

Problem of the Month, November 2008

Please turn all solutions into Dr. Dunn's office, JB 322. You may slide your solutions under his door as well. Most elegant solution wins a \$10 gift certificate to the bookstore! Solutions will be accepted anytime during the month of November. Good luck!

Suppose 27 cubes of cheese, all the same size, are stacked to make a larger cube of cheese as shown below. Now suppose a mouse wants to eat each of the 27 cubes, starting with a corner piece. Once the mouse eats the corner piece, occupying its spot, it may travel horizontally or vertically to another cube of cheese that shares a face with the previous piece (so, not diagonally in any direction, as those pieces would only share a vertex or an edge with the piece just eaten). In this manner, is it possible for the mouse to eat all 27 pieces so that the last piece eaten is the middle chunk of cheese? (the middle chunk is the only piece not exposed to the outside.)

