

1077-97-2506      **Bruce Carpenter\*** ([carpent@illinois.edu](mailto:carpent@illinois.edu)), 273 Altgeld Hall, 1409 W. Green St, Urbana, IL 61801, and **Debra Woods** ([dwoods2@illinois.edu](mailto:dwoods2@illinois.edu)), 273 Altgeld Hall, 1409 W. Green St., Urbana, IL 61801. *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 a Maker Cube, the system combines Constructionist learning ideas and Formative assessment to bring about a radically different approach to math education. (Received September 22, 2011)