

**DOMAIN: Geometry****CLUSTER: Reason with shapes and their attributes.** *s/a*

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	ASSESSMENTS
<p><b>1.G.1</b> Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes</p>	<p><b>MP1 Make sense of problems and persevere in solving them.</b>  <b>MP2 Reason abstractly and quantitatively.</b>  <b>MP3 Construct viable arguments and critique the reasoning of others.</b>  <b>MP4 Model with mathematics.</b>  <b>MP5 Use appropriate tools strategically.</b>  <b>MP6 Attend to precision.</b>  <b>MP7 Look for and make use of structure.</b>  <b>MP8 Look for and express regularity in repeated reasoning.</b></p>	<p><b>50 Problem Solving Lessons</b> (Burns, 1996)</p> <ul style="list-style-type: none"> <li>Lessons with Geoboards, pp. 33-35</li> </ul> <p><b>A Collection of Math Lessons from Grades 1 through 3</b> (Burns &amp; Tank, 1988)</p> <ul style="list-style-type: none"> <li>Chapter 11: Box Sorting, pp. 117-128</li> </ul> <p><b>About Teaching Mathematics, 2<sup>nd</sup> Ed.</b> (Burns, 2000)</p> <ul style="list-style-type: none"> <li>Explorations Using the Geoboard, p. 94</li> <li>Sorting Shapes on the Geoboard, p. 96</li> </ul> <p><b>My Math</b></p> <ul style="list-style-type: none"> <li>9-1 Squares and Rectangles</li> <li>9-2 Triangles and Trapezoids</li> <li>9-3 Circles</li> <li>9-4 Compare Shapes</li> <li>10-1 Cubes and Prisms</li> <li>10-2 Cones and Cylinders</li> <li>10-3 Problem-Solving Strategy: Look for a Pattern</li> </ul>	<p><b>engage<sup>ny</sup></b></p> <ul style="list-style-type: none"> <li>End-of-Module Assessment  <a href="http://www.engageny.org/resource/grade-4-mathematics-module-2">http://www.engageny.org/resource/grade-4-mathematics-module-2</a></li> </ul> <p><b>My Math Assessment Masters</b></p> <ul style="list-style-type: none"> <li>Ch. 9, pp. 210-231</li> <li>Ch. 10, pp. 236-256</li> </ul> <p><b>My Math Think Smart for the SBAC</b></p> <ul style="list-style-type: none"> <li>Ch. 9 Test pp. 101-106</li> <li>Ch. 10 Test pp. 107-112</li> <li>Ch. 9 Performance Task, pp. 129-130</li> <li>Ch. 10 Performance Task pp. 131-132</li> </ul> <p><b>My Math eAssessment</b></p>

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	ASSESSMENTS
<p><b>1.G.2</b> Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape*</p>	<p><b>MP1 Make sense of problems and persevere in solving them.</b>  MP2 Reason abstractly and quantitatively.  MP3 Construct viable arguments and critique the reasoning of others.  <b>MP4 Model with mathematics.</b>  <b>MP5 Use appropriate tools strategically.</b>  <b>MP6 Attend to precision.</b>  <b>MP7 Look for and make use of structure.</b>  MP8 Look for and express regularity in repeated reasoning.</p>	<p><b>A Collection of Math Lessons from Grades 1 through 3</b> (Burns &amp; Tank, 1988)</p> <ul style="list-style-type: none"> <li>Chapter 9: The Four-Triangle Problem, pp. 99-105</li> </ul> <p><b>About Teaching Mathematics, 2<sup>nd</sup> Ed.</b> (Burns, 2000)</p> <ul style="list-style-type: none"> <li>A Sample Activity – Pentominoes, p. 80</li> <li>The Pentomino Game, p. 82</li> <li>Geometry Building, p. 85</li> <li>Introductory Exploration with Pattern Blocks, p.90</li> <li>Hexagon Fill-In Puzzle, p. 90</li> <li>Hexiamonds, p. 91</li> <li>The Four-Triangle Problem, p. 93</li> <li>The Tangram Puzzle, p. 83</li> </ul> <p><b>Illustrative Mathematics</b></p> <ul style="list-style-type: none"> <li>Make your Own Puzzle  <a href="http://www.illustrativemathematics.org/illustrations/756">http://www.illustrativemathematics.org/illustrations/756</a></li> </ul> <p><b>My Math</b></p> <ul style="list-style-type: none"> <li>9-5 Composite Shapes</li> <li>9-6 More Composite Shapes</li> <li>9-7 Problem Solving Strategy: Use Logical Reasoning</li> <li>10-4 Combine Three-Dimensional Shapes</li> </ul>	<p><b>engage<sup>ny</sup></b></p> <ul style="list-style-type: none"> <li>End-of-Module x Assessment  <a href="http://www.engageny.org/resource/grade-4-mathematics-module-2">http://www.engageny.org/resource/grade-4-mathematics-module-2</a></li> </ul> <p><b>My Math Assessment Masters</b></p> <ul style="list-style-type: none"> <li>Ch. 9, pp. 210-231</li> <li>Ch.10, pp. 236-256</li> </ul> <p><b>My Math Think Smart for the SBAC</b></p> <ul style="list-style-type: none"> <li>Ch. 9 Test, pp. 101-106</li> <li>Ch. 10 Test, pp. 107-112</li> <li>Ch. 9 Performance Task, pp. 129-130</li> <li>Ch.10 Performance Task, pp. 131-132</li> </ul> <p><b>My Math eAssessment</b></p>

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	ASSESSMENTS
<p><b>1.G.3</b> Partition circles and rectangles into two and four equal shares, describe the shares using the words <i>halves</i>, <i>fourths</i>, and <i>quarters</i>, and use the phrases <i>half of</i>, <i>fourth of</i>, and <i>quarter of</i>. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares</p>	<p><b>MP1 Make sense of problems and persevere in solving them.</b>  <b>MP2 Reason abstractly and quantitatively.</b>  <b>MP3 Construct viable arguments and critique the reasoning of others.</b>  <b>MP4 Model with mathematics.</b>  <b>MP5 Use appropriate tools strategically.</b>  <b>MP6 Attend to precision.</b>  <b>MP7 Look for and make use of structure.</b>  <b>MP8 Look for and express regularity in repeated reasoning.</b></p>	<p><b>50 Problem-Solving Lessons Grades 1-6</b> (Burns, 1996)</p> <ul style="list-style-type: none"> <li>Sharing an Apple, pp. 43-45 (<i>Adaptation: Share one apple with two or four students instead of three students</i>)</li> <li>Exploring Halves, pp. 53-54</li> <li>Dividing Cakes, pp. 55-56</li> <li>Cutting Cake, pp. 97-98</li> </ul> <p><b>My Math</b></p> <ul style="list-style-type: none"> <li>9-8 Equal Parts</li> <li>9-9 Halves</li> <li>9-10 Quarters and Fourths</li> </ul>	<p><b>engage<sup>ny</sup></b></p> <ul style="list-style-type: none"> <li>End-of-Module x Assessment  <a href="http://www.engageny.org/resource/grade-4-mathematics-module-2">http://www.engageny.org/resource/grade-4-mathematics-module-2</a></li> </ul> <p><b>My Math Assessment Masters</b></p> <ul style="list-style-type: none"> <li>Ch. 9, pp. 210-231</li> </ul> <p><b>My Math Think Smart for the SBAC</b></p> <ul style="list-style-type: none"> <li>Ch. 9 Test, pp. 101-106</li> <li>Ch. 9 Performance Task, pp. 129-130</li> </ul> <p><b>My Math eAssessment</b></p>

### Domain Legend

▲ **Major Cluster:** Areas of intensive focus, where students need fluent understanding and application of the core concepts (approximately 75%)

s/a **Supporting Cluster:** Rethinking & linking; some material is being covered, but in a way that applies core understandings (s/a approximately 25%)

**Additional Cluster:** Expose students to other subjects, may not connect explicitly to the major work of the grade

\* Students do not need to learn formal names such as "right rectangular prism."

### ADDITIONAL SUPPORT

LANGUAGE OBJECTIVES	ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS	KEY VOCABULARY
<ul style="list-style-type: none"> <li>Students will be able to describe plane shapes and solid figures by their attributes to a partner.</li> <li>Students will be able to construct a Double Bubble Map to compare and contrast one geometric figure to another.</li> <li>Students will be able to describe pieces using the words <i>halves</i>, <i>fourths</i>, and <i>quarters</i> to a partner.</li> <li>Student will be able to use the phrases <i>half of</i>, <i>fourth of</i>, and <i>quarter of</i> when describing models.</li> </ul>	<ul style="list-style-type: none"> <li>Plane shapes have many properties that make them different from one another.</li> <li>Attributes can be used to sort plane shapes.</li> <li>Attributes can be used to sort solid figures. Many sets of solids can be sorted in more than one way.</li> <li>Plane shapes can be combined to make new plane shapes.</li> <li>Solid figures can be combined to make other solid figures.</li> <li>Shapes can be divided into equal parts called halves and quarters or fourths.</li> <li>Decomposing shapes into equal shares creates smaller shares.</li> </ul>	<ul style="list-style-type: none"> <li>How can identifying the properties of plane shapes help in sorting the shapes?</li> <li>How can attributes be used to sort solid figures?</li> <li>How can plane shapes be combined to make new plane shapes?</li> <li>How can solid figures be combined to make new solid figures?</li> <li>How can shapes be divided into equal halves and fourths?</li> <li>How does decomposing shapes into equal shares affect the size of the shares?</li> </ul>	<ul style="list-style-type: none"> <li>circle</li> <li>composite shapes</li> <li>cone</li> <li>corner</li> <li>cube</li> <li>cylinder</li> <li>equal parts</li> <li>face</li> <li>fair sharing</li> <li>flat surface</li> <li>fourth of</li> <li>four of</li> <li>fourths</li> <li>fraction</li> <li>half of</li> <li>halves</li> <li>plane shape</li> <li>pyramid</li> <li>quarter of</li> <li>quarters</li> <li>rectangle</li> <li>rectangular prism</li> <li>side</li> <li>solid figure</li> <li>sort</li> <li>sphere</li> <li>square</li> <li>three-dimensional</li> <li>trapezoid</li> <li>triangle</li> <li>two of</li> <li>two-dimensional</li> <li>vertex (vertices)</li> <li>whole</li> </ul>

### DAILY ROUTINES

<ul style="list-style-type: none"> <li>Students bring in magazine and newspaper cutouts that represent the shape/figure of the day. Classmates describe the object: "I know this is a ____, because..." Students agree or disagree with support.</li> <li>Students name real-world objects matching the shape/figure of the day. Record responses on class Tree Map. Students look for examples of the shape/figure in their community during and outside of the school day.</li> </ul>	<ul style="list-style-type: none"> <li>Students reach into a bag and try to guess the concealed shape/figure. "I know this is a ____, because..."</li> <li>A student lists attributes as the class tries to guess the shape/figure. Clues can be recorded on index cards ahead of time by students or teacher.</li> <li>Problem Solving Notebook</li> </ul>
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## LITERATURE CONNECTIONS

- *Captain Invincible and the Space Shapes* by Stuart J. Murphy
- *Can you Eat a Fraction?* by Elizabeth D. Jaffe
- *Cubes, Cones, Cylinders, and Spheres* by Tana Hoban
- *Eating Fractions* by Bruce MacMillan
- *Fraction Action* by Loreen Leedy
- *Fraction Fun* by David A. Adler
- *The Greedy Triangle* by Marilyn Burns
- *The Hershey's Milk Chocolate Fractions Book* by Jerry Pallotta
- *Math Counts: Shapes* by Henry Pluckrose
- *Parts of a Whole* by Janet Reed
- *Shapes* by Jane Simon
- *Shapes, Shapes, Shapes* by Tana Hoban
- *Shape Up!* by David A. Adler
- *The Shape of Things* by Dayle Ann Dodds
- *Three Pigs, One Wolf, and Seven Magic Shapes* by Grace Maccarone
- *The Village of Round and Square Houses* by Ann Grifalconi
- *When a Line Bends...A Shape Begins* by Rhonda Gowler Greene

DIFFERENTIATION 

FRONT LOADING <sup>1</sup>	ENRICHMENT <sup>2</sup>	INTERVENTION <sup>3</sup>
<p><b>My Math</b>  <b>Each chapter includes:</b> (at beginning of chapter)</p> <ul style="list-style-type: none"> <li>• My Math Words</li> <li>• My Vocabulary Cards</li> <li>• My Foldables</li> </ul> <p><b>Each Lesson includes:</b> (at beginning of lesson)</p> <ul style="list-style-type: none"> <li>• ELL Instructional Strategy</li> </ul>	<p><b>My Math</b>  <b>Each lesson includes:</b></p> <ul style="list-style-type: none"> <li>• A beyond level hands-on activity under differentiated instruction (found after Practice and Apply)</li> </ul>	<p><b>My Math</b>  <b>Each lesson includes:</b></p> <ul style="list-style-type: none"> <li>• An approaching level tier 2: strategic intervention hands on activity (found after Practice and Apply)</li> </ul> <p><b>Each formative assessment includes:</b></p> <ul style="list-style-type: none"> <li>• Tier 2 Strategic Intervention, Ch. 9, p. 660A</li> <li>• Tier 2 Strategic Intervention, Ch. 10, p. 724A</li> </ul>

Key:

<sup>1</sup>: Front Loading refers to materials that can be used before the lesson begins to prepare students for success, which may be helpful for English learners, students with disabilities or low achieving students.

<sup>2</sup>: Enrichment refers to materials that can be used with students who are ready to have their thinking extended, which may be helpful for gifted and talented and high achieving students, or any students who are ready for more depth and complexity.

<sup>3</sup>: Intervention refers to materials that can be used after the lessons with students who are needing additional positive experiences with the mathematics, low achieving students who would benefit from another approach, or students who have gaps in their knowledge.

For more information on Differentiation, please refer to: The California Framework, Universal Access section:

<http://www.cde.ca.gov/ci/ma/cf/documents/mathfwuniversalaccess.pdf#search=Universal%20Access&view=FitH&pagemode=none>