Mathematics Grade 6
Shape and Space (SS)

Outcome	1 - Beginning The student is having difficulty demonstrating an understanding of the concept.	2 – Approaching The student is developing an understanding of the concept.	3 – Meeting The student consistently demonstrates an understanding of the concept or has achieved the concept.	4- Exemplary The student independently demonstrates an in-depth understanding of the concept, and consistently applies this knowledge to new situations.
SS6.1 **I can 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.** **[C, CN, ME, PS, R, V]**	• I can draw an angle and I can identify angles in the environment.	• I can **classify** an angle as being an acute, obtuse, straight, right, **OR** reflex angle with or without the use of a referent.	• I can draw **AND** classify an angle as being an acute, obtuse, straight, right, **AND** reflex angle with or without the use of a referent.	• I can draw, classify, and explain why an angle is an acute, obtuse, straight, right, **AND** reflex angle **without the use of a referent.**
	• I can **explain the difference** between measuring length and measuring an angle.	• I can **estimate** the measure of an angle in degrees.	• I can **accurately estimate** the measure of an angle in degrees, then **verify** that I am right by measuring with a protractor.	• I can accurately estimate the measure of an angle in degrees, then verify with a protractor, and **explain the process**.
	• I can **identify** the number of angles in a triangle and in a quadrilateral.	• I can **prove that the sum of the angles** in a triangle total 180^o and that the sum of the angles in a quadrilateral total 360^o.	• I can **determine the measure of a missing angle** from a triangle **OR** quadrilateral without the use of a protractor and explain how I know this.	• I can determine the measure of a missing angle from a triangle **AND** quadrilateral without the use of a protractor and explain how I know this.
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SS6.2 **I can 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.** **[CN, PS, R, V]**	• I can represent the perimeter of a polygon concretely **AND** pictorially.	• I can determine strategies **OR** formulae for determining the perimeter of polygons, including rectangles and squares.	• I can determine strategies **AND** formulae for determining the **perimeter of polygons**, including rectangles and squares.	• I can apply my formula for determining perimeter to other polygons.
	• I can **represent the area** of a rectangle concretely **OR** pictorially.	• I can **represent the area** of a rectangle concretely **AND** pictorially.	• I can determine a formula for **determining the area of rectangles**, and **defend it.**	• I can apply my formula for determining the area of rectangles to various real-life situations.
	• I can **describe** right rectangular prisms.	• I can represent the volume of a right rectangular prism concretely **AND** pictorially.	• I can determine a rule (formula) for determining **the volume of right rectangular prisms**, and **defend it.**	• I can apply my formula for determining the volume of right rectangular prisms to various real-life situations.
	• **With help**, I can solve situational questions involving the perimeter of polygons, the area of rectangles, **OR** the volume of right rectangular prisms.	• I can solve situational questions involving the perimeter of polygons, the area of rectangles, **OR** the volume of right rectangular prisms.	• I can **solve situational** questions involving the perimeter of polygons, the area of rectangles, **AND** the volume of right rectangular prisms.	• I can solve **multi-step situational questions** involving the perimeter of polygons, the area of rectangles, **AND** the volume of right rectangular prisms.
	• With help, I can compare, using models, the relationship between perimeter and area.	• I can compare, using models, the relationship between perimeter and area, **OR** between area and the volume of a right rectangular prism.	• I can compare, using models, the relationship between perimeter and area, **AND** between area and the volume of a right rectangular prism.	• I can explain the importance of understanding the relationship between perimeter and area, and between area the volume of a right rectangular prism.
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SS6.3 **I can 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.** **[C, CN, R, V]**	• Using side lengths and angle measures, I can classify **OR** draw triangles that are scalene, isosceles, equilateral, right, obtuse, **OR** acute.	• Using side lengths and angle measures, I can classify **AND** draw triangles that are scalene, isosceles, equilateral, right, obtuse, **OR** acute.	• Using side lengths **AND** angle measures, I can classify **AND** draw triangles that are scalene, isosceles, equilateral, right, obtuse, **AND** acute **AND** explain my reasoning.	• Using side lengths and angle measures, **I can prove how the same triangle can be classified in more than one way and explain my thinking.**
	• I can **identify regular polygons**, and explain why a polygon can be call regular.	• I can **classify polygons** as being regular or irregular.	• I can **explain the difference** between regular and irregular polygons and identify the characteristics of each.	• I can prove that a 2D shape is a regular or irregular polygon, or a non-polygon, with extensive reasoning.
	• I can demonstrate congruency.	• I can determine whether or not two polygons are congruent by using side length measures **OR** angle measures.	• I can prove why two polygons are (or aren't) congruent by using side lengths **AND** angle measures.	• I can draw a congruent polygon in a different orientation and prove with multiple reasons why it is congruent.
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SS6.4 **I can demonstrate understanding of the first quadrant of the Cartesian plane and ordered pairs with whole number coordinates. [C,CN, V]**	• **With help**, I can plot different positive points on the Cartesian Coordinate Plane, and identify the coordinates.	• I can **plot different positive points** on the Cartesian Coordinate Plane, and **identify the coordinates.**	• I can **plot points** in the first quadrant of the Cartesian coordinate plane when **given the ordered pairs.**	• I can **create a design** in the first quadrant of the Cartesian coordinate plane, label the X and Y axis, identify the ordered pair for each point, **AND** create instructions on how to reproduce my design.
	• I can **describe** how to plot points on the Cartesian plane given a few of the scales (1, 2,) to be used on all the axes.	• I can **explain** how to plot points on the Cartesian plane given some of the scales (1, 2, 5, **OR** 10) to be used on all the axes.	• I can **explain** how to plot points on the Cartesian plane given **all** the scales (1, 2, 5, **AND** 10) to be used on all the axes.	• I can **transfer my knowledge about** how to plot points on the Cartesian plane given the scales 1, 2, 5, **AND** 10 to another scale I choose.
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SS6.5 **I can demonstrate understanding of single, and combinations of, transformations of 2-D shapes (with and without the use of technology) including:** ○ **identifying** ○ **describing** ○ **performing.** **[C, CN, R, T, V]**	• I can demonstrate my understanding of a translation, rotation, **OR** reflection concretely, pictorially, **OR** physically.	• I can demonstrate my understanding of a translation, rotation, **OR** reflection concretely, pictorially, **AND** physically.	• I can demonstrate my understanding of a translation, rotation, **AND** reflection concretely, pictorially, **OR** physically.	• I can demonstrate my understanding of a translation, rotation, and reflection in multiple ways, including concretely, pictorially, **AND** physically, AND I can provide an example of a translation, rotation, and reflection from my everyday life.
	• I can identify the one transformation that has been performed on a 2D shape to get the resulting image.	• I can perform one transformation on a 2D shape **AND** draw the resulting image.	• I can **describe the combination** of transformations performed on a 2D shape to get the resulting image.	• I can create a design involving a combination of transformations performed on a 2D shape, and give oral or written directions to recreate the design.
Comments				