Unit 12 Reveal Grade 2

Content Area: **Math**
Course(s): **Math**
Time Period: **June**
Length: **2 weeks**
Status: **Published**

Unit Overview

UNIT 12 PLANNER

Geometric Shapes and Equal Shares

PACING: 10 days

LESSON		MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY
Unit Opener	IGNITE! Prove Me Wrong!	Students think critically about covering a triangle with shapes.				
12-1	Recognize 2-Dimensional Shapes by Their Attributes	Students recognize 2-dimensional shapes based on their defining attributes.	Students discuss 2-dimensional shapes using the verb *notice*.	Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.	12-1	Math Terms angle attribute pentagon polygon quadrilateral
12-2	Draw 2-Dimensional Shapes from Their Attributes	Students draw 2-dimensional shapes based on their defining attributes.	Students discuss drawing 2-dimensional shapes from their attributes using the verb *notice* and noun *difference*.	Students demonstrate thoughtful reflection through identifying the causes of challenges and successes while completing a mathematical task.	12-2	hexagon pentagon quadrilateral triangle
12-3	Recognize 3-Dimensional Shapes by Their Attributes	Students recognize 3-dimensional shapes based on their defining attributes.	Students discuss 3-dimensional shapes using the words *face*, *base*, *edge*, *apex*, and *vertex*.	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	12-3	apex base edge face rectangular prism vertex
12-4	Understand Equal Shares	Students identify equal shares.	Students talk about equal shares using the phrase *can be partitioned*.	Students use prior knowledge and new understanding of mathematical concepts to complete a task, building stronger self-efficacy.	12-4	equal shares fourths halves partition thirds
Math Probe	Partitioning Shapes	Students indicate if a given shape is partitioned into four equal shares.				
12-5	Relate Equal Shares	Students relate equal shares of the same shape.	Students discuss relating equal shares of the same shape using *the same* and *different*.	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	12-5	equal shares fourths halves partition thirds
12-6	Partition a Rectangle into Rows and Columns	Students partition rectangles into rows and columns of squares of equal size.	Students talk about partitioning rectangles into rows and columns of squares of equal size using the verb *arrange*.	Students explore taking different perspectives on approaches to problem solving.	12-6	column repeated addition row skip count
Unit Review Fluency Practice						
Unit Assessment Performance Task						

203A Unit 12 • Geometric Shapes and Equal Shares

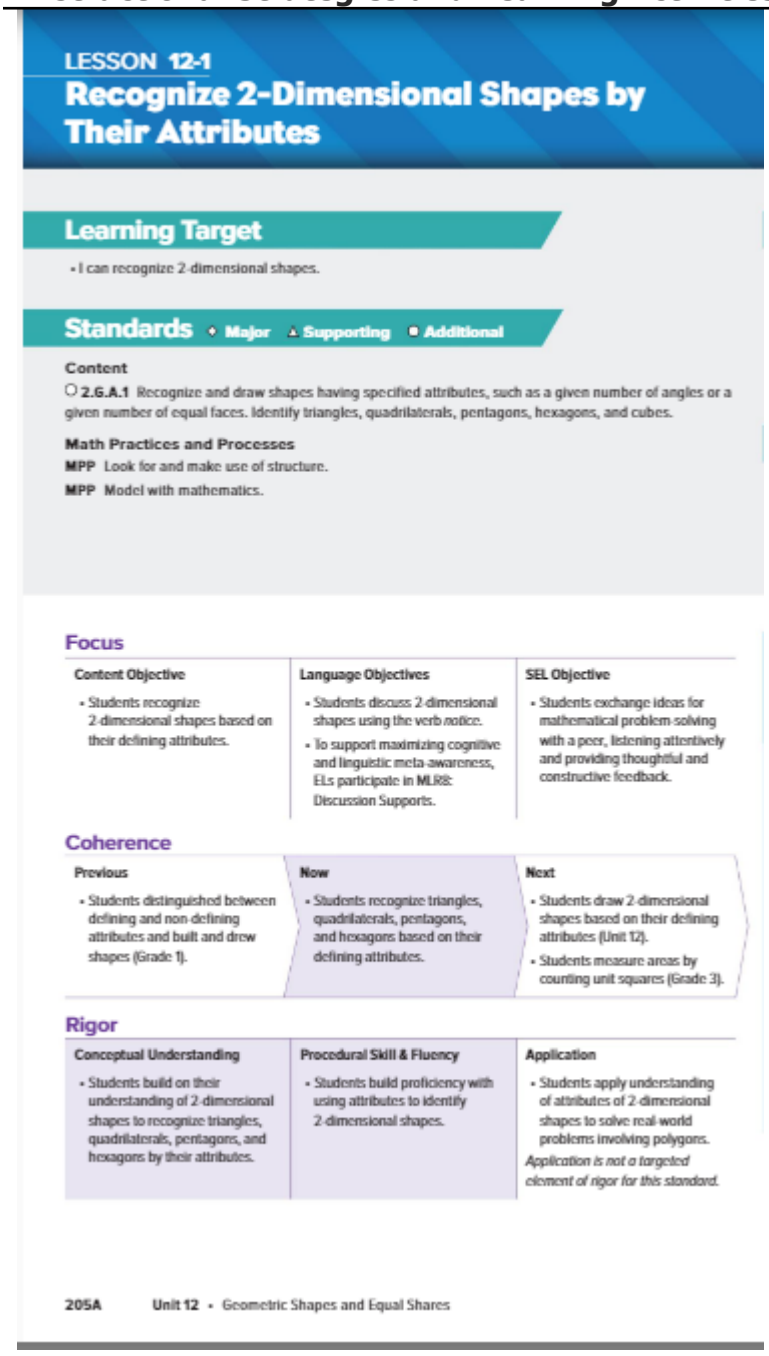
Enduring Understandings

See Above

Essential Questions

How can I name, draw, and partition geometric shapes?

Instructional Strategies and Learning Activities



LESSON 12-1

Recognize 2-Dimensional Shapes by Their Attributes

Learning Target

- I can recognize 2-dimensional shapes.

Standards ◆ Major ▲ Supporting ○ Additional

Content

○ **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.

Math Practices and Processes

MPP Look for and make use of structure.

MPP Model with mathematics.

Focus

Content Objective	Language Objectives	SEL Objective
• Students recognize 2-dimensional shapes based on their defining attributes.	• Students discuss 2-dimensional shapes using the verb *notice*. • To support maximizing cognitive and linguistic meta-awareness, ELs participate in MLR8: Discussion Supports.	• Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.

Coherence

Previous	Now	Next
• Students distinguished between defining and non-defining attributes and built and drew shapes (Grade 1).	• Students recognize triangles, quadrilaterals, pentagons, and hexagons based on their defining attributes.	• Students draw 2-dimensional shapes based on their defining attributes (Unit 12). • Students measure areas by counting unit squares (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of 2-dimensional shapes to recognize triangles, quadrilaterals, pentagons, and hexagons by their attributes.	• Students build proficiency with using attributes to identify 2-dimensional shapes.	• Students apply understanding of attributes of 2-dimensional shapes to solve real-world problems involving polygons. *Application is not a targeted element of rigor for this standard.*

LESSON 12-2

Draw 2-Dimensional Shapes from Their Attributes

Learning Target

- I can draw 2-dimensional shapes.

Standards ◆ Major ▲ Supporting ● Additional

Content

○ **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.

Math Practices and Processes

MPP Make sense of problems and persevere in solving them.

MPP Attend to precision.

Focus

Content Objective

- Students draw 2-dimensional shapes based on their defining attributes.

Language Objectives

- Students discuss drawing 2-dimensional shapes from their attributes using the verb *notice* and noun *difference*.
- To support optimizing output, ELs participate in MLR1: Stronger and Clearer Each Time.

SEL Objective

- Students demonstrate thoughtful reflection through identifying the causes of challenges and successes while completing a mathematical task.

Coherence

Previous

- Students distinguished between defining and non-defining attributes and built and drew shapes (Grade 1).
- Students recognized 2-dimensional shapes based on their defining attributes (Unit 12).

Now

- Students draw triangles, quadrilaterals, pentagons, and hexagons based on their defining attributes.

Next

- Students recognize 3-dimensional shapes based on their defining attributes (Unit 12).
- Students measure areas by counting unit squares (Grade 3).

Rigor

Conceptual Understanding

- Students build on their understanding of 2-dimensional shapes by using given attributes to draw and identify triangles, quadrilaterals, pentagons, and hexagons.

Procedural Skill & Fluency

- Students develop proficiency with drawing and identifying 2-dimensional shapes based on given attributes.

Application

- Students apply understanding of the defining attributes of 2-dimensional shapes to solve real-world problems involving polygons.

Application is not a targeted element of rigor for this standard.

LESSON 12-3

Recognize 3-Dimensional Shapes by Their Attributes

Learning Target

- I can recognize 3-dimensional shapes.

Standards ◆ Major ▲ Supporting ○ Additional

Content

○ **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.

Math Practices and Processes

MPP Reason abstractly and quantitatively.

MPP Model with mathematics.

Focus

Content Objective	Language Objectives	SEL Objective
• Students recognize 3-dimensional shapes based on their defining attributes.	• Students discuss 3-dimensional shapes using the words *face, base, edge, apex,* and *vertex.* • To support sense-making, ELs participate in MLR2: Collect and Display.	• Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.

Coherence

Previous	Now	Next
• Students distinguished between defining and non-defining attributes (Grade 1). • Students recognized 2-dimensional shapes based on their defining attributes (Unit 12).	• Students recognize cones, cubes, cylinders, rectangular prisms, and spheres based on their defining attributes.	• Students identify equal shares (Unit 12). • Students measure area by counting unit squares (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of 3-dimensional shapes to recognize solids by their defining attributes.	• Students build proficiency with identifying 3-dimensional shapes based on their defining attributes.	• Students apply their understanding of attributes of 3-dimensional shapes to solve real-world problems. *Application is not a targeted element of rigor for this standard.*

LESSON 12-4

Understand Equal Shares

Learning Targets

- I can identify equal shares.
- I can partition 2-dimensional shapes into equal shares.

Standards ◆ Major ▲ Supporting ● Additional

Content

○ **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.

Math Practices and Processes

MPP Model with mathematics.

MPP Attend to precision.

Focus

Content Objective	Language Objectives	SEL Objective
• Students identify equal shares.	• Students talk about equal shares using the phrase *can be partitioned*. • To support cultivating conversation, ELs participate in MLR3: Critique, Correct, and Clarify.	• Students use prior knowledge and new understanding of mathematical concepts to complete a task, building stronger self-efficacy.

Coherence

Previous	Now	Next
• Students partitioned circles and rectangles into halves and fourths and described the equal shares (Grade 1). • Students recognized 3-dimensional shapes based on their defining attributes (Unit 12).	• Students identify equal shares of circles and rectangles and name the parts as halves, thirds, and fourths.	• Students relate equal shares of the same shape (Unit 12). • Students measure area by counting unit squares (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of polygons and equal shares to partition shapes into halves, thirds, and fourths.	• Students build proficiency with identifying and partitioning shapes into equal shares.	• Students apply understanding of equal shares to solve real-world problems involving halves, thirds, and fourths. *Application is not a targeted element of rigor for this standard.*

LESSON 12-5

Relate Equal Shares

Learning Targets

- I can partition a shape into halves, thirds, or fourths in more than one way.
- I can relate shapes with equal shares.

Standards ◆ Major ▲ Supporting ● Additional

Content

○ **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.

Math Practices and Processes

MPP Construct viable arguments and critique the reasoning of others.

MPP Look for and express regularity in repeated reasoning.

Focus

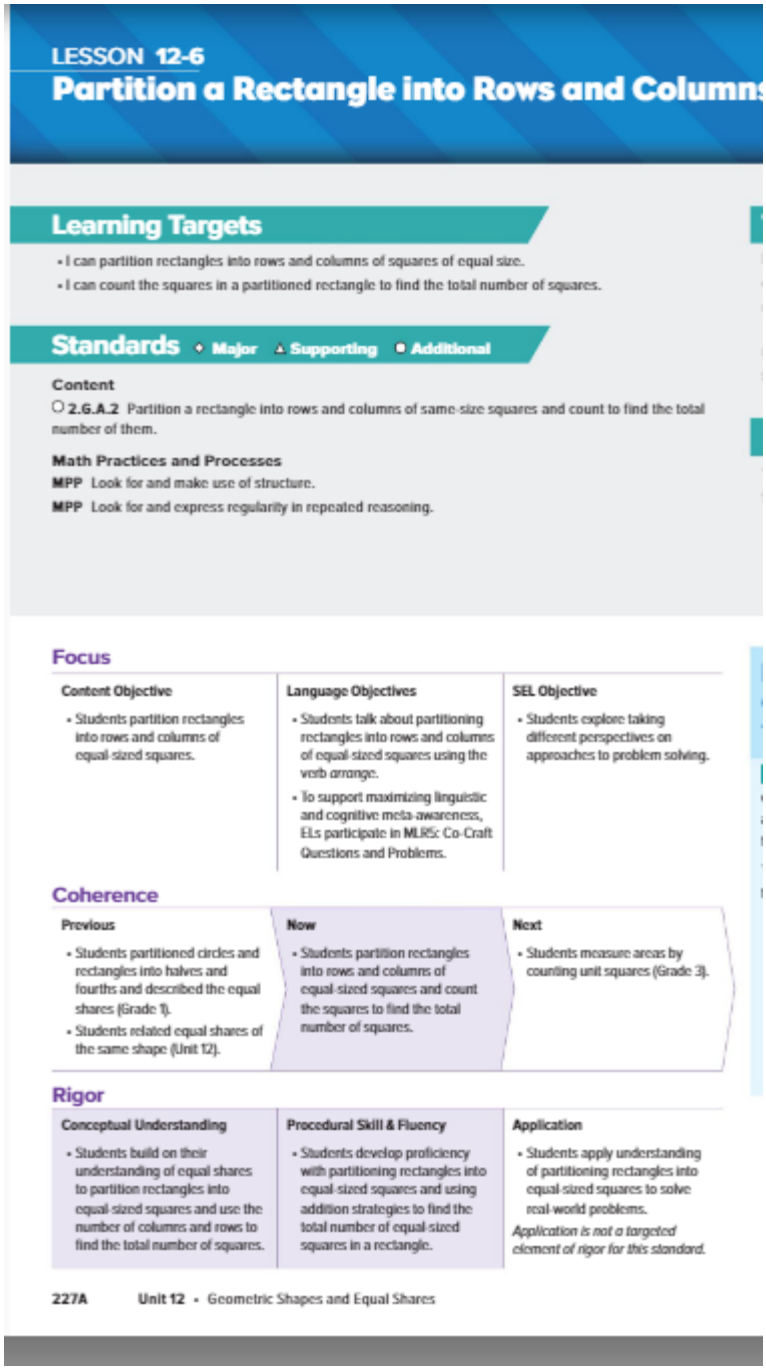
Content Objective	Language Objectives	SEL Objective
• Students relate equal shares of the same shape.	• Students discuss relating equal shares of the same shape using *the same* and *different*. • To support optimizing output, ELs participate in MLR7: Compare and Connect	• Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.

Coherence

Previous	Now	Next
• Students partitioned circles and rectangles into halves and fourths and described the equal shares (Grade 1). • Students identified equal shares (Unit 12).	• Students partition a shape into halves, thirds, or fourths in more than one way. Then they relate the equal shares.	• Students partition rectangles into rows and columns of equal-sized squares (Unit 12). • Students measure areas by counting unit squares (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students extend their understanding of polygons and equal shares to include partitioning shapes into equal shares in different ways.	• Students build proficiency with identifying and partitioning shapes into equal shares.	• Students apply the concept of equal shares to solve real-world comparison problems. *Application is not a targeted element of rigor for this standard.*



LESSON 12-6

Partition a Rectangle into Rows and Columns

Learning Targets

- I can partition rectangles into rows and columns of squares of equal size.
- I can count the squares in a partitioned rectangle to find the total number of squares.

Standards ◆ Major ▲ Supporting ● Additional

Content

○ **2.G.A.2** Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.

Math Practices and Processes

MPP Look for and make use of structure.

MPP Look for and express regularity in repeated reasoning.

Focus

Content Objective	Language Objectives	SEL Objective
• Students partition rectangles into rows and columns of equal-sized squares.	• Students talk about partitioning rectangles into rows and columns of equal-sized squares using the verb *arrange*. • To support maximizing linguistic and cognitive meta-awareness, ELs participate in MLR5: Co-Craft Questions and Problems.	• Students explore taking different perspectives on approaches to problem solving.

Coherence

Previous	Now	Next
• Students partitioned circles and rectangles into halves and fourths and described the equal shares (Grade 1). • Students related equal shares of the same shape (Unit 12).	• Students partition rectangles into rows and columns of equal-sized squares and count the squares to find the total number of squares.	• Students measure areas by counting unit squares (Grade 3).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of equal shares to partition rectangles into equal-sized squares and use the number of columns and rows to find the total number of squares.	• Students develop proficiency with partitioning rectangles into equal-sized squares and using addition strategies to find the total number of equal-sized squares in a rectangle.	• Students apply understanding of partitioning rectangles into equal-sized squares to solve real-world problems. *Application is not a targeted element of rigor for this standard.*

Integration of Career Readiness, Life Literacies and Key Skills

PFL.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).
PFL.9.1.2.CR.1	Recognize ways to volunteer in the classroom, school and community.
PFL.9.1.2.CR.2	List ways to give back, including making donations, volunteering, and starting a business.
PFL.9.1.2.FP.1	Explain how emotions influence whether a person spends or saves.
PFL.9.1.2.FP.3	Identify the factors that influence people to spend or save (e.g., commercials, family,

	culture, society).
PFL.9.1.2.PB.1	Determine various ways to save and places in the local community that help people save and accumulate money over time.
PFL.9.1.2.PB.2	Explain why an individual would choose to save money.
TECH.9.4.2.CI.1	Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
TECH.9.4.2.CI.2	Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
TECH.9.4.2.CT.2	Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).
TECH.9.4.2.CT.3	Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
TECH.9.4.2.DC.3	Explain how to be safe online and follow safe practices when using the internet (e.g., 8.1.2.NI.3, 8.1.2.NI.4).
TECH.9.4.2.DC.6	Identify respectful and responsible ways to communicate in digital environments.
TECH.9.4.2.DC.7	Describe actions peers can take to positively impact climate change (e.g., 6.3.2.CivicsPD.1).
TECH.9.4.2.TL.2	Create a document using a word processing application.
TECH.9.4.2.TL.5	Describe the difference between real and virtual experiences.
TECH.9.4.2.TL.6	Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).
TECH.9.4.2.TL.7	Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts (e.g., W.2.6., 8.2.2.ED.2).

Technology and Design Integration

CS.K-2.8.1.2.AP.4	Break down a task into a sequence of steps.
CS.K-2.8.1.2.AP.5	Describe a program's sequence of events, goals, and expected outcomes.
CS.K-2.8.1.2.CS.1	Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
CS.K-2.8.1.2.DA.1	Collect and present data, including climate change data, in various visual formats.
CS.K-2.8.1.2.DA.3	Identify and describe patterns in data visualizations.
CS.K-2.8.1.2.DA.4	Make predictions based on data using charts or graphs.
CS.K-2.8.2.2.ITH.4	Identify how various tools reduce work and improve daily tasks.

Interdisciplinary Connections

LA.L.2.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
LA.W.2.5	With guidance and support from adults and peers, focus on a topic and strengthen writing as needed through self-reflection, revising and editing.
LA.RI.2.1	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
LA.RI.2.2	Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
LA.RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.

LA.RI.2.4	Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
LA.RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
LA.RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
LA.RI.2.7	Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
LA.RI.2.8	Describe and identify the logical connections of how reasons support specific points the author makes in a text.
LA.RI.2.9	Compare and contrast the most important points presented by two texts on the same topic.
LA.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.
LA.SL.2.1	Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.

Differentiation

- Understand that gifted students, just like all students, come to school to learn and be challenged.
- Pre-assess your students. Find out their areas of strength as well as those areas you may need to address before students move on.
- Consider grouping gifted students together for at least part of the school day.
- Plan for differentiation. Consider pre-assessments, extension activities, and compacting the curriculum.
- Use phrases like "You've shown you don't need more practice" or "You need more practice" instead of words like "qualify" or "eligible" when referring to extension work.
- Encourage high-ability students to take on challenges. Because they're often used to getting good grades, gifted students may be risk averse.

- **Definitions of Differentiation Components**:

    - Content – the specific information that is to be taught in the lesson/unit/course of instruction.
    - Process – how the student will acquire the content information.
    - Product – how the student will demonstrate understanding of the content.
    - Learning Environment – the environment where learning is taking place including physical location and/or student grouping

Differentiation occurring in this unit:

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Modifications and Accommodations

Refer to QSAC EXCEL SMALL SPED ACCOMMOCATIONS spreadsheet in this discipline.

Modifications and Accommodations used in this unit:

Benchmark Assessments

Benchmark Assessments are given periodically (e.g., at the end of every quarter or as frequently as once per month) throughout a school year to establish baseline achievement data and measure progress toward a standard or set of academic standards and goals.

Schoolwide Benchmark assessments:

Aimsweb benchmarks 3X a year

Linkit Benchmarks 3X a year

DRA

Additional Benchmarks used in this unit:

Reveal Unit assessments

Formative Assessments

Assessment allows both instructor and student to monitor progress towards achieving learning objectives, and can be approached in a variety of ways. **Formative assessment** refers to tools that identify misconceptions, struggles, and learning gaps along the way and assess how to close those gaps. It includes effective tools for helping to shape learning, and can even bolster students' abilities to take ownership of their learning when they understand that the goal is to improve learning, not apply final marks (Trumbull and Lash, 2013). It can include students assessing themselves, peers, or even the instructor, through writing, quizzes, conversation, and more. In short, formative assessment occurs throughout a class or course, and seeks to improve student achievement of learning objectives through approaches that can support specific student needs (Theal and Franklin, 2010, p. 151).

Formative Assessments used in this unit:

Teacher observation

Checklists

Questioning and Discussion

Quizzes

Summative Assessments

summative assessments evaluate student learning, knowledge, proficiency, or success at the conclusion of an instructional period, like a unit, course, or program. Summative assessments are almost always formally graded and often heavily weighted (though they do not need to be). Summative assessment can be used to great effect in conjunction and alignment with formative assessment, and instructors can consider a variety of ways to combine these approaches.

Summative assessments for this unit:

End of Unit assessments

Instructional Materials

See above

Standards

MATH.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.
MATH.2.G.A.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
MATH.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.