

Camelot Learning
Geometry and Measurement
Correlation to The National Council of Teachers of Mathematics

Lesson Learning Quest	Concept/Skill	Objective Grade(s)	NCTM Standard	NCTM Expectation
<p>Lesson 1: Finding Perimeter</p> <p>Lesson 2: Finding Perimeter Review</p> <p>How can you find the distance around (perimeter) a planned castle?</p>	<ul style="list-style-type: none"> • Addition facts practice • Identify and describe polygons and quadrilaterals • Calculate the perimeter of quadrilaterals • Determine the appropriate operation to solve a problem • Use a ruler to measure to the nearest $\frac{1}{4}$ inch • Performs calculations on a calculator 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships</i> (Grade 3 – Grade 5)</p> <p><i>Use visualization, spatial reasoning, and geometric modeling to solve problems</i> (Grade 3 - Grade 5)</p> <p><i>Apply appropriate techniques, tools, and formulas to determine measurements</i> (Pre-K – Grade 5)</p>	<p>Number and Operations</p> <p>Geometry</p> <p>Measurement</p>	<ul style="list-style-type: none"> • Develop fluency in adding and multiplying whole numbers • Identify, compare, and analyze attributes of two and three-dimensional shapes and develop vocabulary to describe the attributes • Build and draw geometric objects • Use geometric models to solve problems in measurement • Develop strategies for calculating perimeters of regular and irregular shapes • Select and apply appropriate standard units (inches) and tools to measure lengths (perimeter) • Select appropriate methods and tools for computing with whole numbers such as calculators
<p>Lesson 3: Measuring With a</p>	<ul style="list-style-type: none"> • Addition facts practice 	<p><i>Compute fluently and make reasonable</i></p>	<p>Number and Operations</p>	<ul style="list-style-type: none"> • Develop fluency in adding and multiplying whole numbers

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<p>2-Dimensional Net to 3-Dimensional Figure Review</p> <p>How can you recognize if a flat shape can be folded into a solid figure?</p>	<p>edges of a solid figure</p> <ul style="list-style-type: none"> • Construct three-dimensional figures using nets 	<p><i>and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships</i> (Grade 3 – Grade 5)</p> <p><i>Use visualization, spatial reasoning, and geometric modeling to solve problems</i> (Grade 3 - Grade 5)</p>		<p>the attributes</p> <ul style="list-style-type: none"> • Classify two and three-dimensional shapes according to their properties • Build and draw geometric objects • Identify and build a three-dimensional object from two-dimensional representations of that object • Identify a two-dimensional representation of a three-dimensional object (nets)
<p>Lesson 7: Movement of a Figure or Object</p> <p>Lesson 8: Movement of a Figure or Object Review</p> <p>How can you describe the movement of a shape or object?</p>	<ul style="list-style-type: none"> • Multiplication facts practice • Recognize and describe transformations • Identify and describe polygons • Collect data on a frequency table • Tournament Time explanation 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Specify locations and describe spatial relationships using coordinate geometry and other representational systems</i> (Grade 3 – Grade 5)</p> <p><i>Apply transformations and use symmetry to</i></p>	<p>Number and Operations Geometry</p>	<ul style="list-style-type: none"> • Develop fluency in multiplying whole numbers • Describe location and movements using common language and geometric vocabulary • Predict the results of sliding, flipping, and turning two-dimensional shapes (pattern blocks) • Build and draw geometric objects • Identify, compare, and analyze attributes of two and three-dimensional shapes and develop vocabulary to describe

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		<p><i>analyze mathematical situations</i> (Grade 3 – Grade 5) <i>Use visualization, spatial reasoning, and geometric modeling to solve problems</i></p> <p>(Grade 3 - Grade 5) <i>Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships</i> (Grade 3 – Grade 5)</p> <p><i>Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them</i> (Pre-K – Grade 5)</p> <p>(Pre-K – Grade 5)</p>	<p>Data Analysis and Probability</p> <p>Communication</p>	<p>develop vocabulary to describe the attributes</p> <ul style="list-style-type: none"> • Collect and represent data using tables and graphs • Communicate mathematical thinking coherently and clearly • Use the language of mathematics to express mathematical ideas precisely
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<p>Lesson 9: Tangram Transformations</p> <p>Lesson 10: Tangram Transformations Review</p> <p>How can you create a new shape by combining shapes?</p>	<ul style="list-style-type: none"> • Addition facts practice • Identify and name polygons • Determine congruent figures • Recognize transformations (translations, reflections, and rotations) 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships</i> (Grade 3 – Grade 5)</p> <p><i>Specify locations and describe spatial relationships using coordinate geometry and other representational systems</i> (Grade 3 – Grade 5)</p> <p><i>Apply transformations and use symmetry to analyze mathematical situations</i> (Grade 3 – Grade 5)</p>	<p>Number and Operations</p> <p>Geometry</p>	<ul style="list-style-type: none"> • Develop fluency of adding whole numbers • Identify, compare, and analyze attributes of two and three-dimensional shapes and develop vocabulary to describe the attributes • Describe location and movement using common language and geometric vocabulary • Predict and describe the results of sliding, flipping, and turning two-dimensional shapes • Investigate, describe, and reason about the results of combining and transforming shapes (tangrams)
<p>Lesson 11: Benchmarks to Measure Lengths</p>	<ul style="list-style-type: none"> • Subtraction facts practice • Estimate lengths 	<p><i>Compute fluently and make reasonable estimates</i></p>	<p>Number and Operations</p>	<ul style="list-style-type: none"> • Develop fluency of subtracting whole numbers

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		<p><i>describe spatial relationships using coordinate geometry and other representational systems</i> (Grade 3 – Grade 5) <i>Apply transformations and use symmetry to analyze mathematical situations</i> (Grade 3 – Grade 5)</p> <p>(Pre-K – Grade 5)</p>	<p>Problem Solving Communication</p>	<p>reason about the results of combining and transforming shapes (tangrams)</p> <ul style="list-style-type: none"> • Explore congruence and similarity • Investigate and describe the results of combining and transforming shapes <ul style="list-style-type: none"> • Build new knowledge through problem solving • Communicate mathematical thinking coherently and clearly • Use the language of mathematics to express mathematical ideas precisely
<p>Lesson 17: Regular Polygons</p> <p>Lesson 18: Regular Polygons Review</p> <p>Why are regular polygons special?</p>	<ul style="list-style-type: none"> • Addition facts practice • Describe and name regular polygons • Determine equilateral figures • Use problem solving strategies • Tournament Time explanation 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about</i></p>	<p>Number and Operations</p> <p>Geometry</p>	<ul style="list-style-type: none"> • Develop fluency in adding whole numbers • Identify, compare, and analyze attributes of two and three-dimensional shapes and develop vocabulary to describe the attributes • Classify two and three-dimensional shapes according to their properties • Build and draw geometric

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		<p><i>geometric relationships</i> (Grade 3 – Grade 8)</p> <p><i>Use visualization, spatial reasoning, and geometric modeling to solve problems</i> (Grade 3 - Grade 5)</p> <p><i>Apply appropriate techniques, tools, and formulas to determine measurements</i> (Pre-K – Grade 5)</p> <p>(Pre-K – Grade 5)</p>	<p>Measurement</p> <p>Communication</p>	<p>objects</p> <ul style="list-style-type: none"> • Understand relationships among the angles and lengths of sides of a figure • Select and apply appropriate standard units and tools to measure length • Communicate mathematical thinking coherently and clearly • Use the language of mathematics to express mathematical ideas precisely
<p>Lesson 19: Perimeter in Metric Units</p> <p>Lesson 20: Perimeter in Metric Units Review</p> <p>What are the perimeters of tangram pieces?</p>	<ul style="list-style-type: none"> • Addition facts practice • Use a ruler to measure to the nearest millimeter • Identify equivalent units of measurement • Calculate perimeter of polygons 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Apply appropriate techniques, tools, and formulas to determine measurements</i> (Pre-K – Grade 5)</p>	<p>Number and Operations</p> <p>Measurement</p>	<ul style="list-style-type: none"> • Develop fluency in adding whole numbers • Select and apply appropriate standard units (metric) and tools to measure length • Carry out simple unit conversions within a system of measurement • Develop strategies for calculating perimeters of regular and irregular shapes

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	<ul style="list-style-type: none"> • Use mental math strategies to solve problems • Determine which operation will solve a problem 	<i>Understand measurable attributes of objects and the units, systems, and processes of measurement</i> (Grade 3 – Grade 5)		<ul style="list-style-type: none"> • regular and irregular shapes • Select appropriate methods and tools for computing with whole numbers (mental computation)
<p>Lesson 21: Looking at Area as a Pattern</p> <p>Lesson 22: Looking at Area as a Pattern Review</p> <p>Do all polygons with the same area look the same?</p>	<ul style="list-style-type: none"> • Multiplication facts practice • Identify factors and multiples • Calculate area of quadrilaterals • Calculate perimeter of quadrilaterals • Determine which operation to use when solving a problem • Use problem solving strategies 	<i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5) <i>Use visualization, spatial reasoning, and geometric modeling to solve problems</i> (Grade 3 - Grade 5) <i>Apply appropriate techniques, tools, and formulas to determine measurements</i> (Pre-K – Grade 5) <i>Understand measurable attributes of objects and the units, systems, and processes of measurement</i> (Grade 3 – Grade 5)	Number and Operations Geometry Measurement Problem	<ul style="list-style-type: none"> • Develop fluency in multiplying whole numbers • Use factors and multiples to solve problems • Build geometric objects • Select and apply appropriate standard units and tools to measure length and area • Develop, understand, and use formulas to find the area of rectangles • Develop strategies for calculating perimeters of regular and irregular shapes • Explore what happens to measurements of a two-dimensional shape such as its perimeter and area when the shape is changed in some way

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		(Pre-K – Grade 5)	Solving	<ul style="list-style-type: none"> Apply and adapt a variety of appropriate strategies to solve problems
<p>Lesson 23: Line Language</p> <p>Lesson 24: Line Language Review</p> <p>Can you name that line and angle?</p>	<ul style="list-style-type: none"> Multiplication facts practice Identify and describe angles Identify and describe parallel, intersecting, and perpendicular lines Measure angles with a protractor Use problem solving strategies Tournament Time explanation 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Apply appropriate techniques, tools, and formulas to determine measurements</i> (Pre-K – Grade 5)</p> <p><i>Specify locations and describe spatial relationships using coordinate geometry and other representational systems</i> (Grade 3 – Grade 5)</p> <p>(Pre-K – Grade 5)</p>	<p>Number and Operations</p> <p>Measurement</p> <p>Geometry</p> <p>Problem Solving</p> <p>Communication</p>	<ul style="list-style-type: none"> Develop fluency in multiplying whole numbers Select and apply appropriate standard units and tools to measure the size of angles Describe location using geometric vocabulary Solve problems that arise in mathematics and in other contexts (map) Communicate mathematical thinking coherently and clearly Use the language of mathematics to express mathematical ideas precisely
<p>Lesson 25: Measuring Angles With a Protractor</p>	<ul style="list-style-type: none"> Addition facts practice Identify and describe angles 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p>	<p>Number and Operations</p> <p>Measurement</p>	<ul style="list-style-type: none"> Develop fluency in adding whole numbers Select and apply appropriate standard units and tools to measure the size of angles

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<p>Lesson 26: Measuring Angles With a Protractor Review</p> <p>How can you use a protractor to measure an angle?</p>	<ul style="list-style-type: none"> • Construct and measure angles with a protractor 	<p><i>Apply appropriate techniques, tools, and formulas to determine measurements</i> (Pre-K – Grade 5)</p> <p><i>Use visualization, spatial reasoning, and geometric modeling to solve problems</i> (Grade 3 - Grade 8)</p>		<ul style="list-style-type: none"> • Draw geometric objects with specified properties such as lengths or angle measures
<p>Lesson 27: Two and Three Dimensional Shapes</p> <p>Lesson 28: Two and Three Dimensional Shapes Review</p> <p>What shapes make up familiar three dimensional shapes?</p>	<ul style="list-style-type: none"> • Multiplication facts practice • Identify and describe solid figures • Determine the number of sides and edges of a solid figure • Construct three-dimensional figures using nets • Tournament Time explanation 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships</i> (Grade 3 – Grade 5)</p> <p><i>Use visualization, spatial reasoning, and geometric modeling to solve problems</i> (Grade 3 - Grade 5)</p>	<p>Number and Operations</p> <p>Geometry</p>	<ul style="list-style-type: none"> • Develop fluency in multiplying whole numbers • Identify, compare, and analyze attributes of two and three-dimensional shapes and develop vocabulary to describe the attributes • Classify two and three-dimensional shapes according to their properties • Build and draw geometric objects • Identify and build a three-dimensional object from two-dimensional representations of that object • Identify a two-dimensional representation of a three-dimensional object (nets)

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		(Pre-K – Grade 5)	Communication	<ul style="list-style-type: none"> Communicate mathematical thinking coherently and clearly Use the language of mathematics to express mathematical ideas precisely
<p>Lesson 29: Transformations</p> <p>Lesson 30: Transformations Review</p> <p>What does a picture look like in a mirror?</p>	<ul style="list-style-type: none"> Subtraction facts practice Recognize transformations (slides and flips) Use transformations of figures to create mirror images Use problem solving strategies Tournament Time explanation 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships</i> (Grade 3 – Grade 5)</p> <p><i>Specify locations and describe spatial relationships using coordinate geometry and other representational systems</i> (Grade 3 – Grade 5)</p> <p><i>Apply transformations and use symmetry to analyze mathematical</i></p>	<p>Number and Operations</p> <p>Geometry</p>	<ul style="list-style-type: none"> Develop fluency in subtracting whole numbers Identify, compare, and analyze attributes of two and three-dimensional shapes and develop vocabulary to describe the attributes Describe location and movement using common language and geometric vocabulary Predict and describe the results of sliding, flipping, and turning two-dimensional shapes Investigate, describe, and reason about the results of combining and transforming shapes (tangram puzzle) Describe sizes, positions, and orientations of shapes under informal transformations such as flips, turns, and slides Examine the congruence, similarity, and line of symmetry of objects using transformations

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		<p><i>situations</i> (Grade 3 – Grade 8)</p> <p>(Pre-K – Grade 5)</p>	<p>Problem Solving</p> <p>Communication</p>	<p>transformations</p> <ul style="list-style-type: none"> • Apply and adapt a variety of appropriate strategies to solve problems • Communicate mathematical thinking coherently and clearly • Use the language of mathematics to express mathematical ideas precisely
<p>Lesson 31: Estimate and Compare Weights</p> <p>Lesson 32: Estimate and Compare Weights Review</p> <p>How much does a knight weigh when he is fully armed?</p>	<ul style="list-style-type: none"> • Basic facts practice • Estimate weight • Determine equivalent units of measurement • Use problem solving strategies 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Apply appropriate techniques, tools, and formulas to determine measurements</i> (Pre-K – Grade 5)</p> <p><i>Understand measurable attributes of objects and the units, systems, and processes of measurement</i> (Grade 3 – Grade 5)</p>	<p>Number and Operations</p> <p>Measurement</p> <p>Problem Solving</p>	<ul style="list-style-type: none"> • Develop fluency in adding, subtracting, multiplying, and dividing whole numbers • Select and use benchmarks to estimate measurements (weight) • Understand such attributes as weight and select the appropriate type of unit for measuring • Carry out simple conversions within a system (customary) of measurement • Develop common referents for measures to make comparisons and estimates • Apply and adapt a variety of

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		(Pre-K – Grade 5)		appropriate strategies to solve problems
<p>Lesson 33: Congruency</p> <p>Lesson 34: Congruency Review</p> <p>How can you create congruent shapes with tangram puzzles?</p>	<ul style="list-style-type: none"> • Subtraction facts practice • Identify and describe polygons • Recognize and use translations and reflections • Determine congruent figures • Use problem solving strategies 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships</i> (Grade 3 – Grade 5)</p> <p><i>Use visualization, spatial reasoning, and geometric modeling to solve problems</i> (Grade 3 - Grade 5)</p> <p><i>Apply transformations and use symmetry to analyze mathematical situations</i> (Grade 3 – Grade 8)</p> <p>(Pre-K – Grade 5)</p>	<p>Number and Operations</p> <p>Geometry</p> <p>Problem Solving</p>	<ul style="list-style-type: none"> • Develop fluency in subtracting whole numbers • Identify, compare, and analyze attributes of two and three-dimensional shapes and develop vocabulary to describe the attributes • Classify two and three-dimensional shapes according to their properties • Build and draw geometric objects • Predict and describe the results of sliding, flipping, and turning two-dimensional shapes • Investigate, describe, and reason about the results of combining and transforming shapes (tangrams) • Describe sizes, positions, and orientations of shapes under informal transformations such as flips, turns, and slides • Examine the congruence, similarity, and line of symmetry of objects using transformations

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				<ul style="list-style-type: none"> Apply and adapt a variety of appropriate strategies to solve problems
<p>Lesson 35: Symmetry</p> <p>Lesson 36: Symmetry Review</p> <p>How can you find the number of lines of symmetry in a figure?</p>	<ul style="list-style-type: none"> Subtraction facts practice Identify lines of symmetry Describe symmetry Determine congruent figures Tournament Time explanation 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Apply transformations and use symmetry to analyze mathematical situations</i> (Grade 3 – Grade 8)</p> <p>(Pre-K – Grade 5)</p>	<p>Number and Operations</p> <p>Communication</p>	<ul style="list-style-type: none"> Develop fluency in subtracting whole numbers Examine the congruence, similarity, and line of symmetry of objects using transformations Identify and describe lines of symmetry in two and three-dimensional shapes and designs Examine the congruence, similarity, and line of symmetry of objects using transformations Communicate mathematical thinking coherently and clearly Use the language of mathematics to express mathematical ideas precisely
<p>Lesson 37: Tessellations</p> <p>Lesson 38: Tessellations Review</p> <p>How can you cover</p>	<ul style="list-style-type: none"> Multiplication facts practice Identify and describe polygons Determine equilateral figures Recognize and use transformations 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Analyze characteristics and properties of two- and three-dimensional</i></p>	<p>Number and Operations</p> <p>Geometry</p>	<ul style="list-style-type: none"> Develop fluency in multiplying whole numbers Identify, compare, and analyze attributes of two and three-dimensional shapes and develop vocabulary to describe the attributes Classify two and three-

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<p>an area without any spaces or openings (tessellate) with equilateral polygons?</p>	<ul style="list-style-type: none"> • Identifies and describes symmetry • Create tessellations • Use problem solving strategies • Tournament Time explanation 	<p><i>geometric shapes and develop mathematical arguments about geometric relationships</i> (Grade 3 – Grade 8)</p> <p><i>Use visualization, spatial reasoning, and geometric modeling to solve problems</i> (Grade 3 - Grade 5)</p> <p><i>Apply transformations and use symmetry to analyze mathematical situations</i> (Grade 3 – Grade 8)</p> <p>(Pre-K – Grade 5)</p> <p>(Pre-K – Grade 5)</p>	<p>Problem Solving</p> <p>Communication</p>	<p>dimensional shapes according to their properties</p> <ul style="list-style-type: none"> • Build and draw geometric objects • Understand relationships among the angles and lengths of sides of a figure • Predict and describe the results of sliding, flipping, and turning two-dimensional shapes • Investigate, describe, and reason about the results of combining and transforming shapes (pattern blocks) • Describe sizes, positions, and orientations of shapes under informal transformations such as flips, turns, and slides • Examine the congruence, similarity, and line of symmetry of objects using transformations • Investigate, describe, and reason about the results of combining and transforming shapes • Apply and adapt a variety of appropriate strategies to solve problems • Communicate mathematical
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				<p>thinking coherently and clearly</p> <ul style="list-style-type: none"> Use the language of mathematics to express mathematical ideas precisely
<p>Lesson 39: Telling Time and Elapsed Time</p> <p>Lesson 40: Telling Time and Elapsed Time Review</p> <p>How can you use your knowledge of minutes and hours to determine a future or past time?</p>	<ul style="list-style-type: none"> Addition facts practice Use number sense to determine elapsed time Tell time to the nearest hour, half hour, and minute 	<p><i>Compute fluently and make reasonable estimates</i> (Pre-K – Grade 5)</p> <p><i>Apply appropriate techniques, tools, and formulas to determine measurements</i> (Grade 3 – Grade 5)</p>	<p>Number and Operations</p> <p>Measurement</p>	<ul style="list-style-type: none"> Develop fluency in adding whole numbers Use a variety of methods and tools to compute, including objects, mental computation, estimation, and paper and pencil Select and apply appropriate standard units and tools to measure time