

■ **CLASS DISCUSSION ITEM 8.1**

***Wagon Wheels and the Sampling Theorem***

Relate the sampling theorem and its implications about correct and incorrect data representation to the use of a movie camera to film a rotating wagon wheel in a western movie. The camera shutter can be considered a sampling device, where the shutter speed is the sampling rate. Typically, the sampling rate is 30 Hz to provide a flicker-free image to the human eye. What effects would you expect in the movie, when viewed, if the wagon wheel is turning rapidly?

