



# CALIFORNIA STATE SCIENCE FAIR 2016 PROJECT SUMMARY

<b>Name(s)</b> Noah M. Chak	<b>Project Number</b>  36808
<b>Project Title</b> Beware of the Bezoar	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b>          The objective was to see how much did a seven year old boy eat to be able to form a bezoar. This project was also a test to see what would be a safe amount of gelatin a human stomach could take before clogging intestines.</p> <p><b>Methods/Materials</b>          Cardboard (to cover the bowls), Plastic measuring tools, Hydrochloric acid (1.5 molar), Digital Scale, Gummy, Bears, Glass Bowls, Water, Blender, Gloves, Timer. Timed gummy bears sitting in the HCl for four hours and then measured the mass that was left over, if any.</p> <p><b>Results</b>          The results that came out supported my hypothesis by the constant climb of gummy bears left over. According to our results there was a major increase of leftover gummies over 20 ounces. One serving of gummy bears is only one ounce. The mini snack size bags of Haribo Gummy Bears is only a half an ounce. The only outlier in the data was the fact that the weight was greater after the acid exposure in the 35 ounce bowl. I think that the water and the HCl may have been absorbed by the gummies and not broken down therefore the retained water increased the total weight. Otherwise the other smaller measurements below 20 ounces either disappeared or there was very little mass left.</p> <p><b>Conclusions/Discussion</b>          In this experiment I tested how much it takes to overwhelm the stomach and form a bezoar. I hypothesized that the more gummy bears used, the more that would be left over after going through #digestion#. The results that came out supported my hypothesis by the constant climb of gummy bears left over. According to our results there was a major increase of leftover gummies over 20 ounces. One serving of gummy bears is only one ounce. The mini snack size bags of Haribo Gummy Bears is only a half an ounce. The only outlier in the data was the fact that the weight was greater after the acid exposure in the 35 ounce bowl. I think that the water and the HCl may have been absorbed by the gummies and not broken down therefore the retained water increased the total weight.</p>	
<b>Summary Statement</b> As found in my results gelatin consumption should not be over 20 ounces because it will not pass through the intestines and cause massive pain.	
<b>Help Received</b> I performed the experiment with Dr. Grace Kim from the Pediatric Emergency Department at Loma Linda Childrens Hospital.	