

## GK-12 Lesson Plan

**Teacher: Steven MacDonald**

**Period: Class: Lawrence High School Statistics Class**

**Date(s): 4/11/2013**

<b>SETTING THE STAGE</b>	
<u>Essential Question</u>	Chapter 14, p.43 from the textbook.
<u>Content Objective(s)</u> (Student-friendly)	Students are asked to simulate the NY state lottery using the skills and flow charts they developed in previous lessons.
<u>Connection to previous or future lessons</u>	Students are required to use the homework flowchart, as well as their knowledge of loops, boolean logic, and decision statements in order to make this program function correctly.
<u>Critical Thinking Questions</u>	
<u>Key Vocabulary</u>	AND, OR, for loop, probability, random, sample, flowchart.
<u>Materials Needed/Safety</u>	Computer, Rstudio
<b>ACTIVE INSTRUCTION</b>	
Launch (Engage)	The rules of the NY state lottery are explained to the students, who are then asked to calculate the chances of winning (1/1000) and losing(999/1000).
Investigation (Explore)	The students are asked to begin coding the simulator, based on the flow charts they had made previously. Work on this project is undirected for the most part, allowing the students latitude to explore their own designs. Help is of course still offered if the students become stuck, or need help on a particular concept.
<b>TIME FOR REFLECTION</b>	
Summarization (Explain & Extend)	The students began work on simulating the New York state lottery under several different conditions. Unlike many of the previous lessons, the students were left to their own devices when it came to program design. Because of this fact, the exercise took several weeks to complete, but yielded several unique methods of solving the problem.
Homework	