Grade 5
Math Unit 7
Canterbury Public Schools

Subject	Math
Grade Level	5
Unit Title	Shapes on the Coordinate Plane
Unit Goals	Students will understand how to graph and interpret geometric shapes on the coordinate plane Develop the ability to use the coordinate plane to solve geometric problems Explore relationships between geometric shapes and the coordinate system Plot coordinate pairs on a coordinate grid and classify triangles and quadrilaterals in a hierarchy based on properties of side length and angle measure. generate, identify, and graph relationships between corresponding terms in two numeric patterns, given two rules and represent and interpret real world and mathematical problems on a coordinate grid. Locate and name given points on the coordinate grid by using an ordered pair of numbers , called coordinates Locate and name coordinates on a coordinate grid by reasoning about the structure of coordinate pairs Classify parallelograms in a hierarchy based on angle measurements and side lengths Explain why a square is also a rhombus Classify triangles based on angle measurements and side lengths Use the coordinate grid to understand the length and width of rectangles with fixed area Use the coordinate grid to understand the length and width of rectangles with fixed perimeter Section A The Coordinate Plane Locate points on a coordinate grid Recognize the structure of a coordinate grid and use it to describe the location of two -dimensional shapes Section B The Hierarchy of Shapes Classify triangles and quadrilaterals in a hierarchy based on angle measurements and side lengths Classify quadrilaterals based on angle measurements and side lengths Section C Numerical Patterns Generate , identify, and graph the relationship between corresponding terms in two

	patterns, given a rule Represent and interpret real world and mathematical problems on a coordinate grid Given two rules, generate two numerical patterns. Identify apparent relationships between corresponding terms in the two patterns
Pacing (# of weeks)	4 - 6 weeks
Standards	5.G.A..1, 5.G.B, 5.G.B.3, 5.G.B.4, 5.G.A.2, 5.NBT.B.7, 5.OA.A.2, 5.OA. B.3.MD.C, 3.MD. D.8
Content/Conceptual Knowledge (know)	Understand the structure of the coordinate The ability to plot points and graph shapes such as triangles, quadrilaterals, and circles on the coordinate plane. Identifying properties of shapes using coordinates Symmetry Make sense of the hierarchy of shapes The relationship between two sets of numbers and use the coordinate grid to solve problems A square is a rhombus A square is a rectangle A rhombus has 4 equal sides Squares are rhombuses A trapezoid can be a rectangle because it has at least one pair of parallel sides A rectangle is a parallelogram because it has two pairs of parallel lines It is impossible to find a square that isn't a rectangle
Skills (be able to do)	Plot points accurately on the coordinate plane Write equations for lines and curves on the coordinate plane Use the distance formula to calculate the distance between two points Calculate the area of geometric shapes on the coordinate plane Apply the distance and midpoint formulas through hands on activities Find the area of polygons
Essential Questions	How can we use coordinates to describe the location of shapes on the coordinate plane? How does understanding the coordinates of points help us identify the properties of geometric shapes? What strategies can we use to solve problems involving geometric shapes on the coordinate plane?
Enduring Understandings	The coordinate plane is a powerful tool for representing geometric shapes. The coordinates of a point are crucial in identifying and defining shapes in the

	coordinate plane. Geometry on the coordinate plane connects algebraic concepts with geometric concepts
Vocabulary	Coordinate plane, quadrants, symmetry, parallelogram, triangle, rhombus, equilateral, quadrilaterals, sides, angles, identify by attributes, coordinates, grid,
Common Learning Experiences	Review the x and y axes, quadrants and plotting points Hands-on activities Graph geometric shapes Use the coordinate points to find the area of polygons on the coordinate plane PLC: Lesson 2, Activity 1 What's the Point? Centers PLC: Lesson 5 Activity 1, What's a Trapezoid? Centers PLC: Lesson 11, Activity 2, Patterns on the Coordinate Grid Part two Centers
Assessments	Check points, quizzes, tests on plotting points, graphing shapes Explain how to solve a problem on the coordinate plane Warm ups and cool downs
Resources	Recording Sheets, card sorts, game boards, shape cards, black line masters
Strategies	Use hands on activities to explore graphing, using plotting points, hands on graphing True or False routine is used to revisit some of the concepts students have learned in prior units. Partner sharing Math talks Notice and Wonder Sentence frames Choral Count Mix and Match