



CALIFORNIA SCIENCE & ENGINEERING FAIR

2018 PROJECT SUMMARY

Name(s) Monica Soberon	Project Number J2117
Project Title Testing What Fraction of a Sample of Kids Can Open a Child-Proof Container	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Medicine cures diseases that without its use would be fatal. Medicine is a very important part of our society. However, medicine also takes part in ending lives. Overdosing on medicine can be very harmful to humans. According to www.poison.org "children younger than six years compromise nearly half of poison exposures." In the year 2015, these poison exposures among children younger than 6 years old amounted to more than 1,015,000 deaths in the United States. I chose to base my science project on childproof medicine caps because they are a great answer to combat this incredibly high amount of deaths that occur in small children because of medicine overdoses each year. My goal was to see how many containers 34 children ages 4 through 7 could open in less than 10 seconds.</p> <p>Methods/Materials I am going test what fraction of a sample of 34 kids including twelve four-year-olds, ten five-year-olds, nine six-year-olds, and three seven-year-olds. I will be doing so by testing children from grades Pre-kindergarten, Kindergarten, and First grade. I will give each child 10 seconds to open each of the five, different and completely empty medicine containers. Then, I will record which containers the children were able to open in my logbook.</p> <p>Results After 34 children were tested, on average, each child was able to open a bottle of 74.34% of the time. My results showed that on average each child was able to open a "child-proof" medicine bottle in under 10 seconds 74.3% of the time. The results I obtained are worrying because, according to my data, many of these children could easily open a "child-proof" medicine bottle in less than 10 seconds, which could pose a threat to their lives. I learnt that people should take higher precautions while designing medicine bottles.</p> <p>Conclusions/Discussion My hypothesis, "If I were to test what fraction of a sample of kids at ages under 8 can open a "childproof" container, then my results would be that they are able to open the containers because small children are very creative and could easily open the medicine bottles." was both correct and incorrect. The 34 children who participated in my experiment could open most of the bottles but couldn't open all. This concluded that we must make safer medicine caps.</p>	
Summary Statement As I tested what fraction of a sample of kids could open five different "child-proof" containers, I found that the children were able to open each container 74.34% of the time, revealing that the containers were not completely safe.	
Help Received None. I performed my experiment and recorded the results myself.	