Situation	Define your test statistic and your model	State your hypothesis	What would you expect	Critical Region	P value	Actual Significance Level	Conclusion with context	Any critiques of using a binomial model for the situation?
I roll a dice 30 times and notice that I rolled 6 once I want to test at a 5% significance level whether the dice is biased **against** getting a six.								
Jake grows cucumbers and finds that over time 60% of his cucumbers are heavier than 2kg. Jake then gets a new fertiliser which claims that the fertiliser will increase the proportion of cucumber that are heavier than 2kg. Jake takes a random sample of 30 cucumbers and wants to test the claim at a 5% sig level.								
David rolls an eight-sided dice 120 times and finds that it lands on 8 25 times. Use a two tailed test with a significance level of 5% to determine whether there is sufficient evidence to conclude that the dice is biased.								
A farmer knows from experience that one egg in every 50 eggs has a triple yolk. The farmer decides to change the type of feed that he uses. He wants to carry out a hypothesis test to determine whether the feed effects the chance of a triple yolk. In a random sample of 50 eggs he finds that 3 have a triple. Test at a 10% sign level whether the chance of a triple yolk has changed.								

Situation	Define your test statistic and your model	State your hypothesis	What would you expect	Critical Region	P value	Actual Significance Level	Conclusion with context	Any critiques of using a binomial model for the situation?
5% significance level	X = Numbers of heads when flipping a coin	$H_0: p = 0.5$ $H_1: p < 0.5$	40 heads		0.0464559411			
		$H_0: p = 0.2$ $H_1: p > 0.2$	2	$X \geq 5$				
	$X \sim B(30, p)$	$H_0: p =$ $H_1: p \neq$			$P(X \leq 10) = 0.0494$		There is insufficient evidence to reject the null hypothesis so there is not enough reason to doubt that $p = 0.5$	
	$X \sim B(20, p)$					0.0210289274	As $0.1275 > 0.025$ there is insufficient evidence to suggest a change	