

GRADE 5 Shape and Space Specific Outcomes	Key Concepts in Measurement underpinning Curriculum Outcomes from FSIM: Measurement Book <i>One</i> and Geometry and Space Resource Books	Sample Diagnostic Tasks and Activities	Sample Learning Tasks Selected from FSIM: Measurement Resource Books One (link to online document) Geometry and Space Resource Book (link to online document)	Math Station Ideas:
SS5.1 Design and construct different rectangles given either perimeter or area, or both (whole numbers), and draw conclusions.	Understand Units KU1: - We can compare objects or events by how much of a particular attribute each has. Different attributes may result in different orders. Direct Measure KU3: - To measure consistently we need to use our instrument in a way that ensures a good match of the unit with the object to be measured. Reason Geometrically KU2: - Thinking about shape can help us to understand the way things work and fit together. 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.		Measurement, Book <i>One</i>, p. 29-31 - Perimeter and Area - Swimming Pools - Pool Perimeters Measurement, Book <i>One</i>, p. 140 - Garden Plots Geometry and Space, p. 195 - Golden Rectangle Geometry and Space, p. 219 - Every Square a Rectangle	Party Designer (online interactive) Zoo Designer (online interactive) "Fixed Perimeters" p. 328 TS-CM "Fixed Areas" p. 328 TS-CM 3-5

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SS5.2 Demonstrate understanding of measuring length (mm) by: • selecting and justifying referents for the unit mm • modelling and describing the relationship between mm, cm, and m units.	Understand Units KU3: • To measure something means to say how much of a particular attribute it has. We measure by choosing a unit and working out how many of the unit it takes to match the object or event. Understand Units KU4: • The instrument we choose to represent our unit should relate well to the attribute to be measured and be easy to repeat to match the object or even to be measured. Understand Units KU5: • Measurements of continuous quantities are always approximate. Measurements can be made more accurate by choosing smaller units, subdividing units, and using other strategies. Understand Units KU7: • Standard units help us to interpret, communicate, and calculate measurements.		Measurement Book <i>One</i>, p. 45 – 47 • Body Measurements • Rectangles Measurement Book <i>One</i>, p. 60-61 • Different Units • Choosing Units Measurement Book <i>One</i>, p. 68 • Body Measurements Measurement Book <i>One</i>, p. 88-89 • Math at Work • Comparing Standard and Non-Standard	Moonshot (online interactive) Comparing Metric Units (link to printable) Half a Metre (link to printable) Newspaper Headlines (link to instructions) Race Across the Paper (link to instructions) House Plans (link to instructions) How Many? (link to instructions)

	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 KU4: • Calibrated scales can be used as a substitute for repeating units when measuring length, capacity, mass, angle, and time.		Measurement Book <i>One</i>, p. 96-97 • A Millimetre Thick • Metric Prefixes Measurement Book <i>One</i>, p. 146-150 • Using Different Tapes • Broken Ruler • It Needs Fixing	
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GRADE 5 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:
SS5.3 Demonstrate an understanding of volume by: • selecting and justifying referents for cm^3 or m^3 units • estimating volume by using referents for cm^3 or m^3 • measuring and recording volume (cm^3 or m^3) • constructing rectangular prisms for a given volume. SS5.4 Demonstrate understanding of capacity by: • describing the relationship between mL and L • selecting and justifying referents for mL or L units • estimating capacity by using referents for mL	Understand Units KU1: • We can compare objects or events by how much of a particular attribute each has. Different attributes may result in different orders. Understand Units KU3: • To measure something means to say how much of a particular attribute it has. We measure by choosing a unit and working out how many of the unit it takes to match the object or event. Understand Units KU4: • The instrument we choose to represent our unit should relate well to the attribute to be measured and be easy to repeat to match the object or even to be measured. Understand Units KU6: • Our choice of attribute and unit depends on what we are trying to measure and why.		Measurement Book <i>One</i>, p. 29-30 • Mass, Volume, or Capacity • Organizing Drink Containers Measurement Book <i>One</i>, p. 44 – 47 • Different Containers • Identikit • Sorting Cards Measurement Book <i>One</i>, p. 60-61 • Comparing Boxes • Different Units Measurement Book <i>One</i>, p. 74- • Travelling Cage • Juice • Carpet and Paint	“Fixed Volume: Comparing Prisms” p. 332 TS-CM 3-5 “Box Comparison – Cubic Units” p. 333 TS-CM 3-5 “Squeeze Play” p. 334 TS-CM 3-5 “That’s Cool” p. 333 TS-CM 3-5 Minecraft Volume : Rectangular Prism (online interactive) Cubes (online interactive) Horendous Soup (online interactive)

or L • measuring and recording capacity (mL or L).	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 KU1: • We can directly compare objects or events to say which has more length, mass, capacity, area, volume, angle or time. Estimate KU2: • We can improve our estimates by getting to know the size of common units and by practising judging the size of objects and events.		Measurement Book <i>One</i>, p. 96-97 • A Millimetre Thick • Metric Prefixes Case Study 4 p. 100 - 102 Measurement Book <i>One</i>, p. 118-120 • Capacity and Shape • Fitting Boxes • Ordering Packages by Volume Measurement Book <i>Two</i>, p. 100-103 • A Litre • Standard Volumes • Box for a Toy	
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SS5.5 Describe and provide examples of edges and faces of 3-D objects, and sides of 2-D shapes that are: • parallel • intersecting • perpendicular • vertical • horizontal. SS5.6 Identify and sort quadrilaterals, including: • rectangles • squares • trapezoids • parallelograms • rhombuses according to their attributes.	Represent Shape KU1: • When we copy and make figures and objects, we need to think about how the whole thing looks and about how the parts relate to each other and to the whole. Represent Shape KU3: • To understand drawings of objects, we need to combine what we can actually see with what we think is there. Special drawing techniques emphasize different aspects of an object. 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.		Geometry and Space, page 81 • Replicas Geometry and Space, pages 103-109 • Skeleton Diagram • Skeleton Swaps • Building • Out the Window Geometry and Space, pages 179-181 • Sorting Figures • Quadrilaterals Geometry and Space, pages 202-205 • What Shape Am I? • Riddles • Lines and Planes	Classifying Quadrilaterals (online interactive) Quadrilateral Quest (online interactive) Quadrilateral Card Game (link to printable) Features of Three Dimensional Objects (online interactive) Faces, Edges, and Vertices Game (link to printable)

	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.		Geometry and Space, pages 216- • What Am I? • Sketching Objects • Quadrilaterals	
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SS5.7 Identify, create, and analyze single transformations of 2-D shapes (with and without the use of technology).	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.		Geometry and Space, pages 123-126 • Broken Windows • Viewpoint 1, 2 Geometry and Space, pages 135-142 • Pentominoes • Pattern Units • Strip Pattern • Transformation Puzzle • Paving Tiles • Tile Pattern • Patterns in the World • Transformation Chart • Using the Mira • Categorizing Transformations • Tangrams 1	Kahn Academy Geometry: Transformations (online interactive) Transformations – Flips, Slides, and Turns (link to printable) Transformation Games for Kids (online interactive) Pentominoes Game (link to printable) Penta Play (link to instructions and printable)