

1035-Z1-1704      **Douglas B Meade\*** (meade@math.sc.edu), Department of Mathematics, Columbia, SC 29208,  
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College Station, TX 77843-3386. *Teaching and Learning Calculus Using Maplets for Calculus.*

The more than 75 Maple applets in Maplets for Calculus are useful both for calculus students and for instructors. Students use the maplets to practice specific skills on typical problems involving precalculus, limits, derivatives, integrals, differential equations, sequences, series, and polar coordinates. Students find the algorithmically-generated problems very helpful for practicing new techniques and for building confidence as they prepare for a quiz or exam. Immediate feedback and infinite patience are two features students find these maplets useful. During a lecture, instructors can use the maplets to illustrate specific points by demonstrating a user-entered problem. Additional instructional benefits are realized by the graphical displays – 2D, 3D, and animation – available within the Maplets for Calculus.

The presenters will demonstrate each of these features. Specific examples of how the Maplets for Calculus are used in lectures, labs – including projects – and homework will be provided. Student acceptance and other feedback will also be presented.

An expanded and updated version of Maplets for Calculus was completed in October 2007. A Table of Contents and sample videos may be seen at <http://calclab.math.tamu.edu/maple/Maplets/Contents.html>. (Received September 20, 2007)