Lesson: Naming Polygons, Finding Perimeter, Determining Area of Parallelograms

Unit: Geometry Exploration

1. Benchmark/Standard:
   1. [7.G.B.6](http://www.corestandards.org/Math/Content/7/G/B/6): Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
2. Behavioral Objectives: After doing our exploration activity and discussing in class, the students will be able to identify the names and perimeter of 3-10 sided shapes and find the area of squares, rectangles, and parallelograms.
3. Anticipatory Set
   1. WOW sheet about perimeters of rectangles.
4. Today, we will be using the properties we know from our exploration last week to determine all the polygons’ names and how to find their perimeter. It will be easy to see that perimeter is simply adding up the total distance around the shape. We will also explore areas of squares and rectangles by looking first at the area of a parallelogram.
5. Input
   1. Task Analysis:
      1. Work on the anticipatory set questions.
      2. Discuss and determine the prefixes for 3-10 sided polygons.
      3. Identify the names of the 3-10 sided polygons as a class.
      4. Identify where these shapes are found in everyday life.
      5. Review the concept of perimeter.
      6. Complete the area activity for parallelograms in small table groups while discussing how to find the area of a square and a rectangle.
      7. Discuss as a class the quickest way to find a parallelograms’ area.
      8. Students will be given their homework for the night and can work on it in class (time permitting).
   2. Thinking Levels:
      1. Comprehension- Students will understand that not all quadrilaterals function the same way, but that some quadrilaterals can make others, but not visa versa.
      2. Analysis- Students will show their knowledge of polygons through discussion of where they were found in everyday life, how to name them, and how to find their perimeter.
   3. Learning Styles
      1. Interpersonal: Students will be working as a whole class and will be able to have guided learning time in a relaxed manner.
      2. Remediation: Some students will be given a specific length to cut along to create their parallelogram.
      3. Visual: Students will be able to move around the parts of a parallelogram to make a rectangle, which they are able to find the area of.
      4. Extension: Students will be asked to create a parallelogram by cutting sides almost as long as the paper to see if they can see that they will have to move another part of the parallelogram.
   4. Methods and Meanings
      1. Ways of presenting: We will be having a classroom discussion over what we have just learned and explored and will be using that to go deeper and further our learning. Students will also have time to be in small groups to discuss on an even smaller scale.
      2. Materials needed: white board, Elmo, worksheet, paper, scissors, rulers, pencils.
6. Modeling
   1. We will use the Elmo to display the students work for the “Searchin’ for Shapes” activity. The whiteboard will be used to compile the different parallelograms, areas will be determined through class discussion.
7. Checking for understanding
   1. How are the prefixes helpful in remembering the shape names?
   2. Are all areas found the same way as a rectangle?
   3. How does moving the triangle piece of the parallelogram help us?
   4. Could this work for other shapes?
8. Guided Practice
   1. Students will engage in a class discussion involving how shapes are found in everyday life and their names.
   2. Model to students how to measure and cut the paper to make parallelograms.
   3. Students will (hopefully) begin to work on their homework activity.
   4. Teacher will circulate to answer questions and help extinguish any confusion.
9. Independent Practice
   1. Students will work on the homework activity.
10. Closure
    1. Evaluate the effectiveness of the lesson based on the students’ success with the discussion of naming and identifying shapes, the area exploration activity, and their ability to communicate the discoveries in the class discussion.
    2. Reflect on what worked and what can be changed and do so for the following hour.