

Algebra/Geometry Institute Summer 2006

Geometry: Measuring Perimeter

Faculty Name: Michael D. Shepherd
School: A. W. James Elementary School
Location: Drew, MS
Grade Level: 5th



1 Teaching objective(s)

Measure the perimeter of a room using a human body measuring tape.

Measure and record the perimeter of regular polygons.

Measure the perimeter of polygons using standard and non standard tools.

2 Instructional Activities

Each student will draw an orange or blue circle from the secret cup that the student of the day will carry around as each student goes to their seat. The circle will be used later to divide students into equal teams for a class activity.

Teacher will allow each student to draw a vocabulary card from the stack of cards that is lying on the task of the day table as each student enters the classroom.

Warm Up Activity

Class will start with students singing “Rappin’ with the Facts” (Multiplication rap song) and a basic facts drill activity. (3-5 minutes)

Facts Drill

Example:

$$\begin{array}{lllll} 1. 84 \div 12 = & 2. 6 \times 9 = & 3. 57 + 4 = & 4. 17 - 7 = & 5. 14 + 8 \\ = & 6. 15 - 9 = & 7. 20 - 3 = & & \end{array}$$

Activity 2

Teacher will review the previous lessons on perimeter and the vocabulary words for today’s lesson using vocabulary cue cards that contain definitions, context clues, or pictures for the following terms:

Perimeter length width measure polygon
triangle rectangle square standard nonstandard

The teacher will divide the class into five using the color circles given out earlier.

The teacher will introduce how to measure the perimeter of shapes using overhead attribute blocks.

The overhead projector will also be use to aid the students in becoming familiar with the materials they will use during today's lesson.

The teacher will pass out attribute blocks to each group and have the student to identify the attributes of each shape. (such as size, shape, thickness, and color)

The teams will put various size polygons in order from largest to smallest and compare the dimensions of the shapes

The teacher will discuss with students why paper clips, tooth picks, and m & m candies are non-standard measuring tools.

The students will measure the distance around polygons (attribute blocks) of various sizes using the following:
paper clips, tooth picks, and m & m candies. Record dimensions

The teacher will move around the room to observe the groups at work and to provide assistance as needed.

The students will also make predictions about different sizes of the geometric shapes.

Give each team three rulers, three sheets of construction paper and a pair of scissors.

Write the following measurements on the board:

- 7 1/2 inches
- 11 inches
- 2 1/4 inches
- 3 inches

Tell students to use the rulers to draw, find the perimeter (in inches and centimeters), and cut out the three polygons using the measurements above as the length and width. (each number can be used more than once)

The teacher will circulate around the room to check for accuracy.
Once the polygons are created to the appropriate dimensions.

Tell the students to measure the perimeter of the polygons using the nonstandard tools.

Have students write a sentence describing the perimeter of each figure and the nonstandard tools used to measure them

Ask each team to predict how many person it will take to form the length and width of our classroom. Have the team recorders to write the predictions down.

To close the lesson the teacher and students will form a large rectangle around the perimeter of the classroom. Each person will spread their arms and legs out as far as they can without losing their balance. Join fingertip to fingertip with the person to the left and right of them, to form a human body measuring tape. Count the number of person it takes to make each length and width of the classroom.

.The students will compare their predictions to determine which team predicted more accurately.

Extension: Have teams form polygons using the tangram pieces and measure the perimeter of each using to the nearest one-fourth of inch and to the nearest centimeter..

Homework: Have students measure the perimeter of ten polygons in their home and five polygons found in nature. Record their findings and the perimeter and type of each polygon in response journal

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3 *Materials and Resources*

Dry erase board
Bag of red and blue circles
Vocabulary cue cards
Scissors
Construction paper
Pencils
Attribute blocks
Ruler (centimeters/inches)

4 *Assessment*

Teacher will observe student performance.