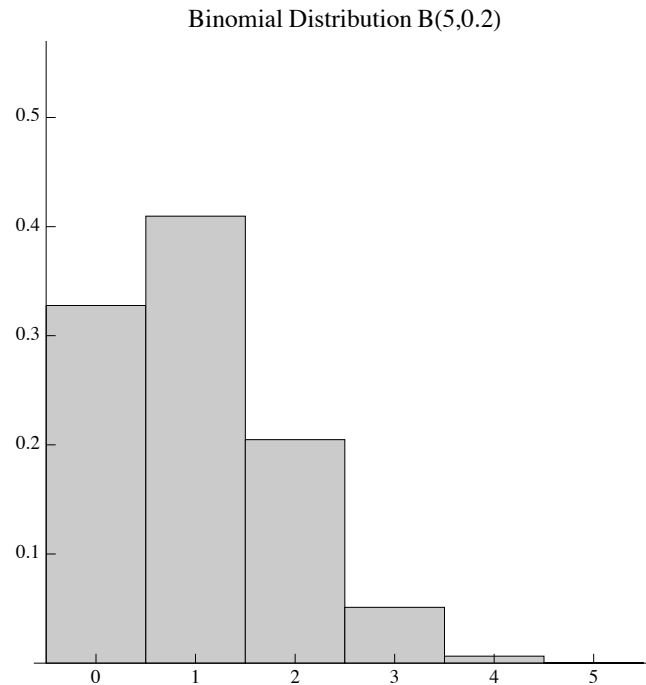


Modeling a sampling distribution for counts with a binomial distribution

Our population is 440 squares of paper. Of these, 20% are pink and the rest are blue. We will call drawing a pink a success, so $p=0.2$. Let X be the number of successes in a SRS of size of 5. Since the size of the population is more than 20 times the size of each sample, we can model the probability distribution for X with the binomial distribution $B(5,0.2)$. The probability histogram is below.



In class, we drew 64 samples of size 5 and recorded the value of X for each. For these 64 samples of size 5, we got the count proportions shown in the following histogram

