1077-VI-1127 **Philip B. Yasskin*** (yasskin@math.tamu.edu), Department of Mathematics, Texas A&M University, 3368 TAMU, College Station, TX 77845-3368, and **Douglas B. Meade** (meade@math.sc.edu), Department of Mathematics, University of South Carolina, Columbia, SC 29208. *Building Intuition and Computational Skills with Maplets for Calculus.*

Many calculus courses incorporate a computer lab component using Maple, Mathematica or Matlab. Unfortunately much of the time is spent learning how to program rather than learning calculus. It would be much better if the time were spent on activities which enhance the learning of calculus. Several schools are now using the Maplets for Calculus (M4C) in their labs to build intuition and computational skills which are reinforced by weekly quizzes. The M4C is an electronic study guide that consists of 129 applets which present algorithmically-generated problems, require correct intermediate responses before moving on to the next step, employ computer algebra to analyze student responses and provide customized hints and feedback. Algebraic, graphic (2D, 3D, animation and stereo), numeric and verbal approaches support diverse learning styles. Instructors comment that the intuitive introduction to limits, derivatives and integrals in lab makes it easier to introduce these concepts in class and frequently use the applet graphics as lecture demonstrations. They also like the interactions that arise when students in a lab have different versions of similar problems. Initial assessment of M4C's effectiveness shows that students prefer M4C over a computer algebra or numeric system. (Received September 17, 2011)