



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

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Project Title Nano-Nano: Do Nanoparticles in Cosmetics Have an Effect on Protists?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals We chose this project because we both wanted to learn the health risks of materials in everyday products. We researched items such as makeup, paper, etc. and found that nanoparticles are in a majority of commonly used objects today. If we expose cells to nanoparticles, we think that the nanoparticles will diffuse into the cells because of their particle size.</p> <p>Methods/Materials In this experiment, we used Zinc Oxide, Titanium Oxide, Amoeba, powder foundation makeup, Paramecium, a microscope, and viewing chambers. We made a 5%, 8%, and 10% solution of the nanoparticles with water and exposed them to the protists. We viewed the reaction under a microscope.</p> <p>Results In our experiment, we chose non-ciliated organisms to mirror the potential effect on cells. Our results have shown that our 5%, 8%, and 10% nanopowder solutions all affected the amoebas and paramecium. Within 20 seconds, all of the protists had died. Our hypothesis was supported knowing that none of the protists had survived during our experiment.</p> <p>Conclusions/Discussion Our hypothesis of whether or not nanoparticles would diffuse into the cells was supported. The nanoparticles did majorly affect all of our protists. Now we know that products containing zinc and titanium oxide can be bad for our skin surfaces.</p>	
Summary Statement Our project is about investigating the effect of nanoparticles on protists.	
Help Received Schmahl Science Workshop Bio-Mobile Lab for help and materials	