3 Math Unit 13: Describe and Analyze 2-Dimensional Shapes

Content Area: **Mathematics**
Course(s):
Time Period: **Marking Period 4**
Length: **8 Days**
Status: **Published**

Unit Overview

Polygons and Quadrilaterals

In this unit, students explore categories and relationships among 2-dimensional shapes and their attributes. An *attribute* is a characteristic or property of an object. Figures can be labeled with the broad name of *polygons*. Before students use polygon prefixes to determine the number of sides and angles and how to identify them, students are tasked with identifying whether shapes are polygons. A polygon is a closed 2-dimensional shape formed by three or more sides that do not cross, so shapes with curved lines, lines that cross, or open sides are not polygons.

Students learn that a polygon with four sides is called a quadrilateral. Students label 2-dimensional shapes based on right angles and equal side lengths. In this unit, students learn that a right angle is an angle that forms a square corner. In Grade 4, however, students will learn about perpendicular lines and 90-degree angles.

Students also discuss attributes that quadrilaterals share. Students learn that different shapes such as squares and rectangles have attributes in common, such as having four sides. These shared attributes can define a larger category: quadrilaterals.

What Students Are Learning

- Students understand that shapes in different categories may share attributes and the attributes that shapes share can define a larger category of figures.
- Students recognize rhombuses, rectangles, and squares are examples of quadrilaterals.
- Students draw examples of quadrilaterals given specified attributes or that do not belong to a given subcategory.

Number Routines

- Greater Than, Less Than
- Find the Missing Values
- Mystery Number
- Notice & Wonder
- Which Doesn't Belong?
- Is It Always True?

Standards

MATH.3.G.A.1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

Materials

Core Materials:

Reveal Math

13.1 Describe and Classify Polygons

13.2 Describe Quadrilaterals

13.3 Classify Quadrilaterals

13.4 Draw Quadrilaterals with Specific Attributes

Supplemental Materials:

- ST Math
- Happy Numbers
- 3 Act Lessons
- Building Fact Fluency Kit
- Brainingcamp Manipulatives
- Nearpod Lessons
- Brainpop Resources
- Online Resources

Technology

CS.3-5.8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
CS.3-5.8.1.5.DA.3	Organize and present collected data visually to communicate insights gained from different views of the data.
CS.3-5.8.1.5.DA.4	Organize and present climate change data visually to highlight relationships or support a claim.
CS.3-5.8.2.5.ED.2	Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.
CS.3-5.8.2.5.ED.3	Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.
CS.3-5.DA	Data & Analysis Individuals can select, organize, and transform data into different visual representations and communicate insights gained from the data. Data can be organized, displayed, and presented to highlight relationships.

Assessment

Formative Assessment

- Unit Readiness Diagnostics
- Lesson Checks
- Exit Tickets
- Teacher Observation

Summative Assessment

- Unit Assessment Performance Task
- Benchmark Tests
- Alternative Assessments: Performance Tasks & Projects

Accommodations & Modifications

Special Education

<table>
<tr><th colspan="4">Differentiated Instruction</th></tr>
<tr><td colspan="4">Accommodate Based on Students Individual Needs: Strategies</td></tr>
<tr>
<td>Time/General
Extra time for assigned tasks
Adjust length of assignment
Timeline with due dates for reports and projects
Communication system between home and school
Provide lecture notes/outline</td>
<td>Processing
Extra response time
Have students verbalize steps
Repeat, clarify, or reword directions
Mini-breaks between tasks
Provide a warning for transitions
Reading partners</td>
<td>Comprehension
Precise step-by-step directions
Short manageable tasks
Brief and concrete directions
Provide immediate feedback
Small group instruction
Emphasize multi-sensory learning</td>
<td>Recall
Teacher-made checklist
Use visual graphic organizers
Reference resources to promote independence
Visual and verbal reminders
Graphic organizers</td>
</tr>
<tr>
<td>Assistive Technology
Computer/whiteboard
Tape recorder</td>
<td>Tests/Quizzes/Grading
Extended time
Study guides</td>
<td>Behavior/Attention
Consistent daily</td>
<td>Organization
Individual daily planner</td>
</tr>
</table>

• Spell-checker • Audio-taped books	• Focused/chunked tests • Read directions aloud	structured routine • Simple and clear classroom rules • Frequent feedback	• Display a written agenda • Note-taking assistance • Color code materials

504

- In class/pull out support with special ed teacher Additional time during intervention time
- Preferred seating
- Questions read aloud
- Extended time for completing tasks Graphic organizers
- Vocabulary support Mnemonic devices
- Songs/videos to reinforce concepts Limit number of questions
- Scribe Manipulatives Calculators Reteach pages Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System Another look homework video
- Practice buddy

ELL

- Translation device/dictionary
- In class/pull out support with ESL teacher
- Preferred seating
- Questions read aloud
- Extended time for completing tasks
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives
- Math Diagnosis & Intervention System

At-risk of Failure

- Additional time during intervention time
- Questions read aloud
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives
- Calculators
- Reteach pages
- Leveled homework

- Lesson intervention activities
- Math Diagnosis & Intervention System
- Another look homework video
- Practice buddy

Gifted & Talented

- Independent projects
- Enrichment pages
- Online games
- Leveled Homework
- Extension Activities
- Today's Challenge

Interdisciplinary Connections

SCI.3-5-ETS1-2	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
ELA.RL.CR.3.1	Ask and answer questions and make relevant connections to demonstrate understanding of a literary text, referring explicitly to textual evidence as the basis for the answers.
ELA.RL.TS.3.4	Utilize and reference features of a text when writing or speaking about a text, referring to parts of stories, dramas, and poems, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.
ELA.W.IW.3.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
SCI.3-ESS2-1	Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

Career Readiness, Life Literacies & Key Skills

PFL.9.1.5.FI	Financial Institutions
	People can choose to save money in many places such as home in a piggy bank, bank, or credit union.
PFL.9.1.5.FI.1	Identify various types of financial institutions and the services they offer including banks, credit unions, and credit card companies.
	There are specific steps associated with creating a budget.
PFL.9.1.5.PB.1	Develop a personal budget and explain how it reflects spending, saving, and charitable contributions.
WRK.9.2.5.CAP.3	Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
WRK.9.2.5.CAP.4	Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
TECH.9.4.5.CT	Critical Thinking and Problem-solving

TECH.9.4.5.CT.3	Describe how digital tools and technology may be used to solve problems. The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.

Career Ready Practices

STEM in Action

STEM Career: Welder: Hannah talks about the work of a welder.

Hannah Makes a Stained Glass Window: Hannah uses geometry to make a stained glass window.

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP12. Work productively in teams while using cultural global competence.