Ceire H Monahan*, Department of Mathematical Sciences, 1 Normal Avenue, Montclair, NJ 07043, and Ashwin Vaidya and Mika Munakata. Juggling: Mathematical exploration through play.

The Creativity in Mathematics and Science project, funded by NSF's Improving Undergraduate STEM Education program, seeks to develop opportunities for students to make connections between the creative process in general and the creative process in STEM fields. One way we have done this is by developing interdisciplinary modules for a general education mathematics course that challenge students' conceptions about mathematics and encourages them to see unexpected connections. Connections can be between ideas or processes required in two seemingly unrelated fields. Here, we describe our experience creating and implementing a module on the mathematics of juggling. We drew from research on the mathematics of juggling (Beek & Lewbel, 1995; Naylor, 2011, Widenhorn, 2016) and used a professional juggling performance at our university for inspiration. Students explore the patterns, notations, and mathematical components of juggling and engage in processes associated with creativity such as being inquisitive, connecting ideas, questioning norms, and having flexibility (Sternberg & Williams, 1998). We will share our experience developing and implementing the juggling module and report preliminary findings related to students' work and reactions. (Received September 24, 2018)