Interpreting Categorical Variables

Instructions:

Decide which visualization(s) and numerical summaries can be used to answer each statistical question. Then answer each statistical question, citing a numerical summary as evidence.

Statistical Question	What is the proportion of students who do not play an instrument?	How many students neither own a cat nor play an instrument?	Do a greater proportion of students in Rosa's art class who own cats prefer to play an instrument than those who do not own cats?	Is there a difference in cat preference for those who play instruments versus those who don't?	
Visualization					
Numerical Summaries					
Answer					

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Answer Key

Statistical Question	What is the proportion of students who do not play an instrument?	How many students neither own a cat nor play an instrument?	Do a greater proportion of students in Rosa's art class who own cats prefer to play an instrument than those who do not own cats?	Is there a difference in cat preference for those who play instruments versus those who don't?	
Visualization	*Plot B*	*Plot E* *Plot G* *Plot I* *Plot K*	*Plot H* *Plot J*	*Plot F* *Plot L* **Plots E, I, K also work but students would need to calculate the proportions from the counts.*	
Numerical Summaries	*Table 4*	*Table 1* *Table 7*	*Table 8*	*Table 2* **Table 1 also works but students would need to calculate proportions.*	
Answer	*The proportion of students who do not play an instrument is 0.514. A majority of students do not play an instrument.*	*Nine students neither own a cat nor play and instrument.*	*No. About 44% of students who own cats play an instrument whereas 53% of students who do not own cats play an instrument.*	*41% of students who play an instrument own a cat and 50% of students who do not play an instrument own a cat. It seems that students in Rosa's class who do not play an instrument prefer cats compared to those students that play and instrument.*	