EAGLE MOUNTAIN SAGINAW ISD
Curriculum and Learning

Math News

3rd Grade Unit 4 & Unit 9: Perimeter and Area & 3-D Geometry and Liquid Volume

Issue #3 of 5

Our Learning Goals:

- Use the attributes of quadrilaterals to create sets of shapes with specific attributes.
- Determine the area and perimeter of 2-d shapes with and without a ruler

Vocabulary

Perimeter – The distance around the outside of a polygon.
Area – The measurement of the space inside a polygon.
Congruent – Two or more items that have exactly the same size and same shape.
Vertex – The point where two or more sides (on a 2-d shape) meet to form an angle.
Quadrilateral – Any four sided polygon. Quadrilaterals can also have other names as well.

Rhombus – A quadrilateral with four congruent (equal) sides & parallel opposite sides.

Rectangle – A quadrilateral with two pairs of congruent, parallel sides and four right angles. A rectangle can also be called a **parallelogram**.

Square – A quadrilateral with congruent sides and four right angles. A square can also be called a **parallelogram** (because it has opposite sides parallel), **rhombus** (because all four sides are congruent) and **rectangle** (because it has four right angles and the opposite sides are congruent and parallel).

Parallelogram – A quadrilateral that has two pairs of sides that are congruent and parallel.

2-D Shapes

In 3rd grade, students will focus on the attributes of quadrilaterals. Students will use the definitions of each quadrilateral to justify if a shape fits a rule or category through sorting shapes and solving riddles. Try this riddle to see if you can find the answer.

Clue 1: I have 4 vertices. (Shape D is out)
Clue 2: I have 2 pair of parallel sides. (Shapes A and B are out)
Clue 3: I have 4 congruent sides. (Shape E is out)

The mystery shape is Shape C, a square (also known as a rhombus and rectangle).

Sort the shapes above into two sets.

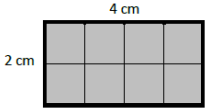
Shapes with at least one set of congruent sides	Shapes with zero sets of congruent sides
Shape B Shape E Shape C	Shape A Shape D

How Will My Child be Assessed?

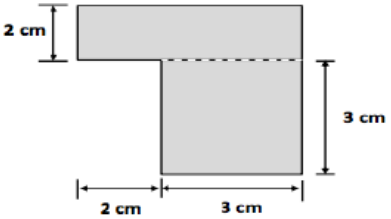
Students will be assessed informally and formally throughout the unit with opportunities to learn from their peers and their own mistakes. An assessment will be given at the end of the unit with both open ended and multiple choice questions.

Area

When calculating area, students will begin by using centimeter or inch tiles to cover the inside of a shape. They will discover the formula of *length times width* is faster than having to count each tile. Once students can calculate area, they are ready to find the area of an irregular shape. One way to do this is to decompose the larger shape into smaller shapes. Then add the two areas together.



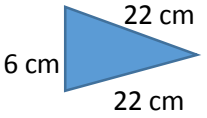
2 x 4 = 8 sq cm



(2 x 5) + (3 x 3) = 19 sq cm

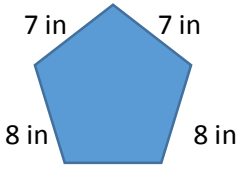
Perimeter

To calculate the perimeter of a shape, most students will simply add the lengths of all of the sides. If some of the lengths are the same, multiplication can make this more efficient.



Perimeter of the Triangle
6 + 22 +22 = 50 cm **OR**
(22 x 2) + 6 = 50 cm

3rd graders will also calculate missing lengths of sides when given the total perimeter.



The perimeter of this pentagon is 40 inches. What is the length of the missing side?