

Unit Title: “The Trekee Clubhouse Logo: Similarity”

Course: Geometry

Subject Area: Mathematics

Time Frame: 15 days

Standards

DCPS Geometry Standards	Sunshine State Standards Benchmarks	NECC New Standards
<p>The student will:</p> <p>6.1 Solve problems using ratio and proportion including finding missing terms and writing equivalent proportions.</p> <p>6.2 Determine whether given polygons are similar and identify corresponding parts.</p> <p>6.3 Solve problems related to similar figures.</p> <p>9.5 Solve problems related to proportion with area and volume.</p>	<p>MA.A.3.4.3 The student will add, subtract, multiply, and divide real numbers, including square roots and exponents, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator.</p> <p>MA.B.1.4.3 The student relates the concepts of measurement to similarity and proportionality in real-world applications.</p> <p>MA.C.3.4.1 The student will represent and apply geometric properties and relationships to solve real-world and mathematical problems including ratio proportion, and properties of right triangle trigonometry.</p>	<p>The student:</p> <p>M2c Uses congruence and similarity in describing relationships between figures.</p> <p>M2g Works with similar triangles, and extends the ideas to include simple uses of the three basic trigonometric functions.</p> <p>M2o Represents geometric curves and graphs of functions in standard coordinate systems.</p>

Desired Results

Enduring Understanding	Essential Questions	Knowledge and Skills
<p>Students will understand:</p> <p>Two figures are similar if</p> <ol style="list-style-type: none"> (1) the measures of their corresponding angles are equal and (2) the lengths of their corresponding sides increase by the same factor, called the <i>scale factor</i>. 	<ul style="list-style-type: none"> • How does the mathematical idea of “similar” differ from the everyday use of the word? • In similar figures, what is exactly the same? What is different? How is it different? • How can we find a way to describe the sizes of two similar figures? • When two figures are similar, what relationship can we find in their areas? In their perimeters? • Where can we apply these similarity concepts in the everyday world? 	<p>Students will know</p> <ul style="list-style-type: none"> • Key terms (e.g., proportions, ratio of similarity). <p>Students will be able to</p> <ul style="list-style-type: none"> • Solve problems using ratio and proportion including finding missing terms and writing equivalent proportions. • Determine whether given polygons are similar and identify corresponding parts. • Solve problems related to similar figures. • Solve problems related to proportion with area and volume.

Acceptable Evidence

Performance Tasks	Quizzes, Test, and Work Samples	Observations and Dialogues
<ul style="list-style-type: none"> • Scale Drawings Students discover the usefulness of similarity and scale factors by solving real-world problems. Each problem focus on similar figures, and determining the scale factor is the key to its solution. • Similar Triangles Students use equivalent ratios to solve problems. Each problems focus on similar triangles. • Perimeter, Area, and Volume of Similar Shapes Using the pattern approach, students recognize the role of the scale factor in comparing the perimeter, area, and volume of similar figures. 	<p>Check-Up 1 Quiz A Check-Up 2 Quiz B Unit Test Unit Project – The Trekee Clubhouse Logo Problem</p>	<p>Teacher observations of students during work on performance tasks. Accountable talk during work on performance tasks.</p>

