Unit 13 Reveal Grade 5

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

Unit overview

UNIT 13 PLANNER
Geometry

PACING: 10 days

LESSON		MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY
Unit Opener	Tetrominoes	Students explore polygons made from congruent connecting squares.				
13-1	Understand the Coordinate Plane	Students identify and describe features of a coordinate grid. Students use a coordinate plane to determine the ordered pair associated with a point.	Students discuss how they can describe features of the coordinate plane using *related*, *find*, and *ordered pair*.	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	13-1	Math Terms coordinate plane ordered pair origin
13-2	Plot Ordered Pairs on the Coordinate Plane	Students plot ordered pairs on a coordinate plane.	Students explain how they can plot ordered pairs on a coordinate plane using the verbs *draw* and *label*.	Students set a focused mathematical goal and make a plan for achieving that goal.	13-2	coordinate plane ordered pair origin
13-3	Represent Problems on a Coordinate Plane	Students plot points that represent real-world situations. Students interpret coordinate values of points in the context of the situation.	Students talk about plotting points on the coordinate plane when given real-world data using the verbs *draw* and *label*.	Students identify and use mathematical tools to organize work.	13-3	origin *x*-axis *x*-coordinate
13-4	Classify Triangles by Properties	Students classify triangles into categories and subcategories based on their properties. Students organize the categories and subcategories into a hierarchy.	Students talk about classifying triangles using *the same*, *different*, and *share*.	Students identify and discuss the emotions experienced during math learning.	13-4	category equilateral triangle hierarchy
13-5	Properties of Quadrilaterals	Students name quadrilaterals based on their properties.	Students explain how to identify quadrilaterals based on their properties with *know* and *makes*.	Students practice behavioral flexibility while working with peers to complete a challenging mathematical task.	13-5	attribute parallelogram property quadrilateral
Math Probe	Ordered Pairs	Students plot points on a coordinate plane.				
13-6	Classify Quadrilaterals by Properties	Students classify quadrilaterals into categories and subcategories based on their properties. Students organize the categories and subcategories into a hierarchy.	Students explain how to classify quadrilaterals into categories and subcategories based on their properties using *use* and *share*.	Students identify the information that is needed or most useful in order to complete a mathematical task.	13-6	hierarchy parallelogram quadrilateral rectangle
Unit Review						
Fluency Practice						
Unit Assessment						
Performance Task						

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Enduring Understandings

See Above.

Essential Questions

See Above.

Instructional Strategies and Learning Activities

LESSON 13-1

Understand the Coordinate Plane

Learning Targets

- I can identify and describe features of a coordinate plane.
- I can use a coordinate plane to determine the ordered pair associated with a given point.

Standards ◆ Major ▲ Supporting ● Additional

Content

○ **5.G.A.1** Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate).

Math Practices and Processes

MPP Construct viable arguments and critique the reasoning of others.

Focus

Content Objectives	Language Objectives	SEL Objective
• Students identify and describe features of the coordinate plane. • Students use the coordinate plane to determine the ordered pair associated with a point.	• Students discuss how to describe the coordinate plane using *related*, *find*, and *ordered pair*. • To support cultivating conversation, ELs participate in MLR8: Discussion Supports.	• Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.

Coherence

Previous	Now	Next
	• Students understand the coordinate plane and find the ordered pair for a given point.	• Students plot points on the coordinate plane (Unit 13). • Students understand rational and negative numbers as points on the number line and extend number line diagrams and coordinate axes to them (Grade 6).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students build on their understanding of algebra to write ordered pairs that represent points on the coordinate plane.	• Students build proficiency with using the coordinate plane to determine ordered pairs that represent points on the coordinate plane.	• Students apply their understanding of ordered pairs to solve problems. *Application is not a targeted element of rigor for this standard.*

LESSON 13-2

Plot Ordered Pairs on the Coordinate Plane

Learning Target

- I can plot ordered pairs on a coordinate plane.

Standards ◆ Major ▲ Supporting ○ Additional

Content

○ **5.G.A.1** Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate)

Math Practices and Processes

MPP Use appropriate tools strategically.

Focus

Content Objective	Language Objectives	SEL Objective
• Students plot ordered pairs on a coordinate plane.	• Students explain how they can plot ordered pairs using the verbs *draw* and *label*. • To support optimizing output, ELs participate in MLR1: Stronger and Clearer Each Time.	• Students set a focused mathematical goal and make a plan for achieving that goal.

Coherence

Previous	Now	Next
• Students understood the coordinate plane and found the ordered pair for a given point (Unit 13).	• Students plot points on the coordinate plane given ordered pairs.	• Students plot data points from real world situations on the coordinate plane and use it to interpret the data (Unit 13). • Students understand rational and negative numbers as points on the number line and extend number line diagrams and coordinate axes to them (Grade 6).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students understand that any point within the coordinate plane can be defined using a pair of numbers which indicate how far to travel from the origin.	• Students plot points on the coordinate plane by counting units from the *x* and *y*-axis.	• Students use points on the coordinate plane to represent real world situations. *Application is not a targeted element of rigor for this standard.*

LESSON 13-3

Represent Problems on a Coordinate Plane

Learning Targets

- I can plot points that represent real-world situations.
- I can interpret coordinate values of points in the context of the situation.

Standards ◆ Major ▲ Supporting ● Additional

Content

○ **5.G.A** Graph points on the coordinate plane to solve real-world and mathematical problems.

○ **5.G.A.2** Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Math Practices and Processes

MPP Model with mathematics.

Focus

Content Objectives

- Students plot points that represent real-world situations.
- Students interpret coordinate values of points in the context of the situation.

Language Objectives

- Students talk about plotting points when given real-world data using *draw* and *label*.
- To support sense-making, ELs participate in MLR2: Collect and Display.

SEL Objective

- Students identify and use mathematical tools to organize work.

Coherence

Previous

- Students plotted points on the coordinate plane given ordered pairs (Unit 13).

Now

- Students plot data points from real-world situations on the coordinate plane and use it to interpret the data.

Next

- Students classify triangles into categories based on attributes, and understand the categories and subcategories using a hierarchy (Unit 13).
- Students use the coordinate plane to draw polygons and find their side lengths, and apply these techniques in the context of solving real-world and mathematical problems (Grade 6).

Rigor

Conceptual Understanding

- Students plot and understand points on the coordinate plane.

Conceptual Understanding is not a targeted element of rigor for this standard.

Procedural Skill & Fluency

- Students build proficiency in their use of the coordinate plane by plotting points to represent and solve problems.

Application

- Students solve problems with real-world contexts.

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

LESSON 13-4

Classify Triangles by Properties

Learning Targets

- I can classify triangles based on their properties into categories and subcategories.
- I can use properties of triangles to prove or disprove statements about triangles.

Standards ◆ Major ▲ Supporting ● Additional

Content

○ **5.G.B** Classify two-dimensional figures into categories based on their properties.

○ **5.G.B.3** Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

○ **5.G.B.4** Classify two-dimensional figures in a hierarchy based on properties.

Math Practices and Processes

MPP Model with mathematics.

Focus

Content Objectives	Language Objectives	SEL Objective
• Students classify triangles into categories and subcategories based on their properties. • Students organize the categories and subcategories into a hierarchy.	• Students classify triangles using *the same*, *different*, and *share*. • To support cultivating conversation, ELs participate in MLR3: Critique, Correct, and Clarify.	• Students identify and discuss the emotions experienced during math learning.

Coherence

Previous	Now	Next
• Students classified two-dimensional figures based on their sides or angles, and recognized and identified right triangles (Grade 4). • Students plotted data points from real-world situations on the coordinate plane and used it to interpret the data (Unit 13).	• Students classify triangles into categories based on minimal defining attributes, and understand the categories and subcategories using a hierarchy.	• Students classify quadrilaterals into categories based on minimal defining attributes (Unit 13).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students extend their understanding of triangles through exploration of their properties.	• Students evaluate properties of triangles by creating a hierarchy. *Procedural Skill & Fluency is not a targeted element of rigor for this standard.*	• Students apply their understanding of triangles to sort triangles into groups. *Application is not a targeted element of rigor for this standard.*

LESSON 13-5

Properties of Quadrilaterals

Learning Target

- I can name quadrilaterals based on their properties.

Standards ◆ Major ▲ Supporting ● Additional

Content

○ **5.G.B** Classify two-dimensional figures into categories based on their properties.

○ **5.G.B.4** Classify two-dimensional figures in a hierarchy based on properties.

Math Practices and Processes

MPP Look for and make use of structure.

Focus

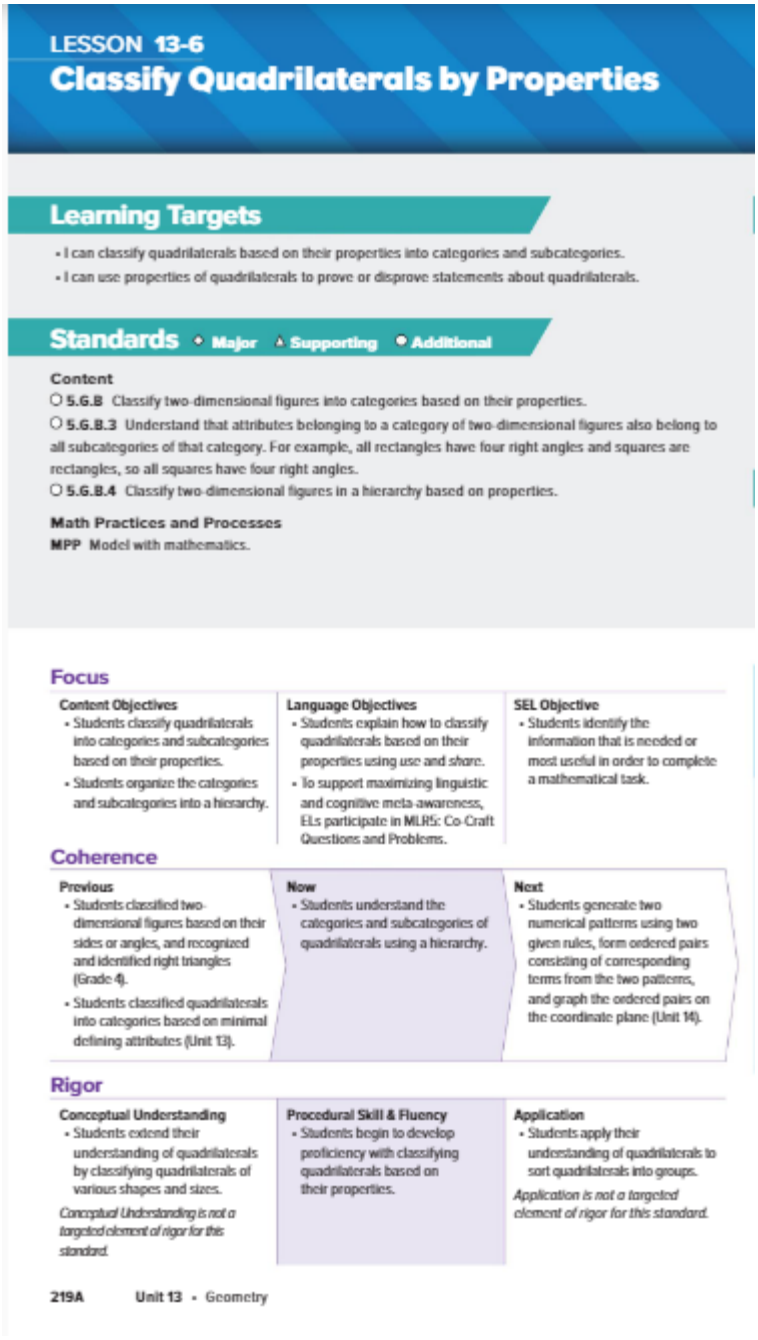
Content Objective	Language Objectives	SEL Objective
• Students name quadrilaterals based on their properties.	• Students explain how to identify quadrilaterals based on their properties with *know* and *makes*. • To support optimizing output, ELs participate in MLR1: Stronger and Clearer Each Time.	• Students practice behavioral flexibility while working with peers to complete a challenging mathematical task.

Coherence

Previous	Now	Next
• Students classified two-dimensional figures based on their sides or angles, and recognized and identified right triangles (Grade 4). • Students classified triangles into categories based on minimal defining attributes, and understand the categories and subcategories using a hierarchy (Unit 13).	• Students classify quadrilaterals into categories based on minimal defining attributes.	• Students understand the categories and subcategories of quadrilaterals using a hierarchy (Unit 13).

Rigor

Conceptual Understanding	Procedural Skill & Fluency	Application
• Students extend their understanding of quadrilaterals by working with quadrilaterals of various shapes and sizes.	• Students begin to develop proficiency with identifying properties of quadrilaterals. *Procedural Skill & Fluency is not a targeted element of rigor for this standard.*	• Students apply their understanding of properties of quadrilaterals to identify them. *Application is not a targeted element of rigor for this standard.*



LESSON 13-6

Classify Quadrilaterals by Properties

Learning Targets

- I can classify quadrilaterals based on their properties into categories and subcategories.
- I can use properties of quadrilaterals to prove or disprove statements about quadrilaterals.

Standards ◆ Major ▲ Supporting ○ Additional

Content

○ **5.G.B** Classify two-dimensional figures into categories based on their properties.

○ **5.G.B.3** Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

○ **5.G.B.4** Classify two-dimensional figures in a hierarchy based on properties.

Math Practices and Processes

MPP Model with mathematics.

Focus

Content Objectives
- Students classify quadrilaterals into categories and subcategories based on their properties.
- Students organize the categories and subcategories into a hierarchy.

Language Objectives
- Students explain how to classify quadrilaterals based on their properties using *use* and *share*.
- To support maximizing linguistic and cognitive meta-awareness, ELs participate in MLR5: Co-Craft Questions and Problems.

SEL Objective
- Students identify the information that is needed or most useful in order to complete a mathematical task.

Coherence

Previous
- Students classified two-dimensional figures based on their sides or angles, and recognized and identified right triangles (Grade 4).
- Students classified quadrilaterals into categories based on minimal defining attributes (Unit 13).

Now
- Students understand the categories and subcategories of quadrilaterals using a hierarchy.

Next
- Students generate two numerical patterns using two given rules, form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on the coordinate plane (Unit 14).

Rigor

Conceptual Understanding
- Students extend their understanding of quadrilaterals by classifying quadrilaterals of various shapes and sizes.

Conceptual Understanding is not a targeted element of rigor for this standard.

Procedural Skill & Fluency
- Students begin to develop proficiency with classifying quadrilaterals based on their properties.

Application
- Students apply their understanding of quadrilaterals to sort quadrilaterals into groups.

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

Integration of Career Readiness, Life Literacies and Key Skills

9.4.8.CI.1	Assess data gathered on varying perspectives on causes of climate change (e.g., cross-cultural, gender-specific, generational), and determine how the data can best be used to design multiple potential solutions (e.g., RI.7.9, 6.SP.B.5, 7.1.NH.IPERS.6, 8.2.8.ETW.4).
9.2.5.CAP.1	Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
9.2.5.CAP.2	Identify how you might like to earn an income.
9.2.5.CAP.3	Identify qualifications needed to pursue traditional and non-traditional careers and occupations.

9.4.8.CI.4	Explore the role of creativity and innovation in career pathways and industries.
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.
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).
9.4.8.CT.2	Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option (e.g., MS-ETS1-4, 6.1.8.CivicsDP.1).
9.4.8.CT.3	Compare past problem-solving solutions to local, national, or global issues and analyze the factors that led to a positive or negative outcome.
9.4.8.DC.2	Provide appropriate citation and attribution elements when creating media products (e.g., W.6.8).
9.1.2.PB.2	Explain why an individual would choose to save money.
9.4.8.DC.4	Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences.
9.4.8.DC.5	Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure.
9.4.8.DC.8	Explain how communities use data and technology to develop measures to respond to effects of climate change (e.g., smart cities).
9.4.8.GCA.1	Model how to navigate cultural differences with sensitivity and respect (e.g., 1.5.8.C1a).
9.4.8.GCA.2	Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.IML.2	Identify specific examples of distortion, exaggeration, or misrepresentation of information.
9.4.8.IML.3	Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping (e.g., 6.SP.B.4, 7.SP.B.8b).
9.4.8.IML.4	Ask insightful questions to organize different types of data and create meaningful visualizations.
9.4.8.IML.5	Analyze and interpret local or public data sets to summarize and effectively communicate the data.
9.4.8.IML.7	Use information from a variety of sources, contexts, disciplines, and cultures for a specific purpose (e.g., 1.2.8.C2a, 1.4.8.CR2a, 2.1.8.CHSS/IV.8.AI.1, W.5.8, 6.1.8.GeoSV.3.a, 6.1.8.CivicsDP.4.b, 7.1.NH. IPRET.8).
9.4.8.IML.12	Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.
9.4.8.TL.1	Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making.
9.4.8.TL.2	Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.
9.4.8.TL.5	Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.
9.4.8.TL.6	Collaborate to develop and publish work that provides perspectives on a real-world problem.

Technology and Design Thinking

8.1.5.CS.3	Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.
	Data can be organized, displayed, and presented to highlight relationships.
8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
8.1.5.DA.3	Organize and present collected data visually to communicate insights gained from different views of the data.
8.1.5.DA.4	Organize and present climate change data visually to highlight relationships or support a claim.

Interdisciplinary Connections

LA.RI.5.1	Quote accurately from a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.
LA.RI.5.2	Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
LA.RI.5.3	Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
LA.RI.5.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.
LA.RI.5.5	Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.
LA.RI.5.6	Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.
LA.RI.5.7	Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
LA.RI.5.8	Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).
LA.RI.5.9	Integrate and reflect on (e.g., practical knowledge, historical/cultural context, and background knowledge) information from several texts on the same topic in order to write or speak about the subject knowledgeably.
LA.RI.5.10	By the end of year, read and comprehend literary nonfiction at grade level text-complexity or above, with scaffolding as needed.
LA.W.5.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LA.SL.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.
LA.L.5.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
LA.L.5.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

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:

Use Differentiation guide in Teacher's manual for each unit

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:

End of 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 Observations

Checklists

Questions and Discussions

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

5.G.A	Graph points on the coordinate plane to solve real-world and mathematical problems
5.G.A.1	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., □-axis and □-coordinate, □-axis and □-coordinate).
5.G.A.2	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
5.G.B	Classify two-dimensional figures into categories based on their properties
5.G.B.3	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.
5.G.B.4	Classify two-dimensional figures in a hierarchy based on properties.