1014-U1-271 **David Fowler*** (dfowler@unl.edu), 118 Henzlik, University of Nebraska-Lincoln, Lincoln, NE 68588-0355. *Getting Acquainted With the Harmonic Series.* Preliminary report.

This demo is used on the first meeting of a course for college mathematics students planning to become secondary teachers. A short introductory lecture on infinite series is followed by a hands-on exercise in which teams of students are challenged to create cantilevered stacks of CD "jewel cases" that extend beyond the edge of a table. The demo serves as a get-acquainted session, an example of lecture versus "discovery" methods of teaching, and a review of infinite series.

Although the students are generally math majors or the equivalent, they have not seen the stacking problem connected with the harmonic series. After students compare their final results, we analyze the mathematics behind the different patterns of offset that they have discovered. We conclude the class session with an argument for the divergence of the harmonic series and a Mathematica demonstration of values of the harmonic series for large numbers of terms.

During the following semester, the students are required to staff a booth at the state high school mathematics tournament, which includes a jewel-case stacking competition.

My presentation will include students' perceptions of this demo as recorded on "Blackboard" internet discussion sessions, and my thoughts for future variations on this demo. (Received September 03, 2005)