1056-R5-2001 **Sarah L Mabrouk*** (smabrouk@framingham.edu), Framingham State College, 100 State Street, P.O. Box 9101, Framingham, MA 01701-9101. *Picture This: Making Connections in 3-Space.*

Making the transition from the xy-plane to 3-space is a challenge for students. Despite their living in 3-space, students have difficulty making connections between the equations/functions that they study and the world in which they live. To help them to transition to mathematics in 3-space and to facilitate their understanding the equations/functions that they examine, it is helpful to relate these to objects with which they are familiar. Considering known objects in 3-space, assigning coordinate systems, considering objects in planes, and then creating appropriate equations as well as breaking down equations/functions in 3-space in similar ways helps students to make connections between the equations/functions in 3-space and known three-dimensional surfaces and objects. To visualize mathematics, one needs to understand and relate to equations/functions: to understand and relate to equations/functions they must be put into personal context. While using a CAS helps students to explore new equations/functions, matching these to objects in the real world helps them to understand and to relate to their study of mathematics in 3-space. In this presentation, I will discuss the use of Maple and digital cameras to help students to make sense of the mathematics in 3-space. (Received September 22, 2009)