

Flat Shapes and Solids



Kindergarten | Geometry

NC.K.G.3

Teacher scripts, original geometry visuals, student tools, performance records and complete keys.

30 choice prompts + 30 oral/hands-on tasks. Choose short sessions across days. This bank is not a 60-item test.

Aligned to current North Carolina mathematics standards using the 2025 Kindergarten Quick Reference Guide. Current-standard edition; revised 2026 standards are scheduled for implementation in 2028-29. Adult read-aloud and accessible response routes included.

Free sample | Contents

NC.K.G.3 | Kindergarten mathematics

This sample contains 19 complete selected pages from the 67-page resource, plus this sample contents page. Original printed page numbers are retained. Gaps are intentional.

Included original pages: 1-18, 51

Representative activities

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

M02: sample PDF page(s) 19; original page(s) 18

O01: sample PDF page(s) 18; original page(s) 17

O02: sample PDF page(s) 19; original page(s) 18

Selected teacher prompts and keys: original page(s) 51

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

Start here

What is included

1. Exact standard, scope, targets and materials.
2. Worked model and seven scripted instructional sections.
3. Reusable student organizers and reference tools.
4. Thirty paired activity cards: one choice and one performance task per page.
5. Individual evidence records, all-item keys, strategic inquiry and sources.

Print and present selectively

Keep the guide, preparation notes, evidence records and keys with adults. Print only selected student pages. Conceal the choice task while observing its paired performance, and use a fresh object or model. A just-repeated modeled answer is practice, not independent evidence.

Short-session plan

Use five or more short sessions: invite and model; shared practice; partner exploration; individual conferences; targeted reteach and exit. The nominal section allocations total 80 minutes of selected instruction across days, with breaks and extra conference time as needed. Do not administer every bank item at once.

How evidence is collected

Collect individual classification for all nine shapes, preferably in more than one mixed arrangement. Use real solids and clearly identified flat-shape representations. Record the category for each shape, not only a total or a partner group score. Naming and classification are related but separate: provide names neutrally if needed and record that support.

No official cut score or mastery threshold is created. Describe observed successes, unresolved confusions, supports and the next useful example.

TEACHER GUIDE

Standard and learning

Exact official NC standard

Identify squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres as two-dimensional or three-dimensional.

Scope and boundary

This standard identifies the nine listed shapes as two-dimensional or three-dimensional. Describing attributes in depth belongs to other geometry work; an explanation can inform teaching but is not an added definition requirement. A paper card is a physical solid representing a two-dimensional shape. Ask about the represented outline, not the card. Flat faces do not make a cube two-dimensional.

Daily I Can targets

I can identify squares, circles, triangles, rectangles and hexagons as two-dimensional.
I can identify cubes, cones, cylinders and spheres as three-dimensional.

Essential question

Which shapes are two-dimensional, and which are three-dimensional?

Source: 2025 NC Kindergarten Quick Reference Guide, printed pages 28-30. Exact code/text checked against the verified inventory and production-unit record dated 2026-10-19. No lettered subparts occur in this standard.

TEACHER GUIDE

Materials and access

Prepare

Large, age-appropriate shape cards; clean solid models of cube, cone, cylinder and sphere; small/medium/large examples; two broad sorting mats; a blank display board; large markers; classroom objects with clear outlines. Avoid small choking hazards, sharp objects or unsafe climbing. Use a dry solid cone rather than food. Choose models without decorative parts that obscure the intended shape.

Readiness and vocabulary

Support looking, touching or tracking an outline, attending to a comparison, and using an established communication route. These are access needs, not admission requirements. Read all directions and options neutrally. Model shape names, object, face, outline, turn, size and position; for G.3 connect flat/two-dimensional and solid/three-dimensional.

Keep the mathematics accessible

Use oral, signed, dictated, home-language or AAC responses; accept eye gaze or a communication partner when reliable. Naming requires an identifiable name, including an AAC name, rather than merely matching two objects. For classification, pointing to a group is valid. A motor partner can move a model only as the child directs. Provide tactile or enlarged representations as needed and record the change.

Record supports honestly

Separate neutral read-aloud, vocabulary translation and motor access from supplied answers or directed placements. Retain required supports. Do not score spelling, handwriting, accent or speed. Use N/O when an observation is absent or access is unreliable; use 0 only for an observed interpretable incorrect attempt.

TEACHER GUIDE

Worked model

Put a circle outline card on the mat labeled two-dimensional and a real sphere on the three-dimensional mat. Say: "This outline represents a flat circle. The ball-shaped model is a sphere; it has depth." Place a square outline with the circle and a cube with the sphere. Complete solution: circle and square are two-dimensional; sphere and cube are three-dimensional. A cube does not roll like a sphere, but both are three-dimensional.

Show the solution



Illustrations only. Use real solid models when modeling a cylinder or sphere. The flat drawing represents a shape; it is not the solid itself.

A supported turn

Say: "Now you can try with a new example. Show or tell your thinking in your usual way." Name any help you provide in the record. During a later independent observation, remove answer-supplying prompts but retain access supports.

Repair a misconception

If the child sorts by rolling, compare a cube with a sphere: both are solids even though rolling differs. If the child sorts the paper as a solid, validate that paper has thickness, then restate that the task is about the represented outline. Use a tactile raised boundary on a flat surface where accessible and document representation changes.

TEACHER GUIDE | WARM-UP

Invite prior ideas

Bank: M01-M04 / O01-O04. Flexible allocation: 8 minutes. Suggested core: M01 and O01. Additional items are optional later practice.

0-2: Invite

Say: "What do you notice? Show me a shape or where something is." Use a real classroom object. Take responses without correcting immediately.

Teach and observe

2-6: Offer the core task and let each child respond. Ask "What are you describing?" for G.1, "What is its name?" for G.2, or "Which group?" for G.3. Do not infer a class response from one volunteer.

Close and record

Use the last 2 minutes to record item/date, exact response, representation, support, and next example. Say: "Tell or show one thing you noticed." Do not announce a mastery label from this sample.

Listen for / access / repair

A category for each represented flat shape or real solid, even when appearance changes. Read neutrally and allow tactile/AAC access. If the child sorts by rolling, compare a cube with a sphere: both are solids even though rolling differs. If the child sorts the paper as a solid, validate that paper has thickness, then restate that the task is about the represented outline. Use a tactile raised boundary on a flat surface where accessible and document representation changes.

Early finisher

Sort a mixed set, then have a partner challenge one placement with a counterexample. The child checks the original shape and keeps or revises its group. Avoid suggesting that size, color or ability to roll determines dimension.

TEACHER GUIDE | I DO

Think aloud and model

Bank: M05-M08 / O05-O08. Flexible allocation: 12 minutes. Suggested core: M05 and O05. Additional items are optional later practice.

0-3: Set the purpose

Say: "Watch how I look carefully, then choose a name or a group." Use the worked model, with the real solid where called for.

Teach and observe

3-8: Think aloud using the complete worked model. Name the target and demonstrate one change. 8-10: Invite a supported response using the core task. Label this as teaching evidence.

Close and record

Use the last 2 minutes to record item/date, exact response, representation, support, and next example. Say: "Tell or show one thing you noticed." Do not announce a mastery label from this sample.

Listen for / access / repair

A category for each represented flat shape or real solid, even when appearance changes. Read neutrally and allow tactile/AAC access. If the child sorts by rolling, compare a cube with a sphere: both are solids even though rolling differs. If the child sorts the paper as a solid, validate that paper has thickness, then restate that the task is about the represented outline. Use a tactile raised boundary on a flat surface where accessible and document representation changes.

Early finisher

Sort a mixed set, then have a partner challenge one placement with a counterexample. The child checks the original shape and keeps or revises its group. Avoid suggesting that size, color or ability to roll determines dimension.

TEACHER GUIDE | WE DO

Share decisions

Bank: M09-M13 / O09-O13. Flexible allocation: 15 minutes. Suggested core: M09 and O09. Additional items are optional later practice.

0-3: Revisit

Say: "Let us look at a new example together." Present the core choice item; read each option evenly. Invite two different response routes.

Teach and observe

3-9: Ask learners to compare their choices with the actual object, outline or arrangement. Say: "Show what you looked at." Model checking rather than guessing from color. 9-12: Offer the core performance with shared support.

Close and record

Use the last 3 minutes to record item/date, exact response, representation, support, and next example. Say: "Tell or show one thing you noticed." Do not announce a mastery label from this sample.

Listen for / access / repair

A category for each represented flat shape or real solid, even when appearance changes. Read neutrally and allow tactile/AAC access. If the child sorts by rolling, compare a cube with a sphere: both are solids even though rolling differs. If the child sorts the paper as a solid, validate that paper has thickness, then restate that the task is about the represented outline. Use a tactile raised boundary on a flat surface where accessible and document representation changes.

Early finisher

Sort a mixed set, then have a partner challenge one placement with a counterexample. The child checks the original shape and keeps or revises its group. Avoid suggesting that size, color or ability to roll determines dimension.

TEACHER GUIDE | COLLABORATIVE PRACTICE

Trade describing and checking roles

Bank: M14-M18 / O14-O18. Flexible allocation: 13 minutes. Suggested core: M14 and O14. Additional items are optional later practice.

0-3: Set partner roles

Say: "One person shows or describes. The other checks. Then switch." Read the performance prompt and demonstrate turn-taking without supplying its answer.

Teach and observe

3-10: Partners take turns with fresh examples. Each child names/describes/classifies individually before the partner comments. An adult records the response, not only the final group arrangement.

Close and record

Use the last 3 minutes to record item/date, exact response, representation, support, and next example. Say: "Tell or show one thing you noticed." Do not announce a mastery label from this sample.

Listen for / access / repair

A category for each represented flat shape or real solid, even when appearance changes. Read neutrally and allow tactile/AAC access. If the child sorts by rolling, compare a cube with a sphere: both are solids even though rolling differs. If the child sorts the paper as a solid, validate that paper has thickness, then restate that the task is about the represented outline. Use a tactile raised boundary on a flat surface where accessible and document representation changes.

Early finisher

Sort a mixed set, then have a partner challenge one placement with a counterexample. The child checks the original shape and keeps or revises its group. Avoid suggesting that size, color or ability to roll determines dimension.

TEACHER GUIDE | INDEPENDENT PRACTICE

Collect individual evidence

Bank: M19-M23 / O19-O23. Flexible allocation: 17 minutes. Suggested core: M19 and O19. Additional items are optional later practice.

0-3: Prepare a fresh observation

Say: "This is your turn. You may tell, sign or show me." Give the performance task before its related choice task and without displaying the key.

Teach and observe

3-14: Confer with children individually while others revisit familiar tools. Use teacher-only preparation from the key. Record exact responses for each shape, size/orientation or relation. Do not require a written explanation.

Close and record

Use the last 3 minutes to record item/date, exact response, representation, support, and next example. Say: "Tell or show one thing you noticed." Do not announce a mastery label from this sample.

Listen for / access / repair

A category for each represented flat shape or real solid, even when appearance changes. Read neutrally and allow tactile/AAC access. If the child sorts by rolling, compare a cube with a sphere: both are solids even though rolling differs. If the child sorts the paper as a solid, validate that paper has thickness, then restate that the task is about the represented outline. Use a tactile raised boundary on a flat surface where accessible and document representation changes.

Early finisher

Sort a mixed set, then have a partner challenge one placement with a counterexample. The child checks the original shape and keeps or revises its group. Avoid suggesting that size, color or ability to roll determines dimension.

TEACHER GUIDE | SMALL-GROUP RETEACH

Target one observed confusion

Bank: M24-M27 / O24-O27. Flexible allocation: 10 minutes. Suggested core: M24 and O24. Additional items are optional later practice.

0-2: Reconnect

Use one documented confusion from an earlier observation. Say: "Let us try a clearer example, then a different one." Keep the target narrow.

Teach and observe

2-7: Contrast a clear example with the confusing example using the repair guidance below. Model once, then remove answer cues and provide a new example. Keep teaching and fresh observations separate.

Close and record

Use the last 3 minutes to record item/date, exact response, representation, support, and next example. Say: "Tell or show one thing you noticed." Do not announce a mastery label from this sample.

Listen for / access / repair

A category for each represented flat shape or real solid, even when appearance changes. Read neutrally and allow tactile/AAC access. If the child sorts by rolling, compare a cube with a sphere: both are solids even though rolling differs. If the child sorts the paper as a solid, validate that paper has thickness, then restate that the task is about the represented outline. Use a tactile raised boundary on a flat surface where accessible and document representation changes.

Early finisher

Sort a mixed set, then have a partner challenge one placement with a counterexample. The child checks the original shape and keeps or revises its group. Avoid suggesting that size, color or ability to roll determines dimension.

TEACHER GUIDE | EXIT TICKET

Capture a fresh brief response

Bank: M28-M30 / O28-O30. Flexible allocation: 5 minutes. Suggested core: M28 and O28. Additional items are optional later practice.

0-1: Invite one fresh response

Say: "Show me what you notice about this new example." Select a performance task not just rehearsed, then use a choice item only if useful.

Teach and observe

1-4: Obtain the individual response; accept the established access mode. For G.1 seek both object-shape and reference-position evidence across exit opportunities. For G.2 and G.3 sample remaining gaps rather than claiming nine-shape coverage from one item.

Close and record

Use the last 1 minutes to record item/date, exact response, representation, support, and next example. Say: "Tell or show one thing you noticed." Do not announce a mastery label from this sample.

Listen for / access / repair

A category for each represented flat shape or real solid, even when appearance changes. Read neutrally and allow tactile/AAC access. If the child sorts by rolling, compare a cube with a sphere: both are solids even though rolling differs. If the child sorts the paper as a solid, validate that paper has thickness, then restate that the task is about the represented outline. Use a tactile raised boundary on a flat surface where accessible and document representation changes.

Early finisher

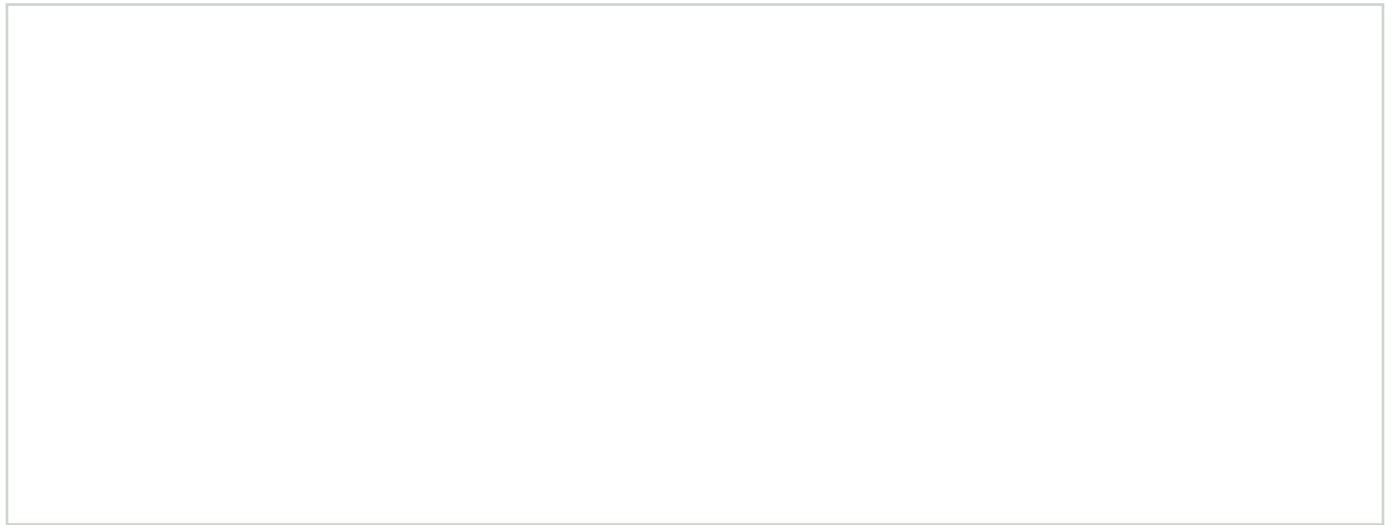
Sort a mixed set, then have a partner challenge one placement with a counterexample. The child checks the original shape and keeps or revises its group. Avoid suggesting that size, color or ability to roll determines dimension.

REUSABLE STUDENT ORGANIZER

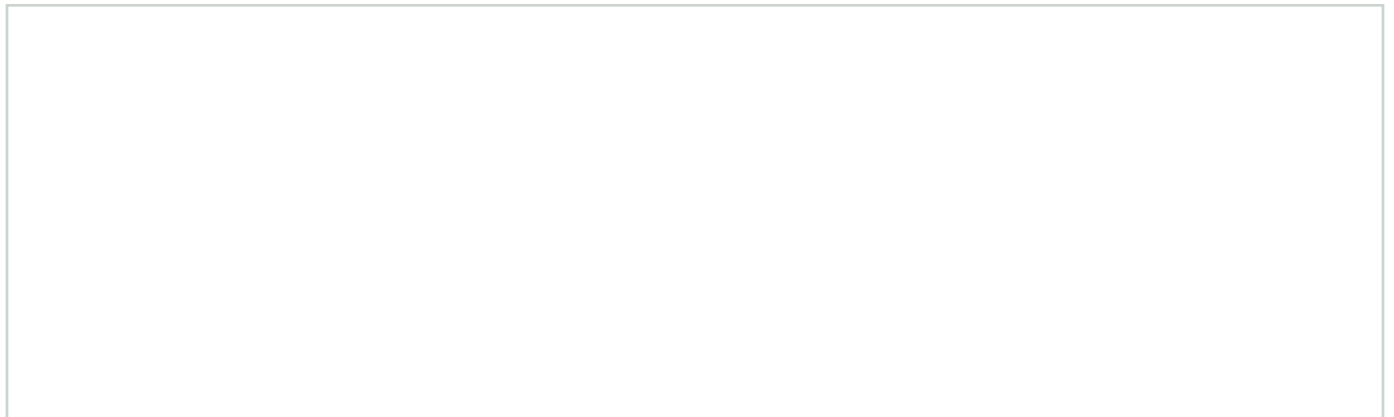
Show, tell, and try

Name _____ Date _____

Put your object or shape here. Tell, sign or show what you notice.



Try a new example. What stays the same? What changes?



Adult: Record the child's own words or actions. No writing is required.

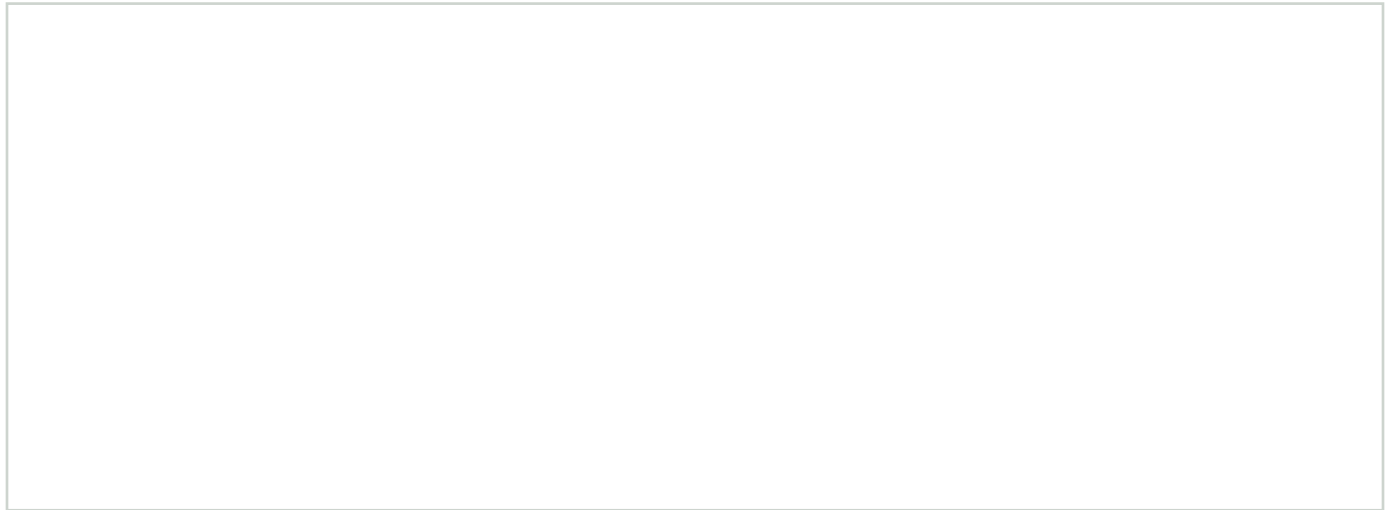
REUSABLE STUDENT SORTING TOOL

Two groups

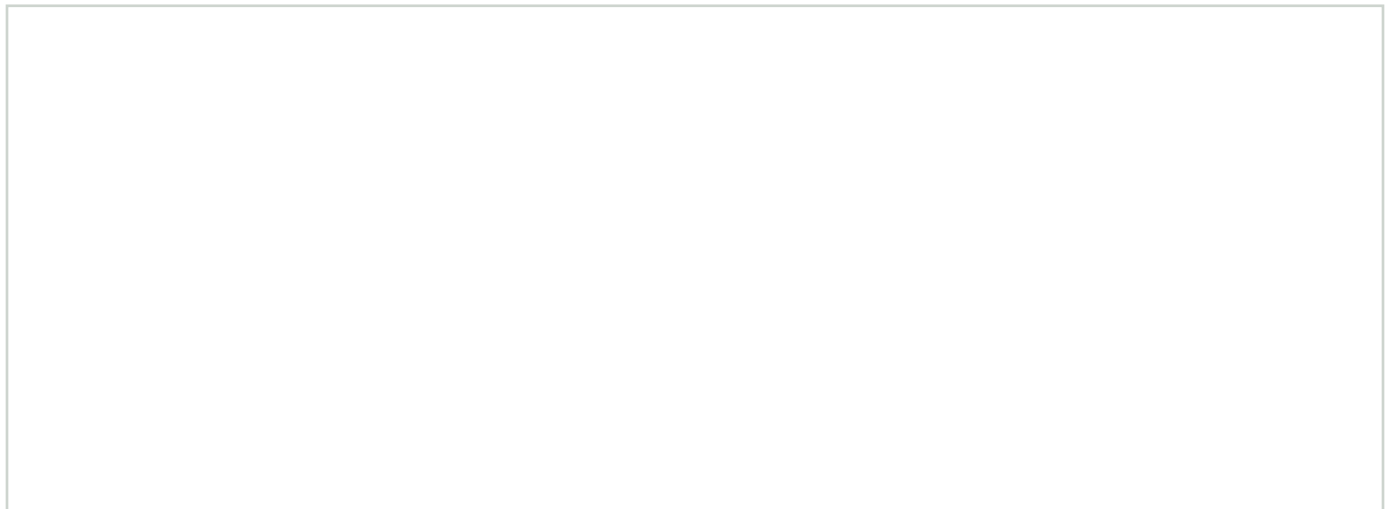
Name _____ Date _____

Your teacher reads the labels. Put each shape in a group.

two-dimensional



three-dimensional



Classify the shape represented by a flat outline card, or the real solid model. Do not classify the paper material.

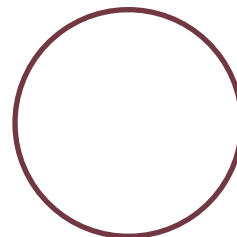
REUSABLE REFERENCE | TEACHING ONLY

Flat shape examples

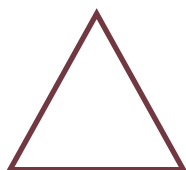
Adult reads the names. Cover this reference during independent naming observations.



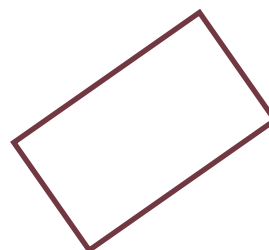
square



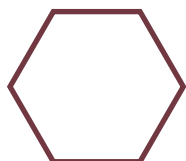
circle



triangle



rectangle



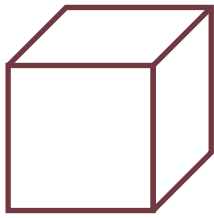
hexagon

Original outlines represent ideal two-dimensional shapes. Squares are also rectangles.

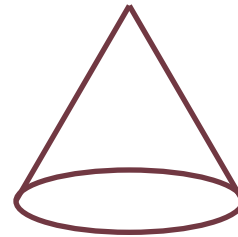
REUSABLE REFERENCE | TEACHING ONLY

Solid model guide

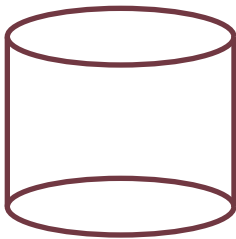
Use physical models. These are illustrations, not flat shapes to be classified by their ink or paper.



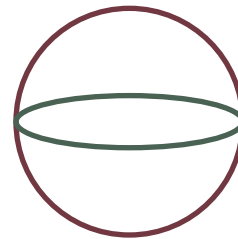
cube



cone



cylinder



sphere

A drawing can suggest a solid but cannot replace handling a model when the task requires it. For spheres, orientation changes do not produce a visibly different outline. Vary sizes and allow handling.

WARM-UP | STUDENT TASK

Look, tell, and show 01

Name _____ Date _____

Adult reads aloud. Cover the choice task during the performance turn.

M01 | Choose one

Is the shape shown two-dimensional or three-dimensional?



Original illustration; not a measurement drawing.

- A. two-dimensional
- B. three-dimensional

001 | Tell or show

Put the shape in a group: two-dimensional or three-dimensional.
Show what helped you decide.

Adult: Prepare the task using the teacher-only key. Observe the child individually.

WARM-UP | STUDENT TASK

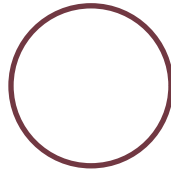
Look, tell, and show 02

Name _____ Date _____

Adult reads aloud. Cover the choice task during the performance turn.

M02 | Choose one

Is the shape shown two-dimensional or three-dimensional?



Original illustration; not a measurement drawing.

A. three-dimensional

B. two-dimensional

O02 | Tell or show

Put the shape in a group: two-dimensional or three-dimensional.
Show what helped you decide.

Adult: Prepare the task using the teacher-only key. Observe the child individually.

TEACHER-ONLY ANSWER KEY

Items 01-02

M01: A. two-dimensional

The target is a square. A square is two-dimensional; classify the represented shape or actual solid, not the page.

Choice setup: Show only this original outline. A printed picture represents an ideal flat shape; paper thickness is not what this question classifies.

Choices: A (two-dimensional): correct; B (three-dimensional): confuses the flat represented shape with a solid or the physical card with its representation

001 | Preparation and complete response

Offer a physical cone model. Read both group labels neutrally. Avoid revealing the shape name or the correct category. Ask about the shape represented, not the material of the card.

Sample / valid answer: Cone: three-dimensional. The actual solid extends in three dimensions. The child may show its depth by handling or turning it. Rolling is not a definition of three-dimensional.

Offer a different-sized example of the same shape and repeat the placement. A correct group placement is sufficient identification; explanatory language is useful evidence, not an extra formal definition requirement.

M02: B. two-dimensional

The target is a circle. A circle is two-dimensional; classify the represented shape or actual solid, not the page.

Choice setup: Show only this original outline. A printed picture represents an ideal flat shape; paper thickness is not what this question classifies.

Choices: A (three-dimensional): confuses the flat represented shape with a solid or the physical card with its representation; B (two-dimensional): correct

002 | Preparation and complete response

Offer a clear outline card representing a circle. Read both group labels neutrally. Avoid revealing the shape name or the correct category. Ask about the shape represented, not the material of the card.

Sample / valid answer: Circle: two-dimensional. The represented shape is flat: it extends in two dimensions. The card itself has thickness, but the card is representing a flat geometric shape.

Offer a different-sized example of the same shape and repeat the placement. A correct group placement is sufficient identification; explanatory language is useful evidence, not an extra formal definition requirement.