1035-Z1-1367 Jim Fulmer* (jrfulmer@ualr.edu), Department of Mathematics & Statistics, University of Arkansas at Little Rock, Little Rock, AR 72204-1099, and Tom McMillan (tcmcmillan@ualr.edu), Department of Mathematics & Statistics, University of Arkansas at Little Rock, Little Rock, AR 72204-1099. Connecting Pascal's Triangle to Thirteen Number Sets.

Pascal's Triangle was known by the Chinese some 400 years before Pascal ever lived. This session will exhibit that Chinese Triangle. Patterns continue to be discovered. According to John D. Neff in Reading for Enrichment in Secondary School Mathematics, 1988, NCTM, "One could allude to it either as a gold mine or as an iceberg—the former because the riches are there, but some ingenious labor is often needed; the latter because we shall perhaps never see more than a small percentage of the mass. The triangle appears in many different contexts at nearly all levels of mathematical endeavor. This is the real beauty of the triangle!" Topics to be explored include linking Pascal's Triangle to thirteen number sets: natural numbers, whole numbers, powers of eleven, powers of two, palindromes, binomial coefficients of $(a + b)^n$ with n a negative integer, Fibonacci numbers, triangular numbers, square numbers, pentagonal numbers, Catalan numbers, and unit fractions. A three-dimensional model of Pascal's Pyramid will be exhibited. (Received September 19, 2007)