An $m \times m$ board is called deficient if a $1 \times 1$ square is missing from anywhere on the board. An $n$-polyomino is a geometric shape formed by placing $n$ equal squares edge to edge. With a fixed $n$, we prove that all deficient $m \times m$ boards can be tiled using $n$-polyominoes such that $m^2 - 1$ is divisible by $n$. We offer results for $n = 3$, $n = 4$, and $n = 5$, and we discuss our progress toward a generalization for all $n$. (Received September 22, 2011)