

# Algebra/Geometry Institute Summer 2003

## Lesson Plan III

**Faculty Name:** Bobbie J. Griffin  
**School:** George H. Oliver Elementary  
**City:** Clarksdale, Mississippi  
**Grade Level:** 6<sup>th</sup> Grade



### 1 Teaching objective(s)

Distinguish between prime and composite numbers.  
Use the rules of divisibility to determine factors and multiples of a given number.

### 2 Instructional Activities

- Students will draw on graph paper as many different-shape rectangles as possible made from 1 square, 2 squares, 3 squares, ... 25 squares. List the dimensions of each rectangle. Discuss the differences in the number of rectangle for each number. Use the dimensions of rectangles formed from each number to list the factors of the numbers from 1 through 25. Sort the numbers based on the number of factors. (Those with more than two factors are called composite and those with only two are called prime.)
- In groups of 4 discuss the orientation of the rectangles. Is a 2-by-5 rectangle the same as a 5-by-2 rectangle? Trace the rectangles on patty paper that have the same numbers, cut one out and see if it will fit perfectly over the other by moving or turning it around. These arrays cover the same area and should not be listed twice. Ask what you would have to do to the two numbers in the array to get the original number. Write definitions for prime and composite numbers. Which number does not have at least 2 factors? (1)
- Make a chart with these columns:

Classifying Numbers				
Number	Factors	Number of Rectangles	Prime	Composite

List all the numbers 1-25 under number column and use the rectangular arrays to write the factors of each number, number of rectangles for that number and decide if its prime or composite.

- Students will determine mentally whether a number is divisible by another. Is there a remainder? Explain their reasoning.  
Discuss what the word divisible mean.  
Ask how a students knows if a number is divisible by 2, 5, or 10. Write the rules for these numbers as the students give them. Discuss other numbers like 4, 6, 9, and 8. Ask can they come up with a rule for these. Write the rules for these numbers and have students test them.
- Make a chart that shows the rules for divisibility.

f. In pairs Use the chart of rules they made to determine whether a number is divisible by 2, 3, 4, 5, 6, 8, 9 or 10.

Activity sheets: **examples** 36,140, 2, 234, 9, 223 which is divisible by 5

54, 635, 7, 593, 31, 836 which is divisible by 4

These numbers are divisible by which of the rules we discussed.

25, 30, 94, 36, 114, 260, 96

### 3 Materials and Resources

Grid paper

Patty paper

Activity sheet

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### 4 Assessment

Teacher observations

Student response

Self checking rubrics