



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

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Project Title Trilobite Leftovers: Mortality or Moulting?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The goal of our project was to determine if the size of trilobite fossils we found related to the probability of mortality.</p> <p>Methods/Materials We went to the Marble Mountains in the Mojave Desert to collect fossil specimens for analysis. Collection involved use of a rock hammer. The fossils were examined and classified using a dissecting microscope and a college level field guide. Fossil sizes were then measured using engineering tools and the data was plotted for analysis.</p> <p>Results We found several different types of fossils at the excavation site including brachiopods, trilobites, algae, and worms. We studied two different types of fossils (trilobites and brachiopods) to see if there is a relationship between size and mortality. For the brachiopods, we saw that there was no relationship between size and mortality. In contrast for the trilobites, we found that as they got larger, there were fewer fossils. Additionally, in comparison to the smaller trilobite fossils, a far greater number of the larger trilobite fossils were incomplete, which is not consistent with moulting.</p> <p>Conclusions/Discussion In contrast to brachiopods, we conclude that the mortality rate for trilobites grew larger as their size increased, with this likely resulting from more predation of larger trilobites compared to brachiopods and smaller trilobites.</p>	
Summary Statement The project focused on determining whether there was a relationship between trilobite fossil size and rate of mortality.	
Help Received Parents drove our team to the fossil site. Parents provided the dissecting microscope from laboratory.	