

03.25.09 Describing 2-D Shapes

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Date to be Taught:	March 25, 2009, March 26, 2009, March 27, 2009 & March 30, 2009 11:30am - 12:00pm
Grade/Level:	1
Subject Area:	Mathematics
Time Frame:	4 class periods: 30 minutes each
Objectives/Learning Outcomes:	Students will visualize and represent 2-D shapes Students will fill an outline with shapes Students will find combinations of shapes that fill an area Students will fit shapes together or break them apart to make other shapes Students will count and add various shapes Students will visualize what shape to select to continue a design Students will visualize how to move a shape so that it is oriented correctly to fit into a design
Student Assessment:	Pattern Block fill-ins & Pattern Block Counts: *How flexible are students in choosing pattern blocks to fill an outlined shape? *Do students easily recognize which shapes will fill a piece of the outline? *When students make a design from a set number of pattern blocks, do they use equivalents among the shapes to help them get to the right number in their design (use 2 triangles for rhombus if they need more shapes)? *How are students counting their blocks? How do they keep track? How do they know they counted each block once? *What strategies do students use to find the total number of blocks they used? Do they count the blocks one by one? Do they use the numbers in their chart to help them find the total, or do they count the blocks? Use number combinations or count by 1's? Shapes on the Computer: *Are students choosing shapes by trial and error? Do they know exactly what shape to use that will fit in their design? *When rotating shapes do they turn then try or visually see how many times to turn before inserting into their design? *Can student recognize how shapes are broken up? Can he/she choose 2 triangles where they know a rhombus would fit?

Key Standards (3 maximum):

 **PA- Pennsylvania Academic Standards**

- **Subject :** Mathematics
 - **Area 2.9:** Geometry
 - **Grade 2.9.3:** Grade 3
 - **Standard B.:** Build geometric shapes using concrete objects (e.g., manipulatives).
 - **Standard C.:** Draw two- and three-dimensional geometric shapes and construct rectangles, squares and triangles on the geoboard and on graph paper satisfying specific criteria.
 - **Standard I.:** Predict how shapes can be changed by combining or dividing them.

Materials and Use of Technology:

- Materials and resources:
 - 1 Set of Shape cards

Pattern blocks

Student sheets 3-10 (1 per student)

Crayons

- Technology resources:
 - QS_Shapes
 - The number of computers required is 1 per 2 students.
 - Students Familiarity with Software Tool:
 - Most students have used this math program on the computer earlier this year.
 - I will explain activity to 5 students on the first day. They will work with their partner to teach them tools on the following day (3 groups first 15 minutes of math, 2 groups second 15 minutes of math for free explore)

Sequence of Instruction Including Hook and Closure:

1. Today you are going to get a chance to look at different shapes for a short period of time, and then you have to draw it yourself on your sheet of paper. Show students 1 simple shape (like a square) for no more than 5 seconds. If needed show students that shape one more time for no more than 5 seconds. Students can revise their pictures. Then, turn shape over and have students look at it and make changes to picture if necessary. Discuss what they know about the shape. What is it called? How do you know that's what it is? Who can say something else?

Show students another more difficult picture. Do the same quick image procedure. Discuss the shape.

Show a few more shapes and talk about it without doing quick image procedure. Allow students to discuss shapes and the shape names. (BEGIN 2nd SESSION WITH SHAPES THAT WERE NOT USED 1st SESSION)

2. Explain the 3 activities students will be completing for the next 3 days.

Students should have folder to place work in:

*Pattern Block Fill-ins. - students fill in the different figures using various pattern blocks. They record how many of each block was used and trace the blocks they used on their region using matching color pencil.

*Pattern Block Counts - students use the amount of blocks stated to create

their own image. They must still record how many of each block they use. Explain that for pages 9 & 10 they are asked to use many blocks. How can they make sure they use all the blocks and make it fit on the page at the same time? (use small blocks instead of hexagons and trapezoids)

*Shapes on the computer - students will use QS_Shapes to create their own figures on the computer. They will work with their partners who will be shown this activity on session 1 (while other students do choices 1 & 2). On session 2, 3, & 4, students will take turns working with their partners on the computer when it is their assigned time. 3 groups will work 2nd half session 2, all groups will work all day session 3 (computer lab), and 2 final groups will work 1st half session 4. Times not on the computer will be spent completing other choice time activities.

3. Students are expected to complete at least 2 sheets of Pattern Block Fill-ins, 2 sheets of Pattern Block Counts, and spend 15 minutes on the computer using program. They will place their sheets into their folder as they complete them and carry folder around so they know what they've already completed.

4. After session 1 & 4, gather students and show them the part of a students work where they wrote down how many of each block they used but do not show the total. Discuss with students how they would find the total of the blocks. Use mental math strategies using familiar numbers (numbers that are easy to add together) Work on building 5's & 10's.

Teacher Assessment: