

COVER SHEET

(“Mastering Math Vocabulary” using Magnetic Manipulatives and a Grid)

The following lesson plan teaches 5th graders about geometric 2-dimensional figures and how they relate and build on one another. When the lesson is complete, they will know the properties of certain figures and be able to relate them back and forth. They will be able to distinguish such things as whether or not a rectangle is a square or a square is a rectangle. The vocabulary came from a textbook and I added the rectangle, square example above so that they would think a little.

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5th Grade Math

“Mastering Math Vocabulary” with Geometric Two-Dimensional Shapes Using Magnetic Manipulatives and a Grid”

Objectives:

Standard 4.1 – Students will identify and describe the basic properties of two-dimensional figures.

Instruction:

1. **Introduction:** I will review the terms we talked about yesterday (point, line, line segment, parallel lines, etc.). Today we are going to learn about some basic 2-dimensional shapes. We will look at some particular properties about each shape. Such properties will include number of sides, which ones are polygons, and which shapes have parallel sides. (I have included on the next page the definitions I used.) We will pull out some manipulatives for each student that are magnets (such as Magz® or Magnetics®) and demonstrate the different shapes and ways the shapes can be displayed. I will talk about a few purposes of knowing these properties. A basketball court must have two sets of parallel lines. Parking space lines must have parallelogram characteristics which include the parallel lines. A wheel chair ramp must be a triangle and hence, a simple closed curve.

2. **Instructional Process:** We will begin with the simple closed curve and give a few demonstrations. After demonstrating, I will ask them to draw one on their own and hold them up so I can see them. Then I will have them draw one that is not. Then we will deal with the terms polygon, triangle, quadrilateral, parallelogram, rectangle, square, rhombus, and trapezoid. We will create all of these with our magnetic devices. We will look at all of their properties and see how some are different than others.

3. **Closure:** The closure time will be spent reviewing the terminology of each term we’ve covered. I may have them create additional examples if necessary. I may ask them a general question like, create a polygon. Now create a rectangle and tell me all the properties it possesses that we have studied.

Assessment:

The students will use the following grid (example on the next page) to further learn the properties of the two-dimensional figures that we have studied. We will grade the table to see how well they did. I will not take a grade. We will look at the relationships they came up with. They will be quizzed in a few days over the material. In the next few days I will use cards to review the terms and properties we have studied.

Two-Dimensional Geometric Shape Grid

	Draw- ing	# of sides	Simple Closed Curve	Poly- gon	Quad- rilateral	Parallel- ogram	Rhom- bus	Rect- angle	Square
Triangle		3	X	X					
Parallelogram		4	X	X	X	X		X	
Rectangle		4	X	X	X	X		X	
Square		4	X	X	X	X		X	X
Rhombus		4	X	X	X	X	X		
Trapezoid		4	x	X	X				

Two-Dimensional Geometric Shape Definitions

1. **Simple Closed Curve:** does not have a point of intersection
2. **Polygon:** a simple closed curve made up of line segments
3. **Triangle:** a polygon with three sides
4. **Quadrilateral:** a polygon with 4 sides
5. **Parallelogram:** a quadrilateral with parallel opposite sides
6. **Rectangle:** a parallelogram with 4 right angles
7. **Square:** a rectangle with 4 equal sides
8. **Rhombus:** a parallelogram with 4 equal sides
9. **Trapezoid:** a quadrilateral with only 2 parallel sides

Modifications/Accommodations:

This lesson may be confusing for someone who has a lot of trouble in their thinking and sorting out skills. I would help a student walk through the table. I might even change the table as to what I require. Instead of asking if a shape is a quadrilateral, I might ask how many parallel sides it has, if it has 4 right angles, or are all the sides equal.

Reflection:

This is always a fun lesson to teach! I believe using the manipulatives at their desk will provide them a picture of what is going on. The grid will help them with understanding. I may let them use the manipulatives for the quiz down the road. We can use the manipulatives to demonstrate the question, is a rectangle a square or is a square a rectangle? I really want them to understand the concept first. This will help in the memorization of properties and the solidification of these vocabulary words. The following days will be spent continuing to review all concepts learned with cards and posters.