



**CALIFORNIA STATE SCIENCE FAIR  
2017 PROJECT SUMMARY**

<b>Name(s)</b> <b>Kayden Hung</b>	<b>Project Number</b> <b>J0208</b>
<b>Project Title</b> <b>Electricity Production of a Crystal Power Cell</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The experiment was to see if changing the amount of potassium chloride(a compound mostly found in salt substitutes) and oxidane(water) would change the ampere and voltage a crystal power cell would produce. Increasing potassium chloride was expected to increase the amperage and voltage since it contained electrolytes. Increasing oxidane would dilute the crystals of the power cells reducing the amperage and voltage.</p> <p><b>Methods/Materials</b> The experiment consisted of 5 groups of 5 crystal cells with each group having a different amount of potassium chloride and oxidane. All groups were 5 2.5cm copper pipe caps containing 3 mL of sodium tetraborate(borax), magnesium sulfate(epsom salt), and hydrated potassium aluminium sulfate(alum). After each cell was full of materials it was assigned, it would be cooked on a stove until the materials boiled, then would be cooled to start measurements.</p> <p><b>Results</b> The group that contained more potassium chloride actually created a high voltage, yet a low amperage. The group that contained less potassium chloride created a very low amperage and low voltage. Cells containing oxidane actually created the highest voltage and amperage, which was surprising due to the crystals barely solidifying.</p> <p><b>Conclusions/Discussion</b> The results of this experiment does not conclude if extra potassium chloride increases a power cell's energy production or decreases since production is similar to the control group. A conclusion can be made that the more oxidane a cell contains, the more energy is created due to the small amounts of water reacting with the electrolytes. However, there is no conclusion that too much oxidane could prevent a power cell from producing electricity.</p>	
<b>Summary Statement</b> My project is about the production of energy from crystal power cells and how adding different amounts of materials into each changes the electric production.	
<b>Help Received</b> The project was done by myself yet the presentation board was helped by my parents. Emily Hoffman helped proof read the report.	