## Recipe for Success: Simulations

- 1. Read the entire problem
- 2. Identify the Question
- 3. Identify and define a success and component in context
- 4. Identify a Trial
- 5. Model the simulation

- 6. Address Duplications
- 7. Explain how to run the simulation

8. Run the simulation & Make a Table

Trial Number	Number of 2 Digit Values Counted (successes)
1	
2	
3	
	Total

9. Calculate the Expected number

What is being asked?

Explain what the question is asking in your own words

- Success: What we want to happen
- Component: What is being repeated

How many successes are required?

Assign 1 or 2 digit numbers in proportion to the chance of success and failure.

- 00 = 0 or 100; 01=1; 02 = 2; 03 = 3...09 = 9
- 10 = 10; 11 = 11... 99 = 99
- Assign the numbers to be skipped or ignored
- Are repeats permitted: Can something occur twice?
  - Percentages-usually can be duplicated
  - Specific items-usually cannot be duplicated (Occurs when the quantities of items are known)
- 1. Explain how to run a trial
- Beginning from left to right I would select 1 or 2 digit numbers until there were \_\_\_\_\_ number of successes.
- Count how many 1 or 2 digit values that were not skipped.
- 2. Tell how many trials are going to be run
- 3. Find the average/mean of all the trials
- Draw a line through the values that represent failures
- Circle the values that represent successes
  (Do not forget about duplicates are they permitted or not)
- Mark an X through Skips

(These are numbers that are not possiblefor instance when duplicates are not permitted)

- Draw a vertical line at the end of a trial
- Count the number of 2 digit numbers in the trial
- Record the values in a table
- Repeat for all necessary trials to complete the simulation
- Take the average/Mean

Sum the number of successes counted for each trial

• Divide by the number of trials

Conclusion:

Based on the simulation above, on average we would expect to have

in order to find