1023-M1-298 **Jennifer Carmichael** and **Michael B. Ward*** (wardm@wou.edu). *Cayley-Sudoku tables: An undergraduate research project.* Preliminary report.

A (generalized) Sudoku table is an $n \times n$ array partitioned into rectangular blocks of some fixed size such that each of n symbols appear exactly once in each row, each column, and each block. In the standard Sudoku puzzle, the array is 9×9, the blocks are 3×3 and the symbols are the numbers 1 through 9.

Every Cayley table of any finite group satisfies two of the conditions for a Sudoku table. Namely, each group element appears exactly once in each row and in each column. Only the third condition is in doubt. When is it possible to partition a Cayley table into rectangular blocks such that each group element appears exactly once in each block, thus forming a Sudoku table? In this preliminary report of an undergraduate research project, we present sufficient conditions under which a Cayley table is a Sudoku table, give some examples, and list some open questions. (Received September 04, 2006)