1125-Q5-830 **Sharon K. Robbert*** (sharon.robbert@trnty.edu), Trinity Christian College, 6601 W. College Drive, Palos Heights, IL 60463. *CryptoClue.* Preliminary report.

Elementary and middle school students may be drawn into interest in mathematics in different ways. Some children enjoy puzzles, games, and secret codes but may not realize how much mathematics is involved in encoding and decoding messages. Cryptography is an excellent tool to support mathematical learning for children at a variety of levels while the children have fun! As one assignment in a course on beginning cryptography for upper-class math and math education majors, college students used cryptography as a basis to design a fun math-based activity for middle school children. The students selected a variety of elementary cryptographic systems to create CryptoClue, a game loosely based on the board game Clue™. At the end of the semester, these same students led approximately 170 middle school math competition participants in playing their invented game. Components of CryptoClue, an overview of the mathematics within the game, extensions for continued mathematical study, simplifications for younger students, resources for learning more about cryptography, and intriguing short and long-term outcomes will be shared. (Received September 20, 2016)