1023-Z1-1830 **Dennis P Walsh*** (dwalsh@mtsu.edu), Box X070, Middle Tennessee State University, Murfreesboro, TN 37132. *Amazing Explorations.* Preliminary report.

We explore several properties of rectangular mazes. For integers m and n both greater than one, we define a m x n maze as a graph G that satisfies the following 3 properties: (i) G has vertex set [0, 1,..., m] x [0, 1, ..., n]; (ii) G consists of two trees; (ii) one tree has a path the sequentially connects (0, 0), (0, 1),...,(0, n), (1, n),..., (m-1, n), and the other tree has a path that sequentially connects (1, 0), (2, 0),..., (m, 0), (m, 1),..., (m, n). We illustrate a systematic construction of rectangular mazes, count the number of mazes for some m and n, relate the counts to different mathematical objects, and present several other results about rectangular mazes. (Received September 26, 2006)