



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Matthew P. Hamilton	Project Number S0209
Project Title Get the Lead Out	
Objectives/Goals Does steel shot or lead shot produce the best pattern when fired from a shotgun?	
Abstract	
Methods/Materials Materials: 12 guage shotgun, shotgun shells, wood for building target stand, 200 35"x35" pieces butcher paper, large handmade compass. Procedure:1) Cut 200 pieces of 35x35 inch butcher paper for targets. 2) Draw a 30 inch circle in the middle of each with compass. 3) Cut open one shot shell in each size and metal and count how many pellets are contained in each in order to calculate the percentage that struck inside the circle. 4) Assemble framework to hold targets at a measured 40 yards. 5)Shot each type of metal and size 50 times, each time labeling the target for identification. 6) Divided each target into four segments for counting the number of pellets that hit inside the 30 inch circle. 7) Recorded data in log book. 8) Calculated pattern density by dividing the number of pellets in the circle by the total number of pellets in the shot shell.	
Results Steel shot consistently produced higher density patterns.	
Conclusions/Discussion My conclusion is that steel shot will produce the best pattern. After firing an extensive amount of lead and steel shot shells, it is easy to see that not only will steel produce a higher pattern percent but it will also be more evenly spread throughout the target.	
Summary Statement My project is to test pattern characteristics of lead VS. steel shot.	
Help Received Mother helped proofread report; Father helped build target stand.	