



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Amelia Woo; Veronica Zehnder	Project Number J1933
Project Title Speedy Sprouts: Treating Seed Coats to Speed Up Germination	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of our project is to see if treating the seed coat speeds up germination of pea seeds.</p> <p>Methods/Materials In our experiment we were measuring the speed of germination which we defined as the time that we first saw the beginnings of the root. We pretreated the seeds by sanding one side of the seed coat (sanded), peeling the entire seed coat off (peeled) and putting the seeds into a rock tumbler with sand (rock polished). We ran two trials, testing 4 seeds in each condition. Pre-testing was done to determine the time to run the rock polisher and the seeds we should use.</p> <p>Results From our experiment we saw that out of the three conditions tested, the peeled condition worked the best to speed up germination. The second best treatment was rock tumbling. Sanding the seed did little to help germination.</p> <p>Conclusions/Discussion Based on our results the peeled seeds germinated faster than the other conditions. We think this happened because the seed did not have to use as much force to sprout through the seed coat. Rock polishing also worked to speed up germination but wasn't as fast as peeling the seed coat off. We think sanded did not work as well as we thought it would because we might have damaged the nutrients inside the seed when we sanded the seed coat.</p>	
Summary Statement Our project investigated how treating the outside of a pea seed affected the rate of germination.	
Help Received Mentors (Dr. Hastedt, Mrs. Shimshock, Dr. Sivanand) suggested ways to think about our experiment and improve our project.	