Math majors take many math courses, but can they actually DO mathematics? To provide my third-year students with an opportunity to think, hypothesize, investigate and problem-solve (as opposed to listen and take notes), I designed a sequence of problems that they had to work on, individually or in small groups. After briefly describing the design of the course, I will discuss my students’ experiences with this (for many) different approach to working with new math material. One of major challenges for my students was writing a computer code needed to investigate problems, generate examples and formulate hypotheses.