



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2019 PROJECT SUMMARY**

Name(s) Kellen Lai	Project Number S0611
Project Title Observing the Double Diffusion of Salt and Sucrose	
<p style="text-align: center;">Abstract</p> <p>Objectives My objective is to build a model that can depict an image of the double diffusion occurring in the salt and sugar water solutions. The pictures from the model will then be observed to find the relationships when the concentration of each solution is changed.</p> <p>Methods Sucrose (table sugar), Salt, Acrylic Plexiglass, Scale, Wood and wooden rods(at least 2 sq ft., 2 cm diameter max), Cutting tools for wood and acrylic (Dremel, Saw), Laser, Camera, Mirror, Beakers, Syringe, Hot glue gun. Observing the shapes of the projection created by the model.</p> <p>Results The shapes start to become more pentagonal and even almost quadrilateral, with each shape occurring less and less frequently as the solutions mix over time. Once in the final stages (50-60 minutes), all the shapes are minimized so that less than half of the ones that were there in the beginning are left and most are more quadrilateral than before.</p> <p>Conclusions The sucrose water doesn't need to take more time to diffuse into the salt water even though it is more dense because the diffusion process isn't primarily dependent on the concentration of each solute.</p>	
Summary Statement I observed through the model that the double diffusion process wasn't changed even through altering the concentration of salt and/or sucrose.	
Help Received None, I researched, built, and observed a model of double diffusion.	