

GRADE 6 Shape and Space Specific Outcomes	Key Concepts in Geometry and Space underpinning Curriculum Outcomes from FSIM: Geometry and Space Resource Book and Measurement Book <i>One</i>	Sample Diagnostic Tasks and Activities	Sample Learning Tasks Selected from FSIM: Geometry and Space Resource Book (link to online document) Measurement Resource Books One (link to online document)	Math Station Ideas:
SS6.1 Demonstrate understanding of angles including: - identifying examples - classifying angles - estimating the measure - determining angle measures in degrees - drawing angles - applying angle relationships in triangles and quadrilaterals	Reason Geometrically KU1: - Things can be the same in some ways and different in other ways. When we classify, we sort things into groups that are the same in specified ways. Reason Geometrically KU3: - There are special words, phrases, and symbols that help us to think about and describe the shape and structure of things. Reason Geometrically KU4: - People have developed useful ways to classify shapes. Knowing that a shape is one of the standard types can tell us a lot about it. Direct Measure KU1: - We can directly compare objects or events to say which has more length, mass, capacity, area, volume, angle, or time.		Geometry and Space: 180-182 - Trapezoids and Triangles - Quadrilaterals - Grouping Triangles Geometry and Space, p. 204 - Computer Graphics - Coloured Straws - Straw Shapes - Geometric Symbols Geometry and Space, 217-219 - Quadrilaterals - Geoboard - Shape Clues - Sorting Triangles Measurement, 119-120 - Book Corners - Ordering Angles	“A Unit Angle” p. 305 TS-CM 6-8 “Wax Paper Protractor Projects” p. 305-306 TS-CM 6-8 “Angle Sums of Polygons” p. 306 TS-CM “Designing Rooms” in <i>Math Makes Sense 6 ProGuide™ Unit 4: Angles and Polygons</i>, p. v. “Look Out for Angles” in <i>Math Makes Sense 6 ProGuide™ Unit 4: Angles and Polygons</i>, p. v. “Angle Tic-Tac-Toe” in <i>Math Makes Sense 6 ProGuide™ Unit 4: Angles and Polygons</i>, p. v.

	Direct Measure KU4: • Calibrated scales can be used as a substitute for repeating units when measuring length, capacity, mass, angle, and time.		Measurement, 149 • Angles	“Angle Hunt Game” in <i>Math Makes Sense 6 ProGuide™</i> <i>Unit 4: Angles and Polygons</i>, p. v; student book, p. 143.
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GRADE 6 Shape and Space Specific Outcomes	Key Concepts in Measurement underpinning Curriculum Outcomes from FSIM: Measurement Resource Book <i>One</i> and <i>Two</i>	Sample Diagnostic Tasks and Activities	Sample Learning Tasks Selected from FSIM: Measurement Resource Books One (link to online document) Measurement Resource Book Two (link to online document)	Math Station Ideas:
SS6.2 Extend and apply understanding of perimeter of polygons, area of rectangles, and volume of right rectangular prisms (concretely, pictorially, and symbolically) including: • relating area to volume • comparing perimeter and area • comparing area and volume • generalizing strategies and formulae • analyzing the effect of orientation • solving situational questions.	Indirect Measure KU1: • For certain types of shapes, we can describe the relationship between the lengths of their edges and their perimeters, areas, and volumes. Indirect Measure KU4: • We can calculate one measurement from others using relationships between quantities. Understand Units KU6: • Our choice of attribute and unit depends on what we are trying to measure and why.		Measurement Book <i>Two</i>, p. 32-38 • Pizza Trays • Which Pasture is Bigger? • Buildings • The Sealed Room • Twenty-Four Cubes • Perimeter or Area? • House Plans • Lunch Boxes • Cubic Straws • Five Triangles • Rearranging Parallelograms • Rearranging Trapezoid Measurement Book <i>Two</i>, p. 76 • Oil Spills • Using Perimeter • Using a Formula • Missing Labels • Can You Do It? Measurement Book <i>One</i>, p. 76 • Lawns and Garden Beds • Carpet and Paint	Connecting Formulas to Area, Perimeter, and Volume (link to printable) “Fixed Perimeters” p. 310 TS-CM 6-8 “Fixed Areas” p. 311 TS-CM “Area of a Parallelogram” p. 313 TS-CM p. 313 “Making ‘To-Go’ Boxes” p. 316 TS-CM (adapt to metric units) “Calculating Perimeter and Area” in <i>Math Makes Sense 6 ProGuide™ Unit 6: Geometry and Measurement</i>, p. v. Perimeter Possibilities (online interactive) Sending a Parcel (link to problem)

	Understand Units KU8: • The relationship among standard units in the metric system help us to judge size, move between units, and do computations. Direct Measure KU5: • Units are quantities and so we can use different representations of the same unit so long as we do not change the quantity.		Measurement Book <i>One</i>, p. 98-99 • Length and Square Units • Length and Cubic Units Measurement Book <i>One</i>, p. 162-163 • Covering One Square Metre • Irregular Areas	Perimeter, Area, and Volume Stage 3 – Short Problems (link to problems)
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GRADE 6 Shape and Space Specific Outcomes	Key Concepts in Measurement underpinning Curriculum Outcomes from FSIM: Geometry and Space Resource Book	Sample Diagnostic Tasks and Activities	Sample Learning Tasks Selected from FSIM: Geometry and Space Resource Book (link to online document)	Math Station Ideas:
SS6.3 Demonstrate understanding of regular and irregular polygons including: • classifying types of triangles • comparing side lengths • comparing angle measures • differentiating between regular and irregular polygons • analyzing for congruence.	Reason Geometrically KU1: • Things can be the same in some ways and different in other ways. When we classify, we sort things into groups that are the same in specified ways. Reason Geometrically KU3: • There are special words, phrases, and symbols that help us to think about and describe the shape and structure of things. Reason Geometrically KU4: • People have developed useful ways to classify shapes. Knowing that a shape is one of the standard types can tell us a lot about it. Represent Transformation KU2: • We can move things around in space by reflecting, translating and rotating. These do not change size or shape.		Geometry and Space, page 180-182 • Trapezoids and Triangles • Quadrilaterals • Grouping Triangles Geometry and Space, pages 205-206 • Guess My Shape 1 • Glossary • Chart of Words • Straw Shapes Geometry and Space, pages 218 • True or False? • Quadrilaterals • Sorting Triangles Geometry and Space, pages 139-141 • Hexomino Pairs • Recreating Border Patterns • Tessellation • Scalene Triangle • Quadrilaterals	“Exploring Paper Triangles” in <i>Math Makes Sense 6 ProGuide™ Unit 6: Geometry and Measurement</i>, p. v. “Making Angles and Triangles” in <i>Math Makes Sense 6 ProGuide™ Unit 6: Geometry and Measurement</i>, p. v. “Partner Polygons” in <i>Math Makes Sense 6 ProGuide™ Unit 6: Geometry and Measurement</i>, p. v. “Beat the Clock!” in <i>Math Makes Sense 6 ProGuide™ Unit 6: Geometry and Measurement</i>, p. v; student book p. 239 Regular and Irregular Shapes (online interactive) Shape Up (link to printable games) Triangle Splat (online interactive)

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SS6.4 Demonstrate understanding of the first quadrant of the Cartesian plane and ordered pairs with whole number coordinates.	Represent Location KU1: • We describe where things are in relation to other things. There are special words, phrases, and symbols that help us with this.		Geometry and Space, 32-35 • Grid Picture • Battleships • Street Maps • Latitude and Longitude • Where in the World?	Billy Bug (online interactive) Catch the Fly (online interactive) Transportation Museum (online interactive) Spy Guys Interactive: Using Ordered Pairs (online interactive) Stock the Shelves (online interactive) Coordinate Plane dice game (link to instructions) Coordinate Plane Battleship (pdf) Coordinate Plane Four in a Row game (pdf)

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SS6.5 Demonstrate understanding of single, and combinations of, transformations of 2-D shapes (with and without the use of technology) including: • identifying • describing • performing.	Represent Transformation KU1: • We can imagine how a thing will look after we move all or part of it or change our view of it. Represent Transformation KU2: • We can move things around in space by reflecting, translating, and rotating. These do not change size or shape. Represent Transformation KU4: • Symmetrical things have component parts which can be matched by rotating, reflecting, or translating.		Geometry and Space, 127-128 • Reflection • Paper Folding 1, 2 • Snowflakes • Template Geometry and Space, 139-140 • Hexonimo Pairs • Border Pattern • Shape Shifter • Centre of Rotation • Using the Mira • Categorizing Transformations • Re-creating Border Patterns Geometry and Space, 162-163 • Border Patterns • Quadrilaterals • Logos and Crests • Card Designs • Graphics Programs • Venn Diagram • Rotational Designs • Word Art • Rotational Symmetry	Spy Guys Interactive: Using Ordered Pairs (online interactive) Geometry Transformations (online interactive) Kahn Academy: Transformations (online interactive) “Entrapment” (pdf) “How Did It Get There From Here?” in <i>Math Makes Sense 6 ProGuide™ Unit 8: Transformation</i>, p. v. “Transformation Patterns” in <i>Math Makes Sense 6 ProGuide™ Unit 8: Transformation</i>, p. v. “Hexiamonds” in <i>Math Makes Sense 6 ProGuide™ Unit 8: Transformation</i>, p. v. “Transformation Challenge” in <i>Math Makes Sense 6 Student Book Unit 8: Transformation</i>, p. 303

