

GRADE 4 UNIT 5 – MEASURE AND CLASSIFY GEOMETRIC FIGURES

<p>Established Goals: Standards</p> <p>4.NBT.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.</p> <p>4.MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.</p> <p style="padding-left: 20px;">4.MD.5a An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle” and can be used to measure angles</p> <p style="padding-left: 20px;">4.MD.5b An angle that turns through n one-degree angles is said to have an angle measure of n degrees</p> <p>4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.</p> <p>4.MD.7 Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems using a symbol (variable) for an unknown angle measure.</p> <p>4.G.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse) and perpendicular and parallel lines. Identify these in two-dimensional figures.</p>	Transfer	
	<p><i>Students will be able to:</i></p> <p>Add and subtract two multi-digit whole numbers using the standard algorithm without a calculator</p> <p>Solve real-world problems by adding and/or subtracting two multi-digit whole numbers</p> <p>Find unknown angle measurements n on a diagram and in real-world problems by adding and subtracting and by using a protractor</p> <p>Classify two-dimensional figures</p> <p>Draw points, lines, line segments, rays, angles, and lines of symmetry</p>	
	Meaning	
	ENDURING UNDERSTANDING	ESSENTIAL QUESTIONS
	Adding and subtracting multi-digit whole numbers is a necessary skill when solving problems in geometry	When would you need to add or subtract multi-digit whole numbers in geometry?
	Acquisition	
	KNOWLEDGE	SKILLS
	<p><i>Students will know how to...</i></p> <ul style="list-style-type: none"> • Add and subtract multi-digit whole numbers • Measure angles • Identify two-dimensional figures 	<p><i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> • Adding and subtracting multi-digit whole numbers • Finding measures of angles

<p>4.G.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles</p>	<ul style="list-style-type: none"> • Use a protractor • Draw various parts of geometric figures 	<ul style="list-style-type: none"> • Using a protractor • Identifying and drawing various parts of geometric figures
<p>4.G.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.</p> <p>Math Practice Standards</p> <p>Make sense of problems and persevere in solving them.</p> <p>Reason abstractly and quantitatively.</p> <p>Model with mathematics.</p> <p>Use appropriate tools strategically.</p> <p>Attend to precision.</p> <p>Look for and make use of structure.</p>		

Vocabulary	Instruction and Pacing (suggested order to teach)	
	Adding and subtracting multi-digit whole numbers	1 Week
Angle degree clockwise counter-clockwise	4.MD. 5 , 5a, 5b – measuring angles	2 Weeks
add subtract digit Whole-number algorithm acute obtuse	4.MD.6 – using a protractor to measure angles and sketch angles	1 Week
Right-angle line line -segment ray Parallel and perpendicular lines	4.MD.7 solve addition and subtraction problems to find missing measurements <i>n</i> of angles	1 Week
Two-dimensional figure Right-triangle protractor	4.G.1 draw points, lines, line segments, rays, angles, and ID them in 2-d figures	2 Weeks
Line of symmetry	4.G.2 Classify 2-d figures	2 Weeks
	4.G.3 Lines of symmetry	1 Week
Resources		
<p>Common Core Standards, New Jersey Model Curriculum, Go Math Chapter 1, 10, 11</p> <p>Common Core Standards, New Jersey Model Curriculum</p> <p>People's Common Core</p> <p>Prodigy Math Game - website prodigymath.com</p> <p>SuperTeacherWorksheet.com</p> <p>IXL Math</p> <p>http://www2.learningtoday.com/corporate/math-curriculum.asp</p>		
Differentiation and Accommodations		

Provide graphic organizers Provide additional examples and opportunities for additional problems for repetition Provide tutoring opportunities Provide retesting opportunities after remediation (up to teacher and district discretion) Teach for mastery not test Teaching concepts in different modalities Adjust pace and homework assignments											
21st Century Skills	Critical Thinking, Creative Thinking, Collaborating, Communicating, and Technology Literacy										
Instructional Strategies	Fairfield Township Schools recognizes the importance of the varying methodologies that may be successfully employed by teachers within the classroom and, as a result, identifies a wide variety of possible instructional strategies that may be used effectively to support student achievement. These may include, but not be limited to, strategies that fall into categories identified by the Framework for Teaching by Charlotte Danielson: <ul style="list-style-type: none"> • Communicating with students • Using questioning and discussion techniques • Engaging students in learning • Using assessment in instruction • Demonstrating Flexibility and Responsiveness 										
Interdisciplinary Connections	ELA, Science, and Technology										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;">Common Misconceptions</th> <th style="width: 50%; text-align: center;">Proper Conceptions</th> </tr> </thead> <tbody> <tr> <td>Clockwise and counterclockwise get mixed up</td> <td>Clockwise turns to the right while counterclockwise turns to the left</td> </tr> <tr> <td>Degrees are only used to signify temperature</td> <td>Degrees are also used to measure angles</td> </tr> <tr> <td>A line of symmetry can be drawn through any figure</td> <td>Figures only have a line of symmetry if it can be folded along the line into matching parts</td> </tr> <tr> <td>The angles in right triangles have a sum of 90 degrees</td> <td>Like all triangles, the sum of the angles in a right triangle is 180 degrees</td> </tr> </tbody> </table>		Common Misconceptions	Proper Conceptions	Clockwise and counterclockwise get mixed up	Clockwise turns to the right while counterclockwise turns to the left	Degrees are only used to signify temperature	Degrees are also used to measure angles	A line of symmetry can be drawn through any figure	Figures only have a line of symmetry if it can be folded along the line into matching parts	The angles in right triangles have a sum of 90 degrees	Like all triangles, the sum of the angles in a right triangle is 180 degrees
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Performance Task

The figure below shows Trapezoid RSTU

- Name one right angle in trapezoid RSTU:
- Name one acute angle in trapezoid RSTU:
- Name one obtuse angle in trapezoid RSTU:
- Name one pair of parallel line segments in trapezoid RSTU:
- Name one pair of perpendicular line segments in trapezoid RSTU:
- Does trapezoid RSTU have line of symmetry?



Rubric: $\frac{1}{2}$ point for each correct bullet.

ASSESSMENTS

Suggested Formative Assessment

Problem of the Day

Lesson Quizzes

Exit Ticket

Anecdotal Records (Topic Observation Checklist)

Suggested Summative Assessment

Grade level developed Unit/Go Math Unit Tests

State Unit Benchmark Assessment/Performance Task