

1077-O1-366 **Michael D Smith*** (smithm@lycoming.edu), 629 US Route 15, Williamsport, PA 17702. *The Parity Theorem Shuffle.*

This in-class activity is based on the ropes course initiative T.P. Shuffle. In this initiative, students must stand in alphabetical order on an inverted log. Then, they must switch places until they are in the order of their birthdays (or some other predetermined order) without any feet touching the ground, which has the effect of limiting their moves to adjacent transpositions. To make this interesting, I add the following catch: students must do this twice, once using an even number of moves and once using an odd number of moves. Then, I watch students try in vain to complete this task and slowly discover, convince their classmates, and try to explain why this is impossible. This activity, which is scheduled to appear in PRIMUS, leads to a discussion of inversions and a tangible inversion count proof of the parity theorem. (Received August 26, 2011)