09 as a quick recognition check; the performance remains the stronger evidence.

Record item, actual action, explanation, neutral access and mathematical cues separately. Early finishers create a second valid example or a counterexample, then explain why it works.

Teacher script | Collaborative practice

Collaborative practice | 13 minutes

Select M14 and O14. Reserve M/O14-18 for transfer or later practice. Target: Justify overlapping categories and test claims with examples and counterexamples.

0-2 min | launch

Say: "Test this claim: "Every quadrilateral has a pair of parallel sides." Draw evidence or a counterexample. Label the relevant sides and angles, then explain." Ask the learner to explain what must be found or drawn before choosing a method. Read printed labels without interpreting them.

2-10 min | work and observe

Partner A performs the task while Partner B checks using the defining features. Switch roles with the next open item. Each learner makes a separate record. Say: "Point to evidence before agreeing with your partner."

10-13 min | check and record

Look/listen for: False. A kite such as the pictured one has no parallel sides. A label alone is insufficient: verify the drawing shows the cited attributes. Use M14 as a quick recognition check; the performance remains the stronger evidence.

Record item, actual action, explanation, neutral access and mathematical cues separately. Early finishers create a second valid example or a counterexample, then explain why it works.

Teacher script | Independent practice

Independent practice | 17 minutes

Select M19 and O19. Reserve M/O19-23 for transfer or later practice. Target: Classify triangles by side lengths and angle types, including cross-classification.

0-2 min | launch

Say: "Classify this figure. Use a ruler and a right-angle corner or protractor to compare sides and angles. List all applicable familiar families, and justify each decision." Ask the learner to explain what must be found or drawn before choosing a method. Read printed labels without interpreting them.

2-14 min | work and observe

Give quiet time for the learner's own drawing, tool use and explanation. Do not supply a mathematical cue. Say only: "Show your check." Record the original response before any teaching.

14-17 min | check and record

Look/listen for: Angle evidence: 2 acute, 1 right, 0 obtuse. Side lengths compare as two equal and a different third. Triangle category: right isosceles triangle. Use M19 as a quick recognition check; the performance remains the stronger evidence.

Record item, actual action, explanation, neutral access and mathematical cues separately. Early finishers create a second valid example or a counterexample, then explain why it works.

Teacher script | Small-group reteach

Small-group reteach | 10 minutes

Select M24 and O24. Reserve M/O24-27 for transfer or later practice. Target: Classify triangles by side lengths and angle types, including cross-classification.

0-2 min | launch

Say: "Draw an acute isosceles triangle and a right isosceles triangle. Mark equal sides and angle types. Explain one shared feature and one difference." Ask the learner to explain what must be found or drawn before choosing a method. Read printed labels without interpreting them.

2-7 min | work and observe

If a rotated square is rejected, measure its sides and check all four right angles. If a triangle is labeled only by side length, check angles separately. If a square is excluded from rectangle/rhombus families, test each defining condition. Trapezoids have exactly one parallel pair here. Use a smaller or simpler fresh example first, then return to O24. Record the amount of support.

7-10 min | check and record

Look/listen for: First teacher-check coordinates: $[(0, 0), (4, 0), (2, 4)]$; second: $[(0, 0), (4, 0), (0, 4)]$. Both have three sides; compare side-equality and angle types. Angle evidence: 3 acute, 0 right, 0 obtuse. Side lengths compare as two equal and a different third. Accept other accurate drawings. No triangle angle-sum theorem is required. Use M24 as a quick recognition check; the performance remains the stronger evidence.

Record item, actual action, explanation, neutral access and mathematical cues separately. Early finishers create a second valid example or a counterexample, then explain why it works.

Teacher script | Exit ticket

Exit ticket | 5 minutes

Select M28 and O28. Reserve M/O28-30 for transfer or later practice. Target: Classify triangles by side lengths and angle types, including cross-classification.

0-1 min | launch

Say: "Draw an acute scalene triangle and a right isosceles triangle. Mark equal sides and angle types. Explain one shared feature and one difference." Ask the learner to explain what must be found or drawn before choosing a method. Read printed labels without interpreting them.

1-3 min | work and observe

Give quiet time for the learner's own drawing, tool use and explanation. Do not supply a mathematical cue. Say only: "Show your check." Record the original response before any teaching.

3-5 min | check and record

Look/listen for: First teacher-check coordinates: $[(0, 0), (6, 0), (2, 4)]$; second: $[(0, 0), (4, 0), (0, 4)]$. Both have three sides; compare side-equality and angle types. Angle evidence: 3 acute, 0 right, 0 obtuse. Side lengths compare as all different. Accept other accurate drawings. No triangle angle-sum theorem is required. Use M28 as a quick recognition check; the performance remains the stronger evidence.

Record item, actual action, explanation, neutral access and mathematical cues separately. Early finishers create a second valid example or a counterexample, then explain why it works.

Reteach and extension

Respond to the evidence

Common misconceptions

If a rotated square is rejected, measure its sides and check all four right angles. If a triangle is labeled only by side length, check angles separately. If a square is excluded from rectangle/rhombus families, test each defining condition. Trapezoids have exactly one parallel pair here.

Language supports

Use the relevant frame: "I know ___ because the drawing shows ___." "I checked by ___." "My first claim changed because ___." Supply vocabulary or allow a home-language explanation without selecting the mathematical relationship. Pair verbal descriptions with pointing, sketching and gestures.

Extend strategically

Session 1: build an attribute chart for at least six triangles/quadrilaterals, including a turned square and a right isosceles triangle. Session 2: compare overlapping groups, test an always/sometimes/never claim with examples, and revise a false statement. Keep measurements and counterexamples as evidence, not only final labels.

This is a multi-session reasoning investigation. Preserve initial claims, tests and revisions; do not assign a high depth-of-knowledge label just because a task is long.

Student master | copy as needed

Draw, label, explain

Name: _____ Item: _____

The grid cells represent equal units. No centimeter or inch scale is implied.

My labels and reasoning

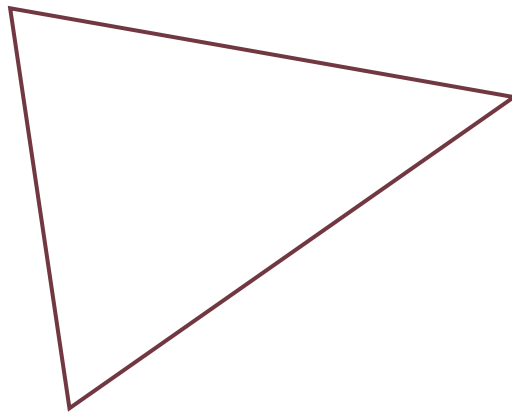
How I checked

Student | Warm-up

M01 | Choose and explain

Name: _____ Date: _____

Use a ruler and a right-angle corner or protractor. Which description classifies this triangle by BOTH angles and sides? Use equilateral when all three sides are equal.



Use labeled lengths for area tasks. Shape/angle attributes are drawn accurately.

- A. acute scalene
- B. acute equilateral
- C. acute isosceles
- D. obtuse scalene

Show or tell how you know.

Student | Warm-up

001 | Perform and explain

Name: _____ Date: _____

Classify this figure. Use a ruler and a right-angle corner or protractor to compare sides and angles. List all applicable familiar families, and justify each decision.



Use labeled lengths for area tasks. Shape/angle attributes are drawn accurately.

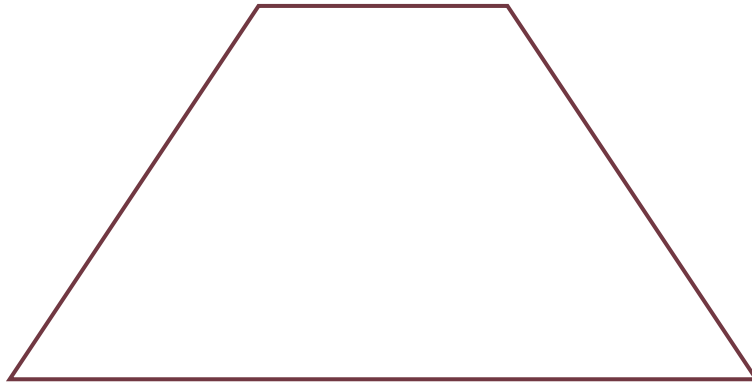
My reasoning or check (you may tell an adult):

Student | Warm-up

M02 | Choose and explain

Name: _____ Date: _____

How many acute angles does this figure have? Use the actual sides and angles.



Use labeled lengths for area tasks. Shape/angle attributes are drawn accurately.

- A. 0
- B. 3
- C. 2
- D. 1

Show or tell how you know.

Student | Warm-up

002 | Perform and explain

Name: _____ Date: _____

Test this claim: "Every square is a rectangle." Draw evidence or a counterexample. Label the relevant sides and angles, then explain.



My reasoning or check (you may tell an adult):

Teacher-only worked keys

M01 and O01

M01 | A - acute scalene

Target A | Angle evidence: 3 acute, 0 right, 0 obtuse. Side lengths compare as all different.

Choice check: compare each distractor with the defining attributes or recompute the required quantity. A plausible label or number is insufficient if it contradicts the actual figure. Check the mathematical relationship, not a superficial feature or the order of options.

O01 | Complete sample evidence

Target B | 2 pair(s) of parallel sides; 4 right angle(s). Four equal sides. It also belongs to rectangle, rhombus and parallelogram families. All are quadrilaterals. Include broader categories: squares are rectangles, rhombuses and parallelograms; rectangles/rhombuses are parallelograms; trapezoids are not parallelograms under NC's exclusive definition.

Accept mathematically equivalent valid examples and reasoning. Check actual drawing, measurement or tool use; record the learner's evidence and support. The sample is not a required wording script.

Teacher-only worked keys

M02 and O02

M02 | C - 2

Target B | Check each side pair or corner once. There are 2 acute angles. 1 pair(s) of parallel sides; 0 right angle(s). Exactly one parallel pair and equal nonparallel sides.

Choice check: compare each distractor with the defining attributes or recompute the required quantity. A plausible label or number is insufficient if it contradicts the actual figure. Check the mathematical relationship, not a superficial feature or the order of options.

O02 | Complete sample evidence

Target C | True. Four right angles satisfy the rectangle definition; equal sides do not disqualify it. A label alone is insufficient: verify the drawing shows the cited attributes.

Accept mathematically equivalent valid examples and reasoning. Check actual drawing, measurement or tool use; record the learner's evidence and support. The sample is not a required wording script.