

<p align="center">Math Connections Program 6th - 7th Grade OHIO Math Content Standards University Circle Interactive, Cleveland</p>	<p align="center">Performance Indicators</p>	<p align="center">Western Reserve Historical Society <i>Get Me To The Game on Time</i></p>	<p align="center">Cleveland Museum of Art <i>Chuck Close Portrait Grids</i></p>	<p align="center">Cleveland Botanical Garden – <i>Determining Dimensional Space</i></p>
<p>Mathematical Processes – What students should demonstrate in problem-solving, representation, communication, reasoning and connections at key points in their mathematical program.</p>		X	X	X
<p>Benchmarks A. Clarify problem-solving situation and identify potential solution processes: e.g. consider different strategies and approaches to a problem, restate problem from various perspectives. C. Use more than one strategy to solve a problem, and recognize there are advantages associated with various methods.</p>	<p>None specified at grade levels. These have been embedded within the grade-level indicators for the five content standards.</p>	X	X	X
<p>Standard 1 – Number, Number Sense and Operations– Students demonstrate number sense including an understanding of number systems and operations and how they relate to one another. Students compute fluently and make reasonable estimates using paper & pencil, technology supported and mental methods.</p>		X		X
<p>Benchmarks B. Compare, order and convert among fractions, decimals and percents. D. Use models and pictures to relate concepts of ratio, proportion and percent I. Use a variety of strategies, including proportional reasoning to estimate, compute, solve and explain solutions to problems involving integers, fractions, decimals and percents.</p>	<p>5. Describe what it means to find a specific percent of a number, using real-life examples. 6. Use models and pictures to relate concepts of ratio, proportion and percent, including percents less than 1 and greater than 100. 10. Represent multiplication and division situations involving fractions and decimals with models and visual representations. 11. Perform fraction and decimal computations and justify their solutions; e.g., using manipulatives, diagrams, mathematical reasoning. 14. Use proportional reasoning, ratios and percents to represent problem situations and determine reasonableness of solutions. 17. Determine the percent of a number and solve related problems.</p>	X X	X X X	

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Standard 2 – Measurement – Students estimate and Measure to a required degree of accuracy and precision by selecting and using appropriate units.				
Benchmarks A. Select appropriate units to measure angles, circumference, surface area, mass & volume, using: - US customary units(e.g. degrees, sq. feet, pounds and other units as appropriate); - metric units (e.g. sq. meters, kilograms and other units as appropriate) B. Convert units of length, area, volume, mass and time within the same measurement system. C. Identify appropriate tools and apply appropriate techniques for measuring angles, perimeter or circumference and area of triangles, quadrilaterals, circles and composite shapes, and surface area and volume of prisms and cylinders. D. Select a tool and measure accurately to a specified level of precision. E. Use problem solving techniques and technology as needed to solve problems involving length, weight, perimeter, area, volume, time and temperature. F. Analyze and explain what happens to area and perimeter or surface area and volume when the dimensions of an object are changed. G. Understand and demonstrate the independence of perimeter and area for two-dimensional shapes and of surface area and volume for three-dimensional shapes.	1. Use appropriate technology to strengthen all measurement indicators. 3. Measure angles, length, perimeter, diameter, radius. Height, weight, capacity and volume using appropriate units in both the customary and metric systems of measurement. 5. Estimate perimeter or circumference and area of circles, triangles and quadrilaterals, and surface area and volume for prisms and cylinders by: a) Estimating lengths using string or links, areas using tiles or grid, and volumes using cubes. b) Measuring attributes (diameter, side lengths or heights) and using established formulas for circles, triangles and rectangles. 6. Determine which measure (perimeter, area, surface area, or volume) matches the context for a problem situation (e.g. perimeter is the context for fencing a garden, surface area is the context for painting a room) 7. Understand the difference between perimeter and areas and demonstrate that two shapes may have the same perimeter, but different areas or may have the same area, but different perimeters.	<p style="text-align: center;">X</p> <p style="text-align: center;">X</p>	<p style="text-align: center;">X</p> <p style="text-align: center;">X</p>	<p style="text-align: center;">X</p> <p style="text-align: center;">X</p>

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Standard 3 – Geometry and Spatial Sense – Students identify, classify, compare and analyze characteristics, properties and relationships of one, two and three-dimensional geometric figures and objects. Students use spatial reasoning properties of geometric objects, and transformations to analyze mathematical situations and solve problems.				
Benchmarks B. Draw circles, identify and determine relationships among the radius, diameter, center and circumference. E. Use proportions to express relationships among corresponding parts of similar figures. H. Predict and describe results (size, position, orientation) of transformations of two-dimensional figures. I. Identify and draw three-dimensional objects from different views (top, side, front and perspective) J. Apply properties of equality and proportionality to solve problems involving congruent or similar figures. (e.g. create a scale drawing)	1. Use appropriate technology to strengthen all geometry and spatial sense indicators. 3. Use standard vocabulary to define geometric vocabulary: vertex, face, altitude, diagonal, isosceles, equilateral, acute, obtuse, and other vocabulary as appropriate. 5. Identify and define relationships between planes (i.e. parallel, perpendicular and intersecting). 10. Predict and describe sizes, positions and orientations of two-dimensional shapes after transformations such as reflections, rotations, translations and dilations.		<p style="text-align: center;">X</p> <p style="text-align: center;">X</p> <p style="text-align: center;">X</p>	<p style="text-align: center;">X</p> <p style="text-align: center;">X</p>
Standard 4 – Patterns, Functions & Algebra – Students use patterns, relations and functions to model, represent and analyze problem situations that involve variable quantities. Students analyze, model and solve problems using various representations such as tables, graphs and equations.				
Benchmarks F. Use representations such as tables, graphs and equations to model situations and to solve problems, especially those that involve linear relationships. J. Use formulas in problem-solving situations. L. Analyze functional relationships, and explain how a change in one quantity results in a change in the other.	5. Solve simple linear equations and inequalities using physical models, paper and pencil, tables and graphs. 6. Produce and interpret graphs that represent the relationship between two variables. 7. Evaluate simple expression by replacing variables with given values, and use formulas in problem-solving situations.	<p style="text-align: center;">X</p> <p style="text-align: center;">X</p> <p style="text-align: center;">X</p>	<p style="text-align: center;">X</p>	