

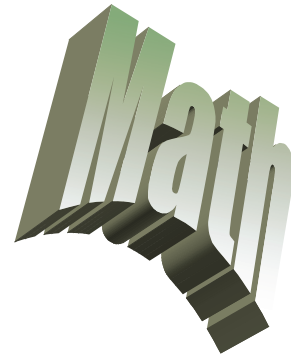
Algebra/Geometry Institute Summer 2005

Do You See What I See? (Recognizing Patterns)

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School: West Bolivar Middle School Rosedale, MS

Grade Level: Fifth

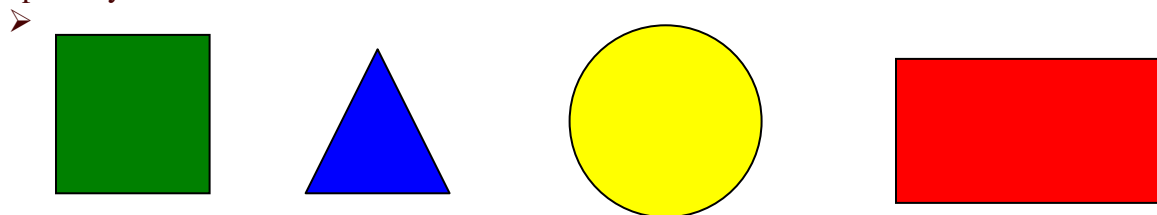


- 1 Teaching objective(s)
 The students will identify and create patterns.

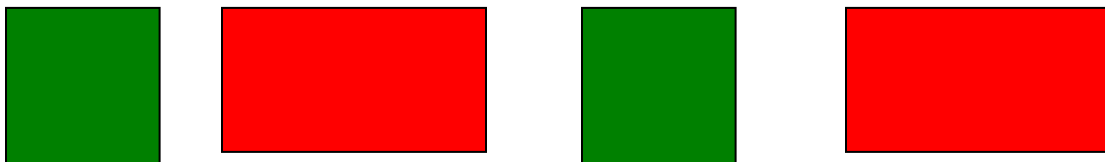
- 2 Instructional Activities
 The teacher will begin the lesson by showing the students a transparency with the following information on it:

- abc, abc, abc _____, _____, _____
- 123, 123, 123 _____, _____, _____
- red, white, blue, red, white, blue, _____, _____, _____
- yes, no, yes, no, _____, _____

The teacher will select volunteers to predict what they think will be placed in the blanks. The teacher will listen to the student responses. (Answers: **abc, abc, abc; 123, 123, 123; red, white, blue; yes, no**) The teacher will tell the students that when they placed the correct answers in the blanks, they have completed a pattern. The teacher will tell the students that a pattern occurs when letters, numbers, or shapes appear in a repetitious sequence. The teacher will explain that what this means is that when shapes, numbers, or letters appear in a specific order and that order repeats itself, then a pattern is formed. The teacher will tell the students to look around the room and find other patterns in the room. (Answers will vary. Some may include the tiles on the ceilings or floors, designs of the bricks in the walls.) The teacher will draw the following shapes on the same transparency.



The teacher will ask a volunteer to classify each of the shapes. (Answers: green square, blue triangle, yellow circle, red rectangle) The teacher will select two of the shapes and create this pattern.



The teacher will select a volunteer to explain the pattern that has been created. (Answer: green square, red rectangle) The teacher will ask the students if they have any questions about creating or recognizing patterns before resuming the lesson. The teacher will tell the students that they will be working in cooperative learning groups in order to complete the next activity. The teacher will divide the students into groups. (The group number should not exceed five members.) The teacher will place a bucket of colored shapes with each group. The teacher will tell the students that they will use the shapes in their buckets to create patterns. The teacher will explain to the students that they cannot repeat any of the patterns. The teacher will tell the students to record their patterns on the data sheet that will be provided for them. (See Attachment One) The teacher will read the directions for the activity and make sure all students understand. The teacher will give the students 10-15 minutes to complete this activity. After completing the activity, the teacher will allow a member from each of the groups to report their findings. The teacher will hand out worksheets one and two (See Attachment Two and Three) to determine if the students can independently identify and create patterns.

3. Materials and Resources

- Paper
- Pencils
- Data sheets
- Colored shapes
- Overhead projector
- Transparency
- Transparency pens

4. Assessment

Teacher observation will be used and the teacher will check the handouts for valid responses.

Attachment One (Data Sheet)

Directions: Use the bucket of colored shapes to create patterns. Select *only five* shapes for each of the patterns. You may use any combination of the four colors that will be provided.

| Color | Shape | Number of shapes in the pattern | Number of colors in the pattern | Total number of patterns created using one shape | Total number of patterns created using two shapes | Total number of patterns created using three shapes | Total number of patterns created using four shapes | Total number of patterns created using all five shapes |
|--------|------------|---------------------------------|---------------------------------|--|---|---|--|--|
| Red | Circles | | | | | | | |
| Blue | Triangles | | | | | | | |
| Green | Squares | | | | | | | |
| Yellow | Rectangles | | | | | | | |

Attachment Two

Directions: Complete each pattern and illustrate it in the blanks below.

Circle, triangle, square, circle, triangle, square, _____, _____, _____

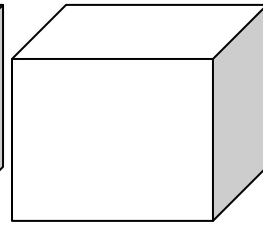
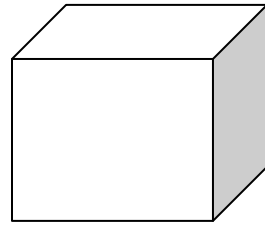
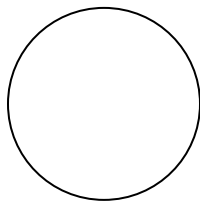
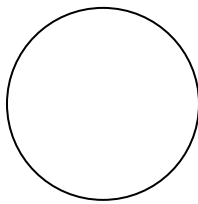
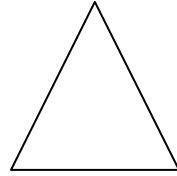
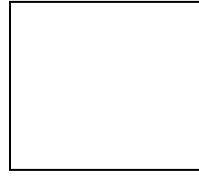
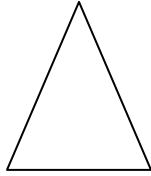
Red square, blue square, red circle, blue circle, red square, blue square, red circle, blue circle, _____, _____, _____, _____

Create a pattern of your own and illustrate it below.

Attachment Three

Directions: Complete the patterns below.

1.



Create a pattern here and exchange your paper with your neighbor. Check to make sure they have the correct pattern.