This talk will explore the development and implementation of a College Readiness Math MOOC (Massive Open Online Course). This course utilized several easy-to-create web-based resources to support student learning in mathematics. These resources included digital learning objects, self-contained mathematical tasks, which include video podcasts and other supporting material. The learning objects were clustered and sequenced into modules to form an online course. We will also discuss the integration of WebWorK as a homework platform and the use of online collaborative rooms that allowed for students to interact with the instructor and other students. We will also present evaluation data on the success of this program. The Math MOOC and its course resources are readily available on any platform and can be used as supplemental material for remedial or developmental mathematics classes. (Received September 17, 2013)