TEACHER PAGE

Lesson: Finding Patterns in Tiles

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New Arizona Math Standard 3 Patterns, Algebra and Functions Grades 5-8 Articulated Articulated 3M51-03 Solve grade level appropriate iterative pattern problems; **3M61-03** Solve grade level appropriate iterative pattern problems; **3M71-03** Solve grade level appropriate recursive pattern problems; **3M81-03** Solve grade level appropriate iterative or recursive pattern problems.

Learning objectives: The student will be able to:
•explain the calculation of the correct number of tiles a given perimeter or area needs to complete a floor
•relate the patterns created in selecting the correct number of tiles
•explain the variable “n” used in this lesson
•determine the size of a floor from its number of tiles and explain the size by formulas used in given charts

Overview and Content:
This is not only a good review of area and perimeter but extends that into useful activities of prediction, establishing and measuring by units, using formulas, and finding that charts help you create patterns in mathematics. “N” as a variable is briefly used in the SEE section. The DIG DEEPER section extends this concept.

Engaging Students:
Students need to interpret (L • W) and (2L + 2W) from the overhead. Groups may write alternative formulas to these, expressing the same thing. Then give the class a problem of calculating the number of bricks needed to fit the given dimensions of a wall. Determine which of the formulas was easiest to use in the calculations. Teacher then transitions to helping Little Red Riding Hood finish her remodeling.

Follow-up:
SO WHAT! gives a list of professions where people have to use the patterns on charts skill.
DIG DEEPER contains a terrific challenge using a variable and Algebra with a calendar game.
TALK ABOUT IT! uses a web site with a glossary and dictionary to help with new Algebra terms. Students are told to make a crossword puzzle with some new terms to share with partners. It pays to know lots of Algebra terms and to be able to define them.

Assessment:
Students are given a chart to analyze (find the pattern) which they have to use in two exercises to find the area and perimeter from a certain number of tiles. There is use of the variable “n” here.