Dear Parents,

During this unit, students will be describing, analyzing, and comparing quadrilaterals. They will classify the quadrilaterals by their sides and angles, and connect these attributes with definitions of them. Students will also recognize area and perimeter as an attribute of two dimensional regions and apply prior work with these concepts to solve problems.

SHAPES AND MEASUREMENT

Students need to:

- Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

- Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

KEY VOCABULARY

area: the number of square units needed to cover its surface

congruent: equal in size (length, angle, etc.)

parallel sides: two sides that when measured are equally distant

perimeter: the total length of a shapes boundary

quadrilateral: a polygon with four sides

WAYS PARENTS CAN HELP

- Find examples of quadrilaterals around your home. Have your child describe the attributes of the quadrilaterals found. Challenge your child to use the terms congruent, parallel sides, and square corners in his/her description.

- Find the perimeter of a room, table, or countertop in your home by: 1. Sketching the object(s). 2. Measuring the sides to the nearest inch. 3. Recording the measurements. 4. Finding the sum of the measurements.

- Find three different sized books. Measure and record the length and width of each book. Record the measurements and use multiplication to calculate the area.

- Play "20 Questions" with quadrilaterals. Sit back-to-back with your child. Have your child draw a quadrilateral on a piece of paper. You ask questions regarding the shape while your child answers "yes" or "no" until you are able to name the shape. (Ex. Does the shape have 4 square corners? Does the shape have 1 set of parallel sides?). You can then switch roles and have your child ask questions about a shape you draw.

- Have your child use Legos, blocks, post-its, etc. to build a floor plan for a house. Measure the length and width of each room. How much carpet would be needed for each room? How much trim would be needed for each room?

Online Activities:
Illuminations Shape Sorter
http://illuminations.nctm.org/ActivityDetail.aspx?ID=34

Quadrilaterals
http://www.xpmath.com/forums/arcade.php?do=play&gameid=84

Students can explore the relationship between area and perimeter at the websites below:
http://www.shodor.org/interactivate/activities/AreaExplorer/
http://www.mathplayground.com/area_perimeter.html