



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Alex S. Cooke	Project Number J1407
Project Title Lights of the Sea	
Abstract Objectives/Goals For my experiment I wanted to see if I could increase or decrease the brightness of the dinoflagelates and the amount of time they glowed for by changing the amount of light vs. darkness in the dinoflagelates circadian rhythm. Methods/Materials I had five different groups which had different amounts of light vs. dark. The different amounts of light were: always light; always dark; 6 hours light 18 hours dark; 18 hours light and 6 hours dark; and my control which was 12 hours light 12 hours dark. Every other day I stirred the dinoflagellates using an apparatus that I made and recorded the amount of light they gave off using a scale I made from one to ten and I also measured the length of time they glowed for. I did this over a course of fourteen days. Results The data I gathered showed my control 12 hours light and 12 dark was a lot brighter and stayed light for longer than all of the other groups. Conclusions/Discussion My hypothesis was incorrect. I thought that the dinoflagelates with more light would glow brighter and stay light for longer. Instead my control of 12 hours light and 12 dark was the brightest group and they stayed alight the longest. Overall my results show that not varying the circadian rhythm of the dinoflagelates and keeping them on their normal light cycle is better than adding or taking away light.	
Summary Statement For my experiment I was seeing if the amount of light vs. darkness affected how brightly the bioluminescence in the dinoflagellates glowed, and if this also affected the amount of time the bioluminescence glowed for.	
Help Received Mum helped buy equipment .	