Mairead K Greene* (mairead.greene@rockhurst.edu) and Paula Shorter. fUNcO! - A Mathematical Card Game.

In the calculus sequence at Rockhurst University, we create an active-learning, student-centered classroom where the focus is on deep understanding of concepts. We begin this approach in the very first unit by providing opportunities for our students to develop a deep understanding of what characterizes the growth of different function classes. We do this by considering narrative, graphical, symbolic and numerical descriptions of functions and rate of change; concavity descriptions; loglog and semilog relationships; and difference equations. This approach provides a foundation on which students can build a stronger understanding of the derivative in later work. A question arose - How could we provide opportunities for students to make deep connections between all of these different characterizations? To address this question, we developed a card game which we call fUNcO! fUNcO is a mathematical version of UNO where different function classes play the role of colors and individual cards vary among characterizations. In this talk, we will demonstrate fUNcO and discuss how it has impacted student learning in our classrooms. (Received September 22, 2009)