

1116-K5-2541 **Gareth E Roberts*** (groberts@holycross.edu), Dept. of Mathematics and Computer Science,
1 College Street, Worcester, MA 01610. *Change Ringing, Dance and Memory: An Embodied
Learning Approach to Abstract Algebra.*

The musical "sport" of change ringing involves a small group of people ringing n large bells according to some prescribed pattern. To perform a legitimate piece of change ringing music (an extent), certain rules must be followed. For example, an extent always begins and ends on rounds, an ordering of the bells that corresponds to the identity element in the symmetric group S_n . Using Liz Lerman's embodied learning techniques, students in a math and music class physically moved to the sequence of permutations in *Plain Bob Minimus*, an extent on four bells. They were then given 30 minutes to memorize and perform the full sequence of 24 permutations in front of their peers. The results were impressive, suggesting that embodied learning is an effective and fun way to teach concepts from abstract algebra. (Received September 22, 2015)