

1046-W1-1172 **Mark H. Inlow*** (inlow@rose-hulman.edu), CM 143, Rose-Hulman Institute of Technology,
5500 Wabash Avenue, Terre Haute, IN 47803. *Two Applets for Teaching IID Sampling, Sampling
Distributions, and the Central Limit Theorem.*

The independent and identically distributed (IID) sample and the sampling distribution are two of the most important concepts in Statistics. The former is sometimes misunderstood (Alf and Lohr, *American Statistician*, Vol. 61, No. 1) and the latter is considered difficult to teach (Gelman, *American Statistician*, Vol. 62, No. 3). We present two applets, each illustrating one of the two main methods of acquiring an IID sample, which we find effective for presenting the sampling distribution and various aspects of it, including the Central Limit Theorem. Using one of these applets our classes play “Beat the Central Limit Theorem,” a game we use to demonstrate the difficulty of constructing distributions for which the sampling distribution of the mean is not approximately normal for samples of size 25. (Received September 15, 2008)