



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Alexander L. Knopper	Project Number 22633
Project Title What Type of Directions Do Students Comprehend Best?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My project was to determine whether fourth grade students comprehend directions better with visual, aural, or typed directions. My hypothesis was that the students given the directions visually would have a higher average rate of comprehension.</p> <p>Methods/Materials I had three separate tests involving 104 fourth grade test subjects. One group was given visual directions displayed in color on computer paper. One group was given aural directions by a prerecorded cassette tape. The final group was given typed directions on computer paper. I tested the comprehension of the subjects by using three separate but equal tests, with only the method of directions being changed. Each group was given the same test to measure their comprehension of the directions.</p> <p>Results The visual directions produced the highest average score of 48%. The aural directions produced the second highest average score of 34%. The average score of students given typed directions was 29%. Females comprehended directions best overall with an average score of 40%. The male subjects had an average score of 33%. My results supported my hypothesis because students who were given visual directions had the highest average score.</p> <p>Conclusions/Discussion My conclusion, as predicted in my original hypothesis, is that visual directions are most effective in instructing fourth grade students. Visual directions would increase the productivity in digesting and understanding information in the average fourth grade class.</p>	
Summary Statement My project is about what type of directions is comprehended best when instructing students in the classroom.	
Help Received Mother helped organize test subjects. Father help with computer programs.	