

Unit Planner

Unit Designer: Roselyn Vazquez

Unit Title: Exploring Shapes

Grade Level: 2nd Grade

Content Area(s): Math/Geometry

Timeframe: Two Weeks

Setting: Self-Contained

Resource Inclusive

Other: _____

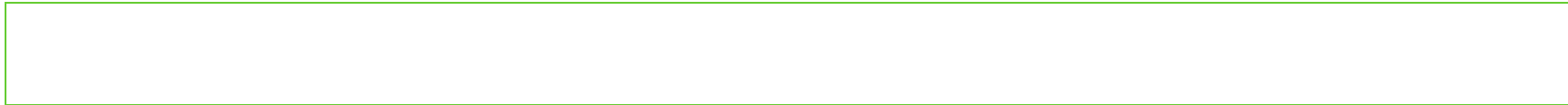
PART I: BACKGROUND

Unit overview: This Geometric Unit is designed based on the CCSS for Second Grade Math (Geometry). The purpose of this unit is to have students understand and identify the many different shapes that are part of their everyday lives. Students will learn to reason with shapes and their attributes, understand the common language of shapes (i.e., spatial sense), the basic properties of shapes (number of sides, corners, squares) and their similarities and differences, and understand how geometric shapes are useful in representing real-life situations.

Rationale: This Geometry Unit is designed for students to learn more about, understand and identify the many different geometric shapes that are around us. This unit is composed of different activities and lessons incorporating different learning/teaching styles as well as technology that will allow students to model with mathematics using geometric shapes and allow them an opportunity to connect different representations of shapes as well as their similarities. This unit will further allow an opportunity for students to look for and make use of structure of geometric shapes and explore basic shapes, two-dimensional and three-dimensional shapes. Further, the unit will allow students an opportunity to build on their informal knowledge by using appropriate vocabulary and practice in identifying geometric shapes that are found indoors, outdoors, in the classroom and connect them to the real world.

Accommodations:

1. What specific accommodations must be in place for any student(s) with an IEP? The curriculum/lessons will be modified in accordance to the student(s) IEP to ensure that the student(s) goal(s) are being met. The modifications in lessons will vary depending on the lesson/activity of the day. Students will be divided into proper (pre-determined) groups that will allow a group of students, with a modified curriculum, to engage in different activities that allow them to learn/understand the same topic as other students.
2. What differentiated practices should be in place? Why? This unit plan allows students to engage in the lessons using a preferred learning style based on multiple intelligences, i.e., visual, linguistic, kinesthetic, interpersonal, intrapersonal, logical and musical. It also allows students to use technology and to collaborate and cooperate in group activities as well as individual activities.



Theme/Topic: Students will learn to reason with shapes and their attributes, understand the common language of shapes (i.e., spatial sense), the basic properties of shapes (number of sides, corners, squares) and their similarities and differences, and understand how geometric shapes are useful in representing real-life situations.

<p>Enduring Understandings</p> <ol style="list-style-type: none"> 1. Understand and identify basic properties of similarities and differences between simple geometric shapes. 2. Use geometric vocabulary related to attributes to identify and draw common shapes. 3. Understand/identify geometric shapes and how they relate to everyday real life experiences. (i.e. identify foods that look like shapes, identify shapes that are found outside, inside the home, ect.) 		<p>Essential Questions</p> <ol style="list-style-type: none"> 1. What are shapes? 2. How do you know what shape is which? 3. How do we identify basic shapes using their attributes and proper names? 4. What is a shape called? (i.e. square, triangle, polygon, etc.) 5. What shapes can you think of you either see, use or come across on a daily basis? 6. How do you use shapes in a daily basis?
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Content Standards: CCSS: 2.G.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.

IEP Goals and Objectives: What IEP Goal(s) and Related Objective(s) does this unit address? – Curriculum/lessons will be modified accordingly to meet the goal of the student(s) IEP while ensuring that the student(s) engages in proper activities that will help him/her learn the topic or objectives of the day’s lessons.

Integrated Connections: Language Arts – students will read books about shapes. Technology – students will watch videos about shapes.

<p>Content Knowledge Students will understand:</p> <ul style="list-style-type: none"> • How to use proper geometric vocabulary; • How to identify and compare basic geometric shapes; • How to make connections and identify geometric shapes to their everyday life. 	<p>Skills Students will be able to:</p> <ul style="list-style-type: none"> • Model geometric shapes with mathematics; • Look for and make use of structures of geometric shapes; • Recognize and draw geometric shapes based on the
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<ul style="list-style-type: none"> • How to model geometric shapes with mathematics; • Look for and make use of structures of geometric shapes; 	<ul style="list-style-type: none"> • shapes specified attributes (i.e. number of angles); • Identify different shapes (i.e., triangles, quadrilaterals, pentagons, hexagons and cubes).
<p>How will you pre-assess knowledge? (Pre-test) Teacher will engage in a discussion with students. Teacher will have colorful cut-outs of basic shapes. Teacher will hold up the shapes and ask students: "Do you know what this shape is?" "What is the name of this shape?" "What is special about this shape?" "Do you know what a 2D shape is?"</p>	<p>How will you pre-assess skills? (Pre-test) Teacher will give students a hand out with 4 – 6 columns of shapes (drawn and named) and ask students to write down and/or identify how many of those shapes they can find around the classroom.</p>

PART II: ASSESSMENT

<p>Performance Task</p> <p>Students will participate in a Shapes Scavenger Hunt. On the last day of the Unit Plan, students would create their own Shapes book using all of the shapes they found during their scavenger hunt. The Shapes book will identify shapes by its attributes, proper name and how they are found in our environments. Students will use pictures, drawings and photos they obtained during the scavenger hunt.</p>	<p>How does the performance assessment task link to the unit standards? How does the performance assessment task link to the IEP Goal(s) and Objective(s) addressed by the unit?</p> <p>After completing their performance task, students should be able to recognize and identify shapes by their specific attributes and names (i.e., quadrilaterals, pentagons, hexagons, etc.) and how to find shapes in their environment.</p>
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Create the Rubric for the End-of-unit Performance Task

	Distinguished	Proficient	Practicing	Beginning
Are attributes of shapes labeled? Is the attribute described by vocabulary used with accuracy?	Student is able to identify attributes of shapes by their sides and angles and connect them with definitions of shapes using pictures and vocabulary.	Student is able to identify shapes and list attributes using pictures, vocabulary. However, student does not identify the important attributes.	Student makes mistakes when identifying shapes and/or list any attributes of shapes.	Student is unable to correctly identify any of the shapes and/or unable to correctly lists attributes to shapes.

Are similarities and differences of shapes clearly stated?	Student is able to identify basic shapes and compare, contrast and distinguish the similarities and differences between simple geometric shapes and be able to give an explanation or detail understanding of the shapes.	Student is able to use important characteristics to compare the similarities and differences of shapes. The student can identify and explain his or her conclusion.	Student is able to compare some of the shapes, but is unable to identify the important characteristics of the shapes. They still have some misconceptions of shapes.	Student is unable to properly compare any shapes and/or identify any similarities and differences of shapes. Student does not understand shapes.
Can identify shapes and connect shapes to real-life experiences?	Student can accurately identify shapes in their every day and/or real life using pictures and vocabulary and explain how the shape is part of his or her life.	Student can identify some geometric shapes in their every-day life.	Student can identify some geometric shapes in their everyday life, but can't make a connection on how they relate to real life experiences.	Students cannot accurately make connections and/or identify geometric shapes with everyday real life experiences.
Uses proper geometric vocabulary to describe and compare shapes	Student is able to describe, analyze and compare similarities and differences of shape properties using proper geometric vocabulary.	Student is able to describe, analyze and compare similarities properties of shapes using some proper geometric vocabulary.	Student is able to describe, analyze and compare similarities and differences of shape properties but does not use using proper geometric vocabulary. (i.e. says triangle instead of polygon, etc.)	Student cannot accurately compare and contrast shapes and its attributes by using proper geometric vocabulary.

Part III: Unit Lesson Map

Identify the essential question, main objective, key learning activities/strategies, grouping techniques, and assessment for each lesson.

Introduction	Day2	Day 3	Day 4	Day 5
<p>What are Shapes? Shapes Everywhere!</p> <p>Identify the essential questions: What are Shapes? How do you know which shape is which?</p> <p>Main Objective: The objective of this introductory lesson is to find out which shapes the students are able to identify using the shape attributes.</p> <p>Key Learning Activities/Strategies: Teacher will ask students what are shapes. She will give them a KWL chart where students can write the name or I draw the shapes they know, and what they want to learn. Teacher will then play a YouTube Video for students called The Shape Song.</p> <p>Assessment for Lesson Students will list or draw the shapes they identified in the lesson today, shapes they were introduced to and will be asked to bring their list home and for homework write down a list of any shapes they notice around their home not listed on their list.</p> <p>This shapes will be used later on for students to</p>	<p>The Greedy Triangle</p> <p>Identify the essential question(s): (Continuing from intro lesson). What are some of the shapes we talked about yesterday? Did any of you think of any additional shapes? Does anyone know what a Polygon is?</p> <p>Main Objective: For students to become familiar with learning the names of polygons (i.e., triangles, squares, pentagon, hexagon, etc.).</p> <p>Key Learning Activities/Strategies: Teacher will read the story "The Greedy Triangle" by Marilyn Burns. Teacher will provide graph paper for students to pair up in groups of 2 and draw a shape talked about in the book to hang in the classroom and to label the shape. For students who need more of a guided lesson: Teacher will draw the shape, have the student draw it, ask the student what is the name (provide hints like counting the number lines). Give them extra time to experiment with their shapes; put a copy of the book on their working station.</p>	<p>Vocabulary (proper names)</p> <p>Identify the essential question(s): How do we identify shapes using their attributes and proper name? What is this shape called?</p> <p>Main Objective: For students to identify geometric shapes by their proper names (i.e., square, circle, etc.).</p> <p>Key Learning Activities/Strategies: The classroom will engage in a Shape Riddle. (Ex: Teacher will ask a question like, "I am a quadrilateral (4 side shape), and all my sides are the same length. What am I?) Whichever student gets the correct answer will get a picture of that shape to incorporate into the Unit's Final Lesson (A Shape Book) Teacher will use the Smartboard for this activity. Once the student guesses the correct shape, the shape will appear on the Smartboard with its attribute details and proper name.</p> <p>Assessment for Lesson: Students will be divided into groups of two and will be asked to come up with their own</p>	<p>Similarities and Differences (shapes attributes)</p> <p>Identify the essential question(s): What are some of the similarities and differences with these shapes (i.e., rectangle vs. square)</p> <p>Main Objective: For students to identify and similarities and differences among shapes that may look alike by their attributes.</p> <p>Key Learning Activities/Strategies: Students will be put into groups and given 2 shapes that are similar (i.e., square and rectangle) and they will be asked to create a Venn Diagram to list the differences and similarities between their two assigned shapes. Students will then be asked to share their group diagram with other students.</p> <p>Assessment for Lesson: Teacher will collect the students' diagrams to assess the students' work and make sure they understand the differences and similarities between shapes. .</p>	<p>Shapes we eat</p> <p>Identify the essential question(s): What are some foods that resemble the shapes we have been learning about? What are some shapes we can eat?</p> <p>Main Objective: For students to make connections between geometric shapes and food that resemble geometric shapes. (i.e. pizza)</p> <p>Key Learning Activities/Strategies: Students will work in groups. One group will cut off foods that resemble shapes from magazines; others will look for shapes on the computer and print out food shapes. Students will then come together and create a Classroom Menu using the Food Shapes they found/identified.</p> <p>Assessment for Lesson: Students will be asked to write 2 – 3 sentences of Food Shapes they have at home, they have eaten or they do not like.</p>

<p>create their own shape book.</p>	<p>Assessment for Lesson: I will ask students to name the shapes they know and talk about the different characteristics of each shape. Teacher will ask, What are some shapes in the story?</p>	<p>riddle.</p>		
<p>Day 6 Daily Shapes Inside/Outside Shapes Identify the essential question(s): What shapes can you think of you either see, use or come across on a daily basis? How do you use shapes in a daily basis? What are some inside/outside shapes? Main Objective: For students to understand/identify geometric shapes and how they relate to everyday real life experiences. Key Learning Activities/Strategies: Independent Work: Students will be asked to write down a list of at least 5 everyday shapes they see. (i.e., house, car, door, etc.). For students who required differentiated instruction Teacher will provide them with photos of everyday shapes (house, car, etc.) and have them circle it if they see this</p>	<p>Day 7 Shapes Scavenger Hunt Identify the essential question(s): What shapes can you find around the classroom? What shapes can you find outside? Main Objective: For students to identify geometric shapes in the world (classroom) around them and use positional language to describe the location of the objects. Key Learning Activities/Strategies: Teacher will explain to students that they are going on a scavenger hunt. Students will be paired up in groups of 2 – 4 and given form with either pictures of shapes or names of shapes. They are to find all of the shapes using magazines, cut outs, photos, pictures that have been placed around the classroom. Assessment for Lesson: Students will display the shapes they found in the scavenger hunt and share them with</p>	<p>Day 8 Create your own Shapes Book Identify the essential question(s): What were the names and attributes of shapes you knew on the first day of this lesson? What shapes did you learn about? Main Objective: For students to create their own Shape Story Book using the names, pictures and attributes of shapes they have learned throughout this lesson. Key Learning Activities/Strategies: Earlier in this Unit, students did a lesson on the Greedy Triangle. Teacher will reference the characters on the Greedy Triangle and explain to students that using the shapes they obtained during their scavenger hunt, they will create their own shape book. The book can be as creative as they want. They can do a shape book based on shapes we eat (food shapes), they can turn their shapes into characters or they can</p>	<p>Day 9 Create your own Shapes Book Identify the essential question(s): What were the names and attributes of shapes you knew on the first day of this lesson? What shapes did you learn about? Main Objective: For students to create their own Shape Story Book using the names, pictures and attributes of shapes they have learned throughout this lesson. Key Learning Activities/Strategies: Students will continue working on their shape book. Assessment for Lesson: Student will present their shapes book or book cover or book idea with the class (when presenting their project, students are to use proper names and describe the shapes by its attributes).</p>	<p>Closure Metacognition/Reflection Assessment/Shapes Reflection Identify the essential question(s): What did we learn about shapes? What are polygons? What are everyday shapes we come across? What are shapes we can eat? What are attributes of shapes? Main Objective: For student to be able to identify shapes by using the proper vocabulary, its attributes, similarities and differences and how they relate to everyday life. Key Learning Activities/Strategies: Students will take an interactive computer Assessment for Lesson: Students will play a series of interactive computer games on Saxon Math, Internet for Classrooms to assess their learning of this lesson. Teacher will be assessing the students as they engage in these activities. The interactive lessons include: Polygons and Non-Polygons in which students will drag a series of shapes to either the bucket that says polygon or the bucket that says non-</p>

<p>daily and then write out the word. We will then have an outside activity where students will identify outside shapes vs. shapes that they find indoors.</p> <p>Assessment for Lesson: After the outdoor activity students will join back in the classroom and have a discussion of shapes they found outside and compare them to the inside shapes.</p>	<p>the class using proper name descriptions for the shapes.</p>	<p>simply do a shapes book. The students will use a computer to create the front and back cover for their Shapes books. Students will work in groups.</p> <p>Assessment for Lesson: Students will be given a KWL chart they were given on day one of the lesson to write down by proper name or draw the shapes they have learned about.</p>	<p>polygon. Another one of the lessons is 2D shapes. This lesson asks students questions like, "I have 3 sides and I have 3 corners, who am I?"</p>
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Part IV: Materials for use with Students

Print	Gilpin, S., (2002). Shapes, Shapes, Everywhere: A 2nd Grade Geometry Unit. Regional Educational Laboratory: Office of Educational Research and Improvement (August 2002). Connecticut Standards for Mathematics (CCSS). Standards for Mathematical Practice Grade Two. Burns, M., (1994). The Greedy Triangle
Audio-Visual	Jenkins, A.J., (2011). The Shapes Song. 2 D Shapes I know Song. Math-Play.Com SaxonMath at Internet4Classrooms.Com
Technology • Equipment • Software • Peripherals • Software	Computers, SmartBoard
Internet URLs	http://youtu.be?pfRuLS-Vnjs http://youtu.be/htcuPenTg38 www.Math-Play.Com http://www.internet4classrooms.com/grade_level_help/skills_second_2nd_math_geometry.htm
People	
Supplies	Construction Paper, Glue, Scissors, Books about shapes, poster boards, ribbon, photographs
For identified needs	
CMT/CAPT Connection	N/A

Part V: Teacher Resources and References

Print	Gilpin, S., (2002). Shapes, Shapes, Everywhere: A 2 nd Grade Geometry Unit. Regional Educational Laboratory: Office of Educational Research and Improvement (August 2002). Connecticut Standards for Mathematics (CCSS). Standards for Mathematical Practice Grade Two. Burns, M., (1994). The Greedy Triangle
Audio-Visual	Jenkins, A.J., (2011). The Shapes Song. http://youtu.be/pfRuLS-Vnjs 2 D Shapes I know - http://youtu.be/htcuPenTg38
Technology • Equipment • Software • Peripherals • Software	Computers, Smart Board
Internet URLs	
People	
Supplies	
For identified needs	
CMT/CAPT Connection	

Part VI: Analysis of Student Learning

Provide a data table, chart, or spreadsheet that shows the impact of your teaching this unit on student learning. Explain your findings. Which students do you need to re-teach? How will you do this in differently? N/A
DON'T NEED TO DO

Part VII: Reflection on the Unit N/A DON'T NEED TO DO

What were the strengths of the unit? Why?

What were the limitations of the unit? Why?

What will you do differently next time? Why?

What information do you need to collect to plan the unit more effectively?

What information do you need to collect to work more effectively with students?

What did you learn about yourself in teaching this unit?

What social skills and/or social values were promoted through your unit, your behavior, or students' interaction/behavior?

