1086-M5-1603   **Jerome L. Caldwell*** (`jerome.caldwell@uwrf.edu`). *Liberal Arts Mathematics: Do It Yourself with SNAP – Simulation, Random Walks.*

Since 2010 Liberal Arts students at U. Wisc.-River Falls have created mathematical objects in an environment designed to increase their appreciation of and comfort with mathematics. The objects, built with guidance from the instructor, include queuing simulation models, random walks and function generators.

A challenge in this approach is providing a construction environment that avoids syntactical and formatting complexity. This is met by using the freeware program SNAP, aka Build Your Own Blocks, developed at the University of California, Berkeley as an extension of MIT's SCRATCH.

While we spend most of the course in this manner, an instructor who wished could employ one or more of the activities after spending a class session or two introducing the environment.

The paper discusses the following two activities. The presentation allows time for at least the first one.

1. Simulation – we build a model to simulate customers queuing for service. The students assemble the blocks (commands) to make the model and then experiment with adding and removing servers to improve customer satisfaction while avoiding excessive cost.

2. Random Walks – this model graphically represents a random walk. We introduce various invisible fences defined by relations in x and y. (Received September 23, 2012)