



# CALIFORNIA SCIENCE & ENGINEERING FAIR 2019 PROJECT SUMMARY

<b>Name(s)</b>  <b>Rebecca Kyo</b>	<b>Project Number</b>  <b>J0911</b>
<b>Project Title</b>  <b>What Is the Effect of Mixing Sand with Soil on the Moisture of the Soil?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives</b> The problem of drought increase in severity leads to the conservation of water and the efficiency of water use in the garden. With this idea, I decided to test how the moisture of the soil and its water retention can be affected when the sand and soil proportion is changed.</p> <p><b>Methods</b> In the experiment, I first mixed the different amount of sand (independent variable) into the soil, then water the soil in each container, made with plastic 500 ml water bottles that I cut the top off and drilled holes at the bottom. After a period of time, I measured the moisture of the soil (dependent variable) with a soil moisture meter and repeat this for every hour for five hours.</p> <p><b>Results</b> The result of the experiment supported my hypothesis, that if more sand is being mixed with soil, then the moisture would last shorter because there are air pockets in the sand that would absorb and lose the water quickly, because the mixtures with added sand started and ended with less moisture than the mixtures without added sand, which the starting moisture was 10 and the ending was around 8.67. The experiment also shows that soil can provide better water retainment without added sand.</p> <p><b>Conclusions</b> My project helped me to see the average water retention scale for a certain amount of sand and soil proportions and I also learned that different water retention would be used differently to suit the different types of plants.</p>	
<b>Summary Statement</b>  This project tests how the moisture of the soil and its water retention can be affected when the sand and soil proportion is changed.	
<b>Help Received</b>  I researched, planned, created, and conduct the experiment all by myself, with the exception of financial support from my parents to purchase and provide supplies needed for my experiment.	