

MA.K.GR.1.3

Overarching Standard: MA.K.GR.1

Identify, compare, and compose two- and three-dimensional figures.

Benchmark of Focus

MA.K.GR.1.3: Compare three-dimensional figures based on their similarities, differences, and positions. Sort three-dimensional figures based on their similarities and differences. Figures are limited to spheres, cubes, cones, and cylinders.

Benchmark Clarifications

Clarification 1: Instruction includes exploring figures in a variety of sizes and orientations.

Clarification 2: Instruction focuses on using informal language to describe relative positions and the similarities or differences between figures when comparing and sorting.

Related Benchmark/Horizontal Alignment

- MA.K.M.1.1 /1.2
- MA.K.DP.1.1

Vertical Alignment

Previous Benchmarks VPK	Next Benchmarks MA.1.GR.1.1
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Terms from the K-12 Glossary

- Cones
- Cubes
- Cylinders
- Spheres

Purpose and Instructional Strategies

The purpose of this benchmark is for students to build on their understanding of classification of three-dimensional figures by finding similarities and differences between shapes.

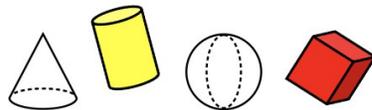
- Instruction focuses on sorting and classifying three-dimensional figures.
 - Instruction includes opportunities for students to sort figures based on various criteria, such as same number of faces and figures with all flat sides. *(MTR.5.1)*
 - Instruction includes figures of various sizes and orientations and may include non-standard versions of figures as well. *(MTR.2.1)*
 - Relative position refers to students identifying left/right, in front of/behind, apart, and above/below when comparing shapes.
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Common Misconceptions or Errors

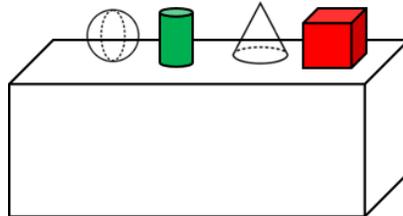
- Students may sort figures separately because of orientation and size rather than the identified attributes of the figures.
- Students may inaccurately name, and sort three-dimensional figures based on the names of their two-dimensional faces.

Strategies to Support Tiered Instruction

- Teacher provides solid shapes (cones, cylinders, cubes, and spheres) for students to sort.
 - For example, instruction includes sorting shapes by how they are same or by how they are different. The teacher asks follow up questions such as, "How did you decide to sort the shapes? How many sides does this group have?"
- Teacher provides the following solid figures in multiple sizes: cubes, cylinders, cones, spheres. Shapes are scattered in the workspace. Students work to match the cubes with the cubes, the cylinders with the cylinders, etc., until all shapes are grouped. The focus is on students being able to identify shapes when they are oriented differently (i.e., not sitting flat on one side).



- Teacher constructs a Mystery Box where they position one solid figure out of sight of students. Display some shapes on top of the box. Students put a single hand into the box to feel the shape and then point to the matching shapes on display. To begin, let the student see the shapes when feeling the attributes. Then hide the shape on subsequent turns.



Questions to ask students:

Ask: How does the cylinder and cube compare?

- Sample answer that indicates understanding: *The cylinder is made of 2 circle bases and one curved side. The cube doesn't have any circles or curved sides. The cube is made of all square sides.*



Ask: How does the cone and sphere compare?

- Sample answer that indicates understanding: *The cone and sphere both have a curved side. The cone come to a point the spere does not.*

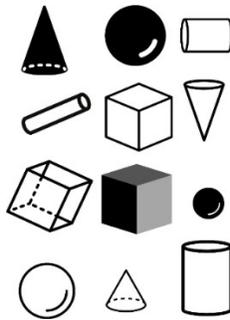


Instructional Tasks

Instructional Task 1 (MTR.2.1, MTR.4.1)

Using the figures below, create sorting cards for students.

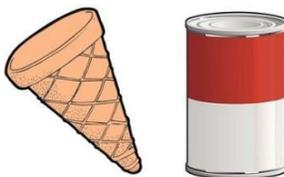
Provide each student in a group with their own set of figures to sort. Ask each student to sort the figures in any way they choose. Once students have sorted their figures, give each student time to share about their choices, and explain how they sorted their figures (by shape, straight sides and circles, filled and not filled or number of faces). Once students have shared, ask them to sort their figures in a new way. Give time for sorting and sharing again. Repeat the task as needed.



Instructional Items

Instructional Item 1

In what ways are the figures similar? In what ways are they different? Circle the cone. Draw a square around the cylinder.



Additional Resources:

CPALMS: [MA.K.GR.1.3](#)

YouTube Video: [Learn About 3D Shapes](#)

Resources/Tasks to Support Your Child at Home:

Choose two different objects from your home, such as a dice and a baseball. Ask your child to describe how the two shapes are alike and how they are different. Then extend to have them find another shape that is like them. Figures are limited to spheres, cubes, cones, and cylinders.