1086-P5-2380　　　　**Sharon Frechette***, sfrechet@mathcs.holycross.edu. *Activities for Creating and Classifying Tessellations of the Plane.* Preliminary report.

A *tessellation* is a planar pattern that exhibits translation in two independent directions, and possibly some combination of the following symmetries: reflections, rotations, and glide reflections. There are seventeen possible symmetry types, often called the "wallpaper groups." Several related hands-on activities with tessellations will be discussed. The presenter has used versions of these activities with math majors in a linear algebra class, first-year students in a seminar on the connections between mathematics and art, and high school geometry teachers in a workshop on pedagogy. In one activity, students examine Escher prints to determine their symmetry type, using a transparency placed over a copy of the print. By tracing a generating region on the transparency, and then applying rigid motions by the appropriate movement of the transparency, students can determine which rigid motions are symmetries of the given print. In another activity, students create their own tessellations, first choosing the symmetries they want to include, and learning how to cut a generating tile that will create those symmetries when the appropriate rigid motions are applied. (Received September 25, 2012)