1035-R1-1745 **Morton Brown*** (mbrown@umich.edu), Department of Mathematics, East Hall, University of Michigan, Ann Arbor, MI 48109. *Two Inquiry based learning tasks to help students think inductively and recursively.*

We will illustrate two easily presented problems whose solutions require inductive and recursive reasoning. The first one involves calculus concepts that occur in every first semester course. The second example is a game called Fibonacci Nim and whose solution requires inductive reasoning and recursive proof but does not involve any mathematical background beyond elementary arithmetic. I have used the first example successfully in first semester calculus, and the second in high school level programs. The first example works well as a classroom inquiry based learning activity reinforcing important calculus concepts, and the second works well in any course (with a discrete mathematics flavor) as a team homework assignment with class discussion afterwards. (Received September 20, 2007)