

1116-F5-2543      **Mike Pinter\***, Dept of Mathematics and Computer Science, Nashville, TN 37212. *Hats, Hamming and Hypercubes.*

Bernstein (2001) describes a "hat game" that has a direct connection to Hamming Codes. In this presentation, I will describe some potential uses for the Hat Game. In particular, the Hat Game can be used freestanding from any other mathematics topics - for example, as a game of strategy and critical thinking in a first-year seminar course or as a fun activity for a high school or college mathematics student organization. On the other hand, the Hat Game can be used in connection with truth tables and symbolic logic. If desired, the connection between the Hat Game and the single-error correcting Hamming Code (Roman, 1998) can be made - requiring only some basic ideas about matrices and binary numbers. An interesting geometric interpretation of the Hat Game via hypercubes is also an option, with little additional mathematics required. After providing specifics of the Hat Game and its connections to Hamming Codes and Hypercubes, I will briefly describe my experience using it in different settings.

References Bernstein, Mira, "The Hat Problem and Hamming Codes", Focus: The Newsletter of the Mathematical Association of America, November 2001, pp. 4-6. Roman, Steven. Codes and Coding, Third Edition, Modules in Mathematics. Innovative Textbooks, Irvine, CA, 1998. (Received September 22, 2015)