

Name _____

Investigation 11: Independent or Not Independent Events?

Worksheet 11.2 Simulation

Statistical Question _____

Design and Implement a Plan to Collect Data

Simulation Steps per Trial:

Step 1: Thoroughly mix the slips of paper in the paper bag

Step 2: Pick 30 slips representing the students who won the game.

Step 3: Count the number of slips that have a 1 on it.

Step 4: Determine the estimated probability of a 1st or 2nd year student winning the game and record the estimated probability on a data recording sheet that may look like the following:

Trial number	Number of slips representing 1 st or 2 nd year students winning The game	Probability estimate that a 1 st or 2 nd year student wins the game
Example	10	.25
1		
2		
3		
4		
5		

Step 5: Repeat steps 1 to 4 at least 4 more times (for a total of 5 trials). Record each trial result on the recording sheet.

Add your probability estimates to the class dot plot.

Interpret the Results in the Context of the Original Question

12. Based on the class dot plot of the simulated probabilities, what estimates of the proportion of a 1st or 2nd year student winning the game are most likely to occur under the assumption that the probability that 1st or 2nd year students win the game is 30%? Explain your answer.
13. Do you think the sample of 100 students collected by the computer science students could have come from a population in which the events of grade level and winning the game are independent? Explain your answer.