



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Alissa K. Clynne	Project Number J1904
Project Title Astrodapsis spatiosus	
Abstract Objectives/Goals What type of sand do sand dollars like to live in? I am interested in fossils and I also always wondered what sand dollars really are. I always thought that they were just shells that washed up from the ocean, and I wanted to learn more about them and how they live. Methods/Materials I went to Bean Creek near Scotts Valley to collect fossil sand dollars and sand samples. I collected 6 sand samples and over 200 sand dollars. I cleaned the sand dollars and picked out all the small pieces that could not be measured and threw them away. Then I measured the sand dollars to the nearest mm and recorded and graphed the data. I used a lab at the USGS to sieve the sand samples into size fractions. The sieved samples were weighed and sample splits were taken. This data was also recorded and graphed. Then I analyzed all of my data to see what it told me. Results The population of sand dollars that I measured had a normal distribution. Most were adults and there were more juvenile than elderly sand dollars. Sand dollars lived in all the deposits that I collected except samples 5 and 6. Sample 6 was the finest and best-sorted sample. Sample 5 had similar sorting and coarseness to samples 1 and 4 but did not have sand dollars. Sample #3 was the coarsest and had the most sand dollars. Conclusions/Discussion I think sand dollars did not like the sand of sample #6 because it was too fine and they probably could not stand up in it. Maybe the sand was too fine for juvenile sand dollars to get started. Another possibility is that the water here was too calm to bring them food. I do not have a good explanation for why there were no sand dollars in sample 5. Perhaps next year I will further investigate this strange situation.	
Summary Statement I investigated the size distribution of a population of fossil sand dollars and the relationship to their environment.	
Help Received My father help to collect the samples, use the USGS lab, and to edit and organize my report.	