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An amazing algorithm.

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Summary: The rapid growth of digital technology, including the worldwide adoption of mobile and embedded computers, places new demands on K–grade 12 educators and their students. Young people should have an opportunity to learn the technical knowledge of computer science (e.g., computer programming, mathematical logic, and discrete mathematics) in order to participate in the growing digital economy. The Bureau of Labor Statistics projects that by 2020, 62 percent of new jobs in the STEM occupations will require computer science knowledge. Many accessible programming languages engage young students in computer programming experiences. However, there is a growing consensus among computer scientists that learning to code should be combined with instruction in computational thinking, which is defined as the logical basis of computer science that includes abstract structures, algorithmic processes, Boolean logic, and discrete mathematics. This article explores several classroom activities that introduce middle school students to computational thinking using mazes and related mathematical puzzles that are reducible to graphical representations and are solved through algorithmic processes. (ERIC)

Classification: A20 K30

Keywords: puzzles; mazes; graphs; Trémaux’s algorithm; discrete mathematics

<http://www.nctm.org/Publications/Mathematics-Teaching-in-Middle-School/2015/Vol20/Issue9/An-Amazing-Algorithm/>