



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Jenna T. Belardinelli	Project Number J0304
Project Title Multimedia Presentations: Do They Enhance Reading Comprehension?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Using 4th, 5th, and 6th grade students, my objective was to determine which medium would enhance reading comprehension: a printed magazine article with pictures, a typed article with no pictures, or a PowerPoint presentation with words and pictures. I believed all grade levels would have a higher level of comprehension after reading the PowerPoint because students like videos and games and the PowerPoint would keep their attention more so than the two other reading formats.</p> <p>Methods/Materials I randomly assigned a set 4th, 5th, and 6th grade classes to read a magazine article and answer ten comprehension questions immediately afterward. I randomly assigned another set of 4th, 5th, and 6th grade classes to read a typed essay of the exact same article but with no pictures or maps to help visualize the information and then answer the same questions. I randomly assigned a last set of 4th, 5th, and 6th grade classes to read the same words in a PowerPoint presentation. They students answered the same ten questions. In total, I tested 100 fourth, 100 fifth, and 100 sixth grade students on reading comprehension in one of three reading formats.</p> <p>Results Combining all three grade levels, the magazine averaged the highest reading comprehension at 67.1%, with the article averaging 62.9%, and the PowerPoint averaging 61%. For fourth grade subjects, the most effective medium was the magazine which was 6.3% better than the PowerPoint. In fifth grade, the essay averaged the highest percent correct at 68.26% which was 7.3 percentage points higher than the PowerPoint average. The sixth graders also scored highest with essay at 75.29% but were lowest with the magazine at 61.1%. They averaged 70% correct on the PowerPoint. The sixth grade subjects were the only grade level that showed adequate comprehension on the PowerPoint format.</p> <p>Conclusions/Discussion My hypothesis was wrong. Upper grade students comprehend best using a magazine article with pictures, columns, and a polished, colored presentation. In fact, comprehension was lowest after reading the PowerPoint for 4th and 5th graders. Sixth graders actually scored 9% percentage points higher on the PowerPoint than on the magazine, so PowerPoint shouldn't be used as an instructional tool until sixth grade.</p>	
Summary Statement My experiment indicated that students have much higher comprehension after reading a magazine article with visuals and PowerPoint should not be used for instruction until sixth grade.	
Help Received My teacher taught me how to use PowerPoint and my sister helped prepare the presentation. My parents and teacher gave me feedback. My teacher cut the tag and used the hot glue gun for safety reasons.	