

Unit 07: Ch.10 Identify & Describe Three-Dimensional Shapes

Content Area: **Template**
Course(s):
Time Period: **Full Year**
Length: **FY**
Status: **Published**

Standards Alignment

New Jersey Student Learning Standards

MA.K.G	Geometry
MA.K.G.A	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
MA.K.G.A.1	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
MA.K.G.A.2	Correctly name shapes regardless of their orientations or overall size.
MA.K.G.A.3	Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).
MA.K.G.B	Analyze, compare, create, and compose shapes.
MA.K.G.B.4	Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).
MA.K.G.B.5	Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

Integration of Career Readiness, Life Literacies and Key Skills

CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP3	Attend to personal health and financial well-being.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP7	Employ valid and reliable research strategies.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP10	Plan education and career paths aligned to personal goals.
CRP.K-12.CRP11	Use technology to enhance productivity.

Technology / Integration of Computer Science and Design Thinking

TECH.8.1.2	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
TECH.8.1.2.A	Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations
TECH.8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments (i.e., games, museums).
TECH.8.1.2.C	Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
TECH.8.1.2.C.1	Engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using various media formats such as online collaborative tools, and social media.
TECH.8.1.2.E	Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
TECH.8.1.2.E.1	Use digital tools and online resources to explore a problem or issue.

Interdisciplinary Connections: NJSLS for ELA, Social Studies, Science and/or Math Section

Capacities of the Literate Individual

Students Who are College and Career Ready in Reading, Writing, Speaking, Listening, & Language

They demonstrate independence.

They build strong content knowledge.

They respond to the varying demands of audience, task, purpose, and discipline.

They value evidence.

They use technology and digital media strategically and capably.

	Key Ideas and Details
LA.K-12.NJSLSA.R1	Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
MATH.K-12.4	Model with mathematics
MATH.K-12.5	Use appropriate tools strategically
MATH.K-12.7	Look for and make use of structure
LA.RI.K.1	With prompting and support, ask and answer questions about key details in a text.
LA.K-12.NJSLSA.SL1	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
LA.K-12.NJSLSA.SL3	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.
LA.K-12.NJSLSA.SL6	Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.
LA.SL.K	Speaking and Listening Comprehension and Collaboration
LA.SL.K.1	Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
LA.SL.K.1.A	Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion).
LA.SL.K.1.B	Continue a conversation through multiple exchanges.
LA.SL.K.3	Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
LA.SL.K.6	Speak audibly and express thoughts, feelings, and ideas clearly.

Integration of Diversity, Equity and Inclusion; Climate Change; Informational and Media Literacy

see Crosswalks

21st Century Life and Careers

Stage I: Desired Results

Transfer/Overview/Rationale

Transfer / Overview / Rationale

Unit Rationale

The purpose of this unit...

By sorting three-dimensional shapes children will demonstrate and expand their formal knowledge of shapes and their attributes.

Meaning

Essential Questions

Essential Questions

1. How can you identify, name, describe, analyze, and compare three-dimensional shapes by attributes (spheres, cubes, cylinders, cones)?
2. How can you solve problems by using the strategy *use logical reasoning*?
3. How can you model two- and three-dimensional shapes by building and drawing?
4. How can you use the terms *above, below, beside, next to, in front of, and behind* to describe shapes in the environment?

Enduring Understanding/Indicators of Understanding

Enduring Understanding/Indicators of Understanding

- Identifying and describing shapes by their attributes can help you sort them.

- Three-dimensional shapes are solid.
- Using directional vocabulary can help describe shapes and objects in the environment.

Acquisition (Student Learning Objectives)

Knowledge

Knowledge

Students will know...

Vocabulary (TE p.77F)

above, behind, below, beside, next to, in front of, cone, cube curved surface, cylinder, flat surface, roll, stack, slide, sphere, three-dimensional shapes

Also - rectangular prism, pyramid

Content

- Identify, sort, analyze, and describe three-dimensional shapes by attributes.
- Compare and contrast two-dimensional and three-dimensional shapes.
- Use directional vocabulary.
- Compose three-dimensional shapes using two-dimensional shapes.
- Describe three-dimensional shapes as solid.

Skills

Skills

Student will be skilled at ...

1. Identify, analyze, describe, and compare three-dimensional shapes by attributes.
2. Solve problems by using the strategy use *logical reasoning*.
3. Model and build two- and three-dimensional shapes.
4. Use the terms *above*, *below*, *beside*, *next to*, *in front of*, and *behind* to describe shapes in the environment.

Stage 3: Learning Plan

Resource and Mentor Texts

Resources and Mentor Texts

1. GO Math! Teacher Edition: Chapter 10 Identify and Describe Three-Dimensional Shapes
 - Vocabulary Builder: TE page 571
 - Chapter Game: Follow the Shapes page 572
 - Vocabulary Game: Picture It pg. 572A
 - The Write Way Journal Prompt: TE page 572B
2. Grab and Go! kit
 - Literature Connections: I Know Big and Small, Curious George Goes to a Toy Store, and Up Up to the Top
 - additional leveled readers and games

3. Think Central (link below)

- Personal Math Trainer
- Interactive Student Edition
- Math on the Spot Videos
- Animated Math Models
- Reteach/Enrich pages (or see the [Google Folder](#))
- Hands on Tier 1 and 2 Reteach Activities (or see the [Google Folder](#))

Background Content for Teachers:

Teaching for Depth (TE p.569E)

- Children need time to engage with hands on examples of three-dimensional shapes in order to identify and to determine what is and what is not a particular three-dimensional shape

[Think Central](#)
[Google Folder](#)

Formative Assessment Strategies

Formative Assessment Strategies

Daily Formative Assessments:

- Teacher Observation
- Math Log, Notebook, or Journal
- Student Math Book- Share and Show & On Your Own
- Differentiated Center Activities and Instruction

Go Math! Specific Formative Assessments:

- Show What You Know (to start the chapter)
 - tiered small group intervention as needed
- Daily Share and Show questions, problem solving, and application
 - used to create small reteach, enrich, and check in groups
- Mid Chapter Check Point
 - revisit lesson specific skills whole class or small group
- End of Chapter Review
 - revisit lesson specific skills whole class or small group prior to summative assessment

Learning Activities/Unit of Study

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Lesson Components: (See TE per lesson to guide your lesson planning.)

1. Engage/Connection from yesterday
 - Daily Routines: Problem of the Day/Math Board
2. Teach whole group mini-lesson
 - New skill is presented and explained by the teacher
3. Active Engagement
 - on the rug or central meeting spot
 - an opportunity for students to try the new skill
 - use manipulatives, white boards, and possibly Animated Math Models
 - partner work is fine at this point
4. Guided Practice
 - at students' seats or in small group, Go Math! workbook pages
 - use manipulatives whenever possible
 - some problems should be completed independently
5. Formative Assessment
 - teacher quickly reviews students' work for accuracy and independence to formulate groups for centers based on student needs; reteach, enrichment, and check in groups
6. Differentiated Center Rotations (ASP teachers present for part)
 - at least 2 centers, 3-4 is ideal
 - centers should relate to the chapter and lesson of the day
 - for center activity ideas, refer to the

Google Folder Link below

Modifications and/or Accommodations

Suggested Modifications (ELL, Sp. Ed, Gifted, At-risk of Failure)

English Language Learners

Native language support: The teacher provides auditory or written content to students in their native

language.

Adjusted Speech: The teacher changes speech patterns to increase student comprehension. This could include facing the students, paraphrasing, clearly indicating the most important ideas, and speaking more slowly.

Visuals: The teacher uses graphics, pictures, visuals, and manipulatives. This helps ELL students better understand and comprehend the subjects at hand.

Front-Loading Vocabulary: The teacher front loads vocabulary. This means providing students with a list of important vocabulary words they will need to know for a book, lesson, etc. prior to the lesson being taught. Including pictures to go with the vocabulary words is also very beneficial for the students.

Special Education Students

Chunking: The teacher presents information in a way that makes it easy for students to understand and remember. Chunking is based on the presumption that our working memory is easily overloaded by excessive detail. The best way to deliver information is to organize it into meaningful units. Because students with special needs get overloaded easily, chunking is an effective strategy to use with them.

Checking for Understanding: It is important to constantly check for understanding, especially for students who have accommodations. Teachers want to make sure students understand the concepts being covered in a way that makes sense to them.

Extra time: The teacher provides students with special needs extra time to complete work or answer questions. It is important to give students enough time to process their thoughts.

Oral Reading: The teacher will read work orally to students. Class work such as tests and literature circles may need to be read aloud to the student.

Timers: The teacher will use timers as an instructional tool. The use of timers is beneficial for students who have trouble completing tasks. Timers can be helpful so the student is aware of how much time they have to complete an assignment.

Students with 504 Plans

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Gifted & Talented Strategies

Extensions/Enrichments: Teachers will provide gifted and talented students with extension/enrichment projects. Students will be challenged to further their understanding, to apply acquired knowledge, and/or to produce something in reference to acquired knowledge.

Modify/Change Activities: Teachers will monitor and modify activities to accommodate those students who need to be challenged further. Additional reading, problem-solving, writing, or project work is necessary for those students who are ready to move on at a rate more accelerated than their peers. In this way, G & T students are provided the same opportunity for support as special needs students.

Students at Risk of School Failure

Directions or Instructions: Make sure directions and/or instructions are given in limited numbers. Give directions/instructions verbally and in simple written format. Ask students to repeat the instructions or directions to ensure understanding occurs. Check back with the student to ensure he/she hasn't forgotten.

Peer Support: Peers can help build confidence in other students by assisting in peer learning. Many teachers use the 'ask 3 before me' approach. This is fine, however, a student at risk may have to have a specific student or two to ask. Set this up for the student so he/she knows who to ask for clarification before going to you.

Alternate or Modified Assignments: Always ask yourself, "How can I modify this assignment to ensure the students at risk are able to complete it?" Sometimes you'll simplify the task, reduce the length of the assignment or allow for a different mode of delivery. For instance, many students may hand something in, the at-risk student may jot notes and give you the information verbally. Or, it just may be that you will need to assign an alternate assignment.

Increase One to One Time: When other students are working, always touch base with your students at risk and find out if they're on track or needing some additional support. A few minutes here and there will go a long way to intervene as the need presents itself.

Contracts: It helps to have a working contract between you and your students at risk. This helps prioritize the tasks that need to be done and ensure completion happens. Each day write down what needs to be completed, as the tasks are done, provide a checkmark or happy face. The goal of using contracts is to eventually have the student come to you for completion sign-offs.

Hands On: As much as possible, think in concrete terms and provide hands-on tasks. This means a child doing math may require a calculator or counters. The child may need to tape record comprehension activities instead of writing them. A child may have to listen to a story being read instead of reading it him/herself.

Tests/Assessments: Tests can be done orally if need be. Break tests down in smaller increments by having a portion of the test in the morning, another portion after lunch and the final part the next day.

Seating: Seat students near a helping peer or with quick access to the teacher. Those with hearing or sight issues need to be close to the instruction which often means near the front.