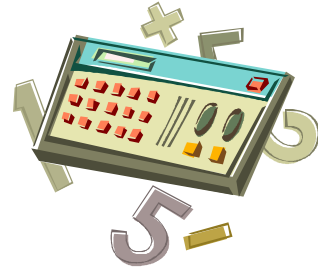# Algebra/Geometry Institute Summer 2004

Lesson Plan 2

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**School: H.M. Nailor Elementary, Cleveland, MS**
**Grade Level: 6th Grade**

1 Teaching objective: The students will state a rule to explain a number pattern (1d).

2 Instructional Activities:
- ❖ TTW inform the students they will work on an activity which requires them to find a pattern using dominos and then create an expression for the pattern.
- ❖ TTW use overhead dominos to show the students an example of the activity they will be working on.
- ❖ TTW place the following dominos on the overhead projector:
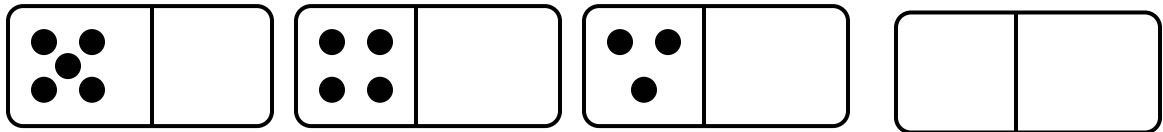
- ❖ TTW ask the students to look at the dominoes and try to determine what the number will be in the last domino and allow them to respond.
- ❖ TTW ask the students if they know how to write an expression to represent the pattern and allow them to respond.
- ❖ TTW tell the students that in order to write the expression you first have to determine what is happening to the pattern. The students need to ask themselves if they need to add, subtract, multiply, or divide in order to get the next domino in line.
- ❖ TTW tell the students that the first domino has five black dots, the second domino has four black dots, and the third domino has three black dots, so the rule for the pattern is to subtract one black dot in each domino from the preceding domino. The missing number in the pattern is two.
- ❖ TTW place one more example on the overhead projector:
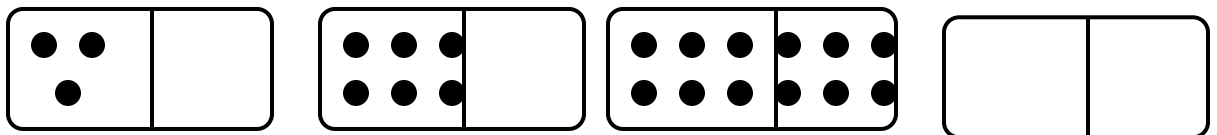
- ❖ TTW allow the students to evaluate the dominoes and then write an expression to represent the number pattern.
- ❖ TTW check for understanding by walking around and observing the students' responses to the problem.
- ❖ TTW divide the students into groups by numbering them off from 1 to 5.

- ❖ TTW inform the students that the rule for the pattern in the following problems might be an addition, subtraction, multiplication, or division rule:
  1) 2, 6, 10, 14, ___, ___, ___
  2) 32, 16, 8, ___, ___, ___
  3) 3, 12, 48, ___, ___, ___
  4) 15, 12, 9, ___, ___, ___
- ❖ TTW walk around and monitor the students' understanding of the activity.
- ❖ TTW review the answers to the problems.
- ❖ TTW give each group a sheet of paper with twelve blank domino tiles on it. Each group will create three number patterns, four tiles each, using the domino tile pattern paper. The students will not place the answers to the pattern on the domino tile paper. On a separate sheet of paper they will write an expression for each number pattern and determine the answer to the pattern.
- ❖ TTW allow ample time to complete this activity.
- ❖ TTW have each group switch domino tile patterns and then write an expression for the pattern and the answer to the pattern. Rotate the patterns until every group has had every pattern.
- ❖ TTW have one person from every group stand and tell the rule for their three patterns and the answer to the pattern.
- ❖ TTW assess the students' understanding of the activity by listening to the answers to each pattern.

3   Materials and Resources:
- ❖ Overhead Dominoes
- ❖ Domino Tile Paper
- ❖ Overhead Projector

Cook, Marcy. (1988). Domino Math Problem Solving Activities. (pp. 9). Creative Publications.

Richardson, Cathy. (1984). Developing Number Concepts Using Unifix Cubes. (pp. 28-51). Addison-Wesley Publishing Company, Inc.

Fennell, F., Mundy, J., Ginsburg, H., Greenes, C., Murphy, S., Tate, W. (2001). Mathematics: The Path To Math Success. (pp. 10-11). Silver Burdett Ginn, Inc.

4   Assessment: The teacher will assess the students' understanding of the activities through observation and the results of the last pattern activity. The teacher will take notes while observing in order to have a record to refer to later. The teacher will look for the following things while observing:
- ❖ all students are working cooperatively
- ❖ all students are staying on task
- ❖ all students have an understanding of the activities