



**CALIFORNIA STATE SCIENCE FAIR  
2008 PROJECT SUMMARY**

<b>Name(s)</b> <b>Leah Billeadeau; Courtney Lewis</b>	<b>Project Number</b>  28373
<b>Project Title</b> <b>Zip Factor: Which Brand of Sandwich Bags Has the Best Seal?</b>	
<b>Abstract</b> <b>Objectives/Goals</b> When strawberry juice ruined a lunch pail after leaking out of the baggy, we wanted to find out if there is a particular brand with a better zip-seal. We thought the name brand bags, Ziploc and Glad, would have the best seal. <b>Methods/Materials</b> Testing four brands of sandwich size baggies, each was filled with one cup of colored water (total weight: 238 grams). Air was pushed out of the bags and the seals were compressed tightly 3 times. Each bag was suspended zip-seal side down from a plastic hanger with wooden clothes pins. We timed how long the bag seal could hold water until it leaked through the seal. The water was colored to make it easier to observe as it leaked. We did 25 trials for each brand. The average length of time bags hung without leaking determined which brand had the best seal. Bags were hung for a maximum of 60 minutes. <b>Results</b> Target bags did not leak water for an average of 50 minutes with 84% of the bags holding water up to 60 minutes. Great Value bags did not leak water for an average of 18 minutes with 20 % of the bags holding water for 60 minutes. Glad bags did not leak water for an average of 2 minutes and the Ziploc bag average was 7 seconds. Zero percent of the Ziploc and Glad bags held for 60 minutes. <b>Conclusions/Discussion</b> The data did not support our hypothesis. Target, a generic brand, did the best by holding the colored water for the longest time. Great Value (Wal-mart), also a generic brand, held the water the second longest. In fact, Glad and Ziploc, name brand bags, performed poorly and some leaked within seconds. Target was the least expensive and more than half the cost of Ziploc and Glad. Target is the brand to buy to prevent strawberry juice leakage in your lunch pail.	
<b>Summary Statement</b> We discovered that Target brand sandwich bags had a better seal and lasted the longest in preventing liquid from leaking out.	
<b>Help Received</b> Mother helped us type some of the project and Excel spread sheets; Dad showed us how to make graphs; Stepmother helped us design the Z in our project title on our board; Our science advisor helped us develop our abstract.	