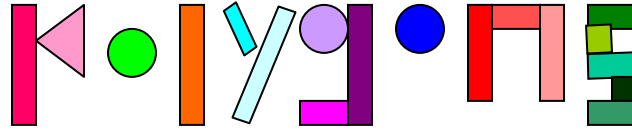# Algebra/Geometry Institute Summer 2005

Lesson Plan Two: Polygons

Faculty Name: Leslie Patten
School: Cypress Park Elementary
Grade Level: Fifth grade

1   Teaching objective(s)

The students will identify, describe, construct, compare, and model two-dimensional figures (polygons).

2   Instructional Activities
.
Tell the students, "Today we will be learning how to identify, describe, construct, compare, and model two-dimensional figures (polygons). Ask, "Can anyone describe what a polygon is? If so, tell them to give a brief description and example." Give time for discussion.

Tell the students, "Polygons are closed figures that have straight sides. Polygons get their name by the number of sides it has." Ask the students if they know the name of a 3-sided polygon? 4-sided polygon? 5-sided polygon? 6-sided polygon? 8-sided polygon? Go over each polygon name with the students. Explain that tri=3, quad=4, penta=5, hexa=6, and octa=8. Tell the students that this is how each polygon shape gets its name. Ask the students if they know which polygon has more than one name? Discuss that the answer is the quadrilateral. Explain that there are a few other names for quadrilateral such as: square and rectangle. Explain that even though a square and a rectangle are both quadrilaterals, they do look different, but they both still only have four sides.

On the overhead, put the polygon shape and its appropriate name for the students to copy and study. Tell them that in geometry, these shapes and names will be very important to know and will be used often.
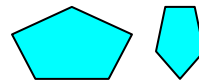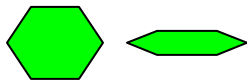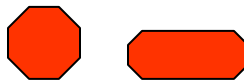
3-sided= triangle   4-sided=quadrilateral   5-sided=pentagon
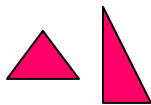
6-sided=hexagon   8-sided=octagon

Ask the students to look around the room and give a few examples of polygons just discussed. Give time for responses. Tell the students that they will need to

identify and recognize these shapes in their everyday life. For example: traffic signs. Show the students a few that they may be able to recognize.

After going over each polygon shape and name, tell the students to clear their desks. Pass out geoboards and geobands to the students. Tell the students that they will be using the boards to model the polygon shapes just discussed. Tell the students that a name of a polygon will be called out and they must model the shape using their geoboards and geobands.   Encourage the students to create the shapes in a variety of ways. After calling out a name of a polygon, the teacher will walk around the room observing students work. Give time for students to complete. Have a student share his/her shape with the class and explain his/her answer.

Now that the students are familiar with various polygons, have them complete the "Letter Perfect" activity. In this activity, the students will be creating alphabet script by cutting two-dimensional geometric (polygon) shapes and gluing them to a piece of paper. Remind the students to create only letters in his/her name. The students should name/list each polygon shape as it is used. A shape may be used more than once. When complete, the students should have the letters of their name made out of only geometric figures and they should be glued to a piece of paper. They should also have a list or a polygon name by each figure.   Tell the students that they may color their name when complete. For example, if my name was Todd my activity should look some thing like this:

rectangle

quadrilateral

octagon

square

quadrilateral

hexagon

triangle
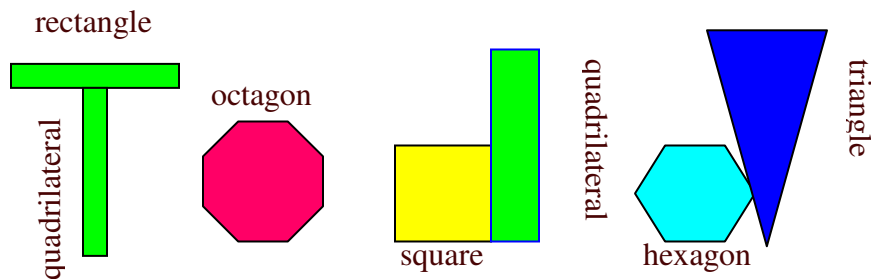
3   Materials and Resources
Overhead projector
Geoboards
Geobands
Pictures of road signs
Construction paper

Scissors
Glue
Textbook: <u>Exploring Mathematics</u>. (1994). Scott, Foresman & Co. Illinois.
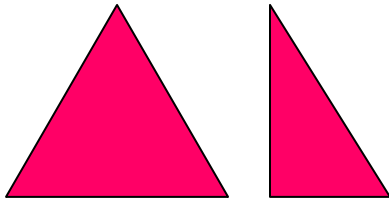Textbook: Hands On, Inc.: <u>Geometry; Kindergarten through Grade Nine</u>;
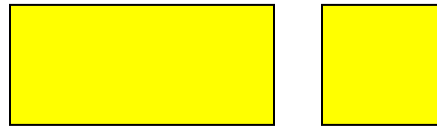   Copyright 1989.

4   Assessment

- As the students are working on their geoboards, the teacher will walk around the room and observe the students work. The teacher will be looking for: students working independently and students modeling and understanding the concept correctly.

- The "Letter Perfect" activity will be checked for accurate shape to name relationship.

- The concept covered will be on the chapter test.
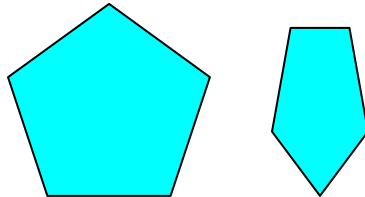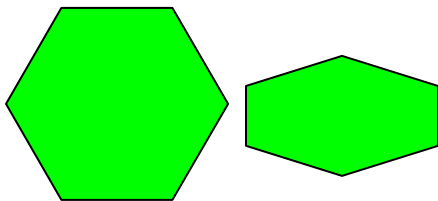
Transparency

3-sided=**tri**angle

4-sided=**quad**rilateral

5-sided=**penta**gon

6-sided=**hexa**gon

8-sided=**octa**gon