**Area and Perimeter Unit Organizer**

**4th Grade Siener/Ronen/Hersh**

**Summary**

Geometry is an ancient subject known to many civilizations, most especially to the ancient Greeks. It is a subject rich in modern applications. Many topics in geometry, such as area and perimeter, can be fruitfully combined with arithmetic and presented through word problems.

**The Big Idea**

Plane and solid figures can be identified, compared, and measured. Lines and angles can be classified and named.

**Colorado State Standards**

**Concepts and skills students master:**

1. Appropriate measurement tools, units, and systems are used to measure different attributes of objects and time.

a. Solve problems involving measurement and conversion of measurements

from a larger unit to a smaller unit. (CCSS: 4.MD)

i. Know relative sizes of measurement units within one system of units

including km, m, cm; kg, g; lb, oz.; l, ml; hr., min, sec. (CCSS:

4.MD.1)

iii. Use the four operations to solve word problems involving distances,

intervals of time, liquid volumes, masses of objects, and money,

including problems involving simple fractions or decimals, and

problems that require expressing measurements given in a larger

unit in terms of a smaller unit. (CCSS: 4.MD.2)

v. Apply the area and perimeter formulas for rectangles in real world and

mathematical problems.2 (CCSS: 4.MD.3)

**Common Core State Standards**

**4.MD 2.** Use the four operations to solve word

problems involving distances, intervals of time,

liquid volumes, masses of objects, and money,

including problems involving simple fractions or

decimals, and problems that require expressing

measurements given in a larger unit in terms of a

smaller unit. Represent measurement quantities

using diagrams such as number line diagrams that

feature a measurement scale.

**4.G 1.** Draw points, lines, line segments, rays,

angles (right, acute, obtuse), and perpendicular and

parallel lines. Identify these in two-dimensional

figures.

**4.MD 3**. Apply the area and perimeter formulas for

rectangles in real world and mathematical

problems. For example, find the width of a

rectangular room given the area of the flooring and

the length, by viewing the area formula as a

multiplication equation with an unknown factor.

**Core Knowledge Content**

* + Identify and draw lines: horizontal, vertical, perpendicular, parallel, intersecting.
  + Identify polygons: quadrilateral, parallelogram, trapezoid.
  + Know the formula for area of a rectangle and solve problems involving finding area in a variety of square units such as mi.; yd.; ft.; in.; km; m; cm; mm.

**Previous Unit:** Angles

**Prior Knowledge**

Students, through their years here at LCS, are familiar with basic directions(up, down, left and right) basic two dimensional shapes, comparative sizes, drawing basic shapes, basic three dimensional shapes, measuring perimeter, line types, identifying angles, computing area in inches and centimeters, and symmetry.

**Next Unit**: Decimals

**What Students will Learn in Future Grades**

* Find the circumference(perimeter) of a circle
* Find area of triangles
* Find area of parallelograms
* Find the area of an irregular figure by dividing it into regular figures for which you know how to find the area.
* Find the surface area of a rectangular prism.

**Cross Curricular Links**

NA

**Additional Resources**

* Singapore Math.com Inc ISBN: 978-097-41-5736-8
* Knowing and Teaching Elementary Mathematics: Teachers' Understanding of Fundamental Mathematics in China and the United States (Studies in Mathematical Thinking and Learning Series) ISBN: 978-0415873840
* Key to Geometry, Newton Hawley, Patrick Suppes, George Gearhart, and Peter Rasmussen; Key Curriculum Press, 1972