2 Math Unit 12: Geometric Shapes and Shares

Content Area: **Mathematics**
Course(s):
Time Period: **Marking Period 4**
Length: **10 days**
Status: **Published**

Unit Overview

Geometric Shapes and Equal Shares

In this unit, students build on earlier work identifying attributes of 2- and 3-dimensional shapes and classifying shapes according to their attributes. Students partition 2-dimensional shapes into equal shares of halves, thirds, and fourths. They develop early fraction language for their work in Grade 3. Students also partition rectangles into rows and columns of equal-sized square. This work is foundational for developing multiplication and area concepts in Grade 3.

- Geometric Shapes: Students identify 2- and 3- shapes by their attributes. Students apply vocabulary skills when they identify a shape by knowing that its name may contain a prefix that corresponds to the number of sides or vertices it has. Students draw 2-dimensional shapes based on given attributes and solve problems about them.
- Partitioning Shapes: WHen a shape is divided into parts, a process known as partitioning, each part is a share. When all shares of a 2-dimensional shape have the same size, the shares are equal shares. Students partition circles and rectangles in different ways to form halves, thirds, and fourths.
- Rows and Columns: Students partition a rectangle into rows and columns by tiling it with square tiles. Students also draw line segments to partition a rectangle into a specified number of rows and columns of squares that are the same size, extending their earlier work with partitioning. They explore strategies to count the number of squares in a rectangle partitioned into rows and columns. Using strategies to count equal groups to find the total is foundational for understanding the concept of multiplication.

What Students Are Learning

- Students recognize and draw 2- and 3-dimensional shapes and solids.
- Students identify equal shares and partition a shape into halves, thirds, or fourths.
- Students partition rectangles into rows and columns of equal-sized squares and count the squares to find the total number of squares.

Number Routines

- Build Fluency
- Which Benchmark Is It Closest To?
- Where Does It Go?
- About How Much?
- Greater Than or Less Than
- Notice & Wonder
- Which Doesn't Belong?

Standards

2.G.A.1	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
2.G.A.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
2.G.A.3	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

Materials

Core Materials:

Reveal Math

12.1 Recognize 2-Dimensional Shapes by Their Attributes

12.2 Draw 2-Dimensional Shapes from Their Attributes

12.3 Recognize 3-Dimensional Shapes by Their Attributes

12.4 Understand Equal Shares

12.5 Relate Equal Shares

12.6 Partition a Rectangle into Rows and Columns

Supplemental Materials:

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

Technology

DA	Data & Analysis
8.1.2.DA.1	Collect and present data, including climate change data, in various visual formats.
8.1.2.DA.3	Identify and describe patterns in data visualizations.
8.1.2.DA.4	Make predictions based on data using charts or graphs.

8.2.2.ED.2	Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.
8.2.2.ED.3	Select and use appropriate tools and materials to build a product using the design process.

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

Differentiated Instruction			
Accommodate Based on Students' Individual Needs: Strategies			
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	**Processing** • Extra response time • Have students verbalize steps • Repeat, clarify, or reword directions • Mini-breaks between tasks • Provide a warning for transitions • Reading partners	**Comprehension** • Precise step-by-step directions • Short manageable tasks • Brief and concrete directions • Provide immediate feedback • Small group instruction • Emphasize	**Recall** • Teacher-made checklist • Use visual graphic organizers • Reference resources to promote independence • Visual and verbal reminders • Graphic

		multi-sensory learning	organizers
Assistive Technology • Computer/whiteboard • Tape recorder • Spell-checker • Audio-taped books	**Tests/Quizzes/Grading** • Extended time • Study guides • Focused/chunked tests • Read directions aloud	**Behavior/Attention** • Consistent daily structured routine • Simple and clear classroom rules • Frequent feedback	**Organization** • Individual daily planner • 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

ELA:

RI.2.10. Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.

Science:

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Career Readiness, Life Literacies & Key Skills

9.1.2.CAP.1	Make a list of different types of jobs and describe the skills associated with each job.
9.1.2.CR.1	Recognize ways to volunteer in the classroom, school and community.
9.1.2.CAP.2	Explain why employers are willing to pay individuals to work.
9.4.2.CT	Critical Thinking and Problem-solving
9.1.2. FI.1	Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).

Career Ready Practices

- **Stem in Action :**
- **Stem Career: Carpenter: Chloe talks about her aspirations to be a carpenter.**
- **Chloe builds steps: Chloe talks about geometric shapes she uses to build steps.**

- 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.