

1096-E1-2115 **Bruce Carpenter*** (carpent@illinois.edu), 273 Altgeld Hall, 1409 W. Green St, Urbana, IL 61801, and **Faisal Whelpley** (faisal@makingmath.com), 41 E University Ave, Champaign, IL 61820. *Learning Math by Making Math.*

For over twenty years, the Calculus&Mathematica and NetMath programs at the University of Illinois have delivered high quality, innovative, computer-based mathematics instruction both face-to-face to on-campus students and online to students worldwide. Based on this experience, a new instructional design paradigm and new web-based tools for using an online version of Mathematica to teach mathematics at the undergraduate and high school levels will be presented. Dubbed Making Math, the system combines Constructionist learning ideas and Formative assessment to bring about a radically different approach to math education. The use of technology in the classroom redefines the traditional flow of information from instructor to students. Rather students are directly engaged with mathematics through experimentation and exploration with the guidance and feedback from instructor. (Received September 17, 2013)