



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Taylor Clayton; Lexi Dauernheim	Project Number J1701
Project Title Battle of the Sexes: A Study of Estimation between Genders in Size, Weight, and Quantity	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Our objective is to find out which gender is better at estimating object sizes, weight and quantity. Our hypothesis was that females would be able to estimate better than males. Based on our experience as females, we noticed females estimated better than most males.</p> <p>Methods/Materials The materials we used included: 40 people for testing, M&Ms in a jar, Taylor, Lexi, and backpack with books for our Quiz, Measuring tape, scale, and binder to hold information. For our experiment we went to a shopping mall and tested people on how well they could estimate. We quizzed them about estimation in size, weight and quantity. We had them guess the weight of a backpack and a history book. We also had people estimate the height of Taylor and Lexi, and guess how many M&Ms were in a jar.</p> <p>Results When we added up the results the averages were extremely close. Females did estimate better in quantity and males better in height, but only in small decimals. Both genders estimated about the same for weight, with only slight decimal differences.</p> <p>Conclusions/Discussion Our hypothesis indicated that females would estimate better than males, but in the end there was no difference between the genders' ability to estimate.</p>	
Summary Statement We studied the difference in genders' ability to estimate in size, weight, and quantity.	
Help Received Our mothers drove us to the mall and also helped in buying the materials we needed. Our teacher, Mr. Arquin, helped us find research done by others on our project.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Lily J. Collins	Project Number J1702
Project Title Fear Factor: Facing Your Fears	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I created this experiment to observe the difference between male and female's fears, where they originated from, and who is psychologically stronger in a sense of facing their fears males or females.</p> <p>Methods/Materials To do this experiment you need two hundred and fifty applicants from different areas of the world so the group of people are diverse. The applicants should range in age groups from six to twelve all the way to sixty and onward. Out of that two hundred and fifty there are one hundred and twenty-five males and one hundred and twenty-five females. You also need a question form with a series of specific questions referring to the topic. All you have to do is briefly explain the experiment and make the applicant feel comfortable about filling in the form. Then either you or the person may answer the questions.</p> <p>Results I discovered that boys are more able to face their fears over girls but as they mature and grow older, women become more able to face their fears over men. I also found that the top five fears were spiders, heights, enclosed spaces, animals, and public speaking. The most common fear with the elderly was that of death and or dying. I found out that in Europe the fear of animals was very common. In South America in Peru the main fears seemed to be of spiders and snakes and in the United States the fear of terrorist attacks or a death of a friend or family member was very common among the applicant's answers.</p> <p>Conclusions/Discussion In conclusion, I found out that females have more psychological fears than men do. Men were more afraid of situations and objects rather than psychological fears. Boys were psychologically stronger than girls in them being able to face their fears. This could be an effect of peer pressure and that the girls were not yet comfortable with themselves. However, as the girls grew older and matured, women were psychologically stronger than men. This could be due to the fact that as men grow older they become the head of the family and are more depended on where as women seemed to feel more confident in themselves.</p>	
Summary Statement My project focuses on how male and female's fears differ and who is more able to face their fears, males or females.	
Help Received Mother drove me to the the tested areas.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Benjamin Farkas	Project Number J1703
Project Title A Statistical Analysis of Government Change in Hungary	
Abstract Objectives/Goals The aim of this project was to find the social and economic effects on Hungary of the country's varying regimes and policies of the past twenty years. I hypothesized that there would be no growth during the eighties, but some growth, more economically than socially, in the nineties. Methods/Materials To find out, I gathered eight social and economic indicators for Hungary from 1980-1999. The indicators studied were GNP per capita, life expectancy, population per physician, percent of relevant age group in primary and secondary education, percent of GDP in services, infant mortality, and commercial energy consumption per GNP. I also created social, economic, and overall averages by creating a weighted average, with more important indicators receiving greater weights. Because infant mortality shows high development when it is low, I used a linear function to "reverse" the numbers. Also, for years in which I lacked data and there were no significant policy changes, I interpolated data based on the previous and next years. I did not use interpolated data in the averages. Results (because of the nature of the conclusions, results are included there.) Conclusions/Discussion My results showed that my hypothesis was mostly correct; there was stagnation in the eighties under communism and there was strong growth in the nineties. However, the social indicators showed less and more erratic growth than I expected. Still, the policies of the democratic governments of the nineties were successful, and there was no slide immediately after the revolution, as in many other Eastern European countries.	
Summary Statement The project examines the effects of the changing political systems and government policies in Hungary in the past twenty years by analyzing development statistics from 1980-1999.	
Help Received Ms. Baumgart provided support and structure, Prof. Peter Kenez gave advice, Prof. Isibill Grun helped with data collection, father helped use spreadsheet program.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Nathan E. Fisher	Project Number J1704
Project Title Little Room for Real Messages: How Spam Clogs an E-mail Account	
Objectives/Goals Which part of the day receives the most spam? Which e-mail account gets the most spam? Is there a quantifiable difference between subscribed spam vs. non-subscribed spam?	
Abstract	
Methods/Materials Materials: E-mail accounts on a computer. Methods: Sign up for 6 e-mail accounts, two as controls, the last four were signed up to five different sites to which a thirteen year old boy would visit. After one week, the unsubscribed feature was used for all incoming mail for the last two accounts.	
Results Afternoon received the most spam. Registering without unsubscribing received the most spam. By unsubscribing, the amount of spam was reduced, but it took time to use the #unsubscribe# feature. The ratio of spam received was approximately 9 non-subscribed spam messages to 1 subscribed spam message. A duplicate experiment is currently in progress.	
Conclusions/Discussion Companies are selling or passing on e-mail addresses to other companies.	
Summary Statement Numerous e-mail accounts were activated and monitored to test how spam clogs e-mail accounts.	
Help Received Mother helped in typing the report and helped string the board; Father helped paste pages and labels; Teachers helped edit my textbook; Brother taught me how to use Microsoft Excel. He also helped me how to understand how to enter the data and then to be able to graph it. He also helped me research the topic	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Alyssa M. Fuhrman	Project Number J1705
Project Title A Box Office Disappointment: Why the Book is Always Better than the Movie	
Abstract Objectives/Goals Teachers are concerned about covering a large volume of curriculum in a short time. Since many students have trouble understanding what they read, some teachers and parents resort to showing videos. I believe that this practice may actually inhibit the higher level language development necessary to understand complex books. The problem I investigated is the relationship of text to dialogue in films. My project determines the reading level of various trade books and the movies based on them. Methods/Materials The first 100-150 words for both trade books and the videos based on the same titles were translated and typed into a computer program. Readability formulas were applied to evaluate the language complexity children are exposed to when reading and when watching movies. Results An analysis revealed that regardless of the reading level of a book, the language complexity of the video is similar to primary reading material. Conclusions/Discussion Movie dialogue consists of simple sentences and vocabulary even when a screenplay is based on a high school or college level book. Therefore, it is important that students be exposed to written text as much as possible. If they are unable to independently access the material, adults should read the books to the children. Watching videos introduces children to the general plot, but fails to build reading comprehension skills. Students must be taught new vocabulary and understanding of complex sentence structure that they do not hear in conversation or in videos. Providing students with simplified children's versions of difficult books exposes them to a higher level of language than a video.	
Summary Statement Complex language constructs are limited in movie dialogue thus, watching videos is a poor substitute to reading.	
Help Received My mother located the Readability Formulas and videos for the books that I chose to evaluate.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Samantha R. Gale	Project Number J1706
Project Title The Power of Suggestion	
Abstract Objectives/Goals The objective was to learn if an authoritative false statement influences a memory of images on adolescent females. Methods/Materials Individual females were shown a poster of images and then asked to write down the images they recalled. The experimenter then told them that they forgot an image that had not been on the poster. The response to this statement was recorded. The next day, the subject was asked to write down the images from the poster again and the experimenter observed whether the nonexistent image she stated was on the list. Results Most of the females remembered and believed in the nonexistent image said to have been on the poster. In fact, only one person was confident enough to challenge the experimenter's false statement. Conclusions/Discussion An authoritative statement does influence an adolescent female's memory of images. This project shows how it is possible for someone to influence the testimony and / or memory of eyewitnesses. This presents the possible problem of the reliability of eyewitnesses in trials.	
Summary Statement Will a suggestion make an adolescent female remember seeing something that was not there?	
Help Received Mom helped cut and glue papers. Dad helped find research books.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Kevin O. Harker	Project Number J1707
Project Title Are Kids Too Light for Their Backpacks?	
Abstract Objectives/Goals Last year my pack weighed a ton. I had to carry my books around to all my classes 'cause going to my locker between classes was unrealistic. I soon got back pains. This school year began with a policy that allows kids to get a class set of books and a set to keep at home. my doctor recommended that my backpack not weigh more than 15-20% of my own body mass. In researching the reasoning behind my doctor's recommendation, I found that there are many organizations that recommend that backpacks should weigh less than 15-20% of a kid's body weight. I decided to see if the school policy on the extra set of books for home would help to meet this standard. I weighed a mix of boy and girl seventh and eighth grade and their packs, then converted their weights into mass and calculated the % of each kid's pack mass in relation to each kid's body mass. The data showed that seventh graders carried a higher % of their body mass in their backpacks than eighth graders did. For each group tested the total backpack mass was less than 15% of the total body mass. The data showed that only two kids had backpacks that exceeded more than 20% of their body mass. Since the change of the policy on books, kids now keep approximately fourteen lbs. of books at home. If the average pack in all the groups weighed 6.4 kg's more, then all the groups would exceed the backpack standards.	
Methods/Materials Students (male, female, seventh and eighth grade), Scale, Pencil, Calculator, pc	
Results My data shows that kids today really are not carrying around that much weight these days. I observed that the girls did not like to be weighed. Whereas the boys did like to be weighed and would hog the scale from me, so I could not further expand my collection of data. In addition, the average girl did happen to weigh more than the average boy.	
Conclusions/Discussion Seventh graders carried a higher percentage of their body mass in their backpacks than eighth graders did. For each group tested, the total backpack mass was less than 15% of the total body mass. The data showed that only two students had backpacks that exceeded more than 20% of their body mass. Since the change of the school policy on books, students now keep approximately fourteen pounds of books at home. If the average backpack in all the groups weighed 6.4 kilograms more, then all the groups would exceed the backpack standards.	
Summary Statement I weighed kids and their packs to see if they're carrying too much weight.	
Help Received Dad helped with written report; friend helped convert units; teacher helped with paper work	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Sara E.B. Heaps	Project Number J1708
Project Title PEERception or Reality?	
Objectives/Goals The objective of my experiment is to determine which middle school grade- 6th, 7th or 8th- is most influenced by what they perceive as their peers' opinions.	
Abstract Methods/Materials I tested 40 students from each grade (6th, 7th and 8th). To collect data, I preformed a taste test. In each cup I put one tablespoon of Brita filtered water; the cups were labeled #1, #2 and #3. I put the focus of my taste test on identifying different types of water: Mountain, Spring and Purified. At the bottom of the worksheet, I asked which one of the waters they tasted was their favorite. In the Control Group (one of my two groups), I told them that I am looking to see how well middle schoolers can identify different types of water. In the Influenced Group, I told them that a National Survey* said middle schoolers strongly preferred Spring water over any other type of water. I continued on by telling them what I told the Control Group. When my experiment was completed, I calculated the percentage point difference (for each grade) of the people in Control Group who chose spring water as their favorite vs. the people in the Influenced Group that chose spring water as their favorite. *Results not based on a real national survey	
Results From my data, I concluded that seventh graders were most influenced by what they perceive as their peers' opinion. This was backed up by the results, which showed that the greatest change in the percentage choosing spring water occurred among seventh graders (the difference between the Control Group and the Influenced Group was 30 percentage points). Sixth graders were the second most influenced with a 20-percentage point difference. Eighth graders were the least influenced with a 14-percentage point difference.	
Conclusions/Discussion When I got the results I did, I was confused because I originally thought that sixth graders would be the most influenced. So, for a few days I observed the students at my school and I discovered that sixth graders stand on their own because they are the newest and youngest. I also observed that seventh graders cling to the eighth graders, wanting to be like them and tend to go along with what the eighth graders want to do. Comments 7th graders made after the experiment (such as: What did you choose?) also lead me to believe 7th graders are the most influenced.	
Summary Statement My project is about the comparative impact of peer influence on each middle school grade.	
Help Received My teachers enabled me to use the school science lab for my experiment; my classmates participated in my experiment; my friend helped set up before each group came; my parents edited my spelling on my project	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Megan C. Ichinose	Project Number J1709
Project Title Proving Peer Pressure	
Abstract Objectives/Goals My objective for this project was to figure out whether girls or boys are more influenced by peer pressure. Methods/Materials 8 3# by 5# white flashcards (no lines on either side, Ruler, Black pen Three fifth grade classes of students (testing 16 students in each class), 8 boys and 8 girls tested in each class, Two boys and one girl (peer monitors, Directions for peer monitors, Directions for peer (person who doesn't know what is going on) Notecards with three lines on them were passed around a table of four children. Results Out of all three classes, 22 out of 24 girls fell to peer pressure, and 16 out of 24 boys fell to peer pressure. Conclusions/Discussion My conclusion is that girls are more influenced by peer pressure than boys are.	
Summary Statement My project is about whether girls or boys are more affected by peer pressure.	
Help Received Teacher helped give advice	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Shane T. Meistrich	Project Number J1710
Project Title Orchestrating Your Report Card	
Objectives/Goals I intended to show that music does affect your grades.	
Abstract	
Methods/Materials 1. research info. on music and the brain 2. identify criteria for surveys 3. assemble a variety of questions 4. type, copy, and distribute surveys 5. collect surveys from students 6. compile data and summarize 7. obtain averages from surveys 8. graph and analyze data 9. form conclusion from info. gathered	
Results Music does affect your grades.	
Conclusions/Discussion In compiling all of the data, it turned out that music does affect your grades.	
Summary Statement Does music affect your grades?	
Help Received Mom and dad helped me compile the data and graphing it on the computer.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Laurel R. Phelps	Project Number J1711
Project Title How Does Peer Pressure Support Affect Performance?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My project was to determine the effect of positive or negative feedback by a group of peers, on performance. The feedback (support) is of a personal nature, and unrelated to the task being performed.</p> <p>Methods/Materials Individuals were blindfolded and asked to negotiate through a maze, consisting of posts and ropes. A chorus of people either made positive or negative comments about the person. These comments were not related to the task being performed but were of a personal nature. The same task was also performed with no feedback at all. The times it took to complete the maze was recorded and compared.</p> <p>Results People had shorter times with positive feedback than with negative feedback, but the shortest times of all were with no feedback at all.</p> <p>Conclusions/Discussion I concluded tht creatign a positive and supportive atmosphere around a person can enhance their ability to perform a task when compared to performing the same task in a negative atmosphere. However, both types of feedback in this particular experiment seemed to lessen the person's ability to concentrate on the task, since most subjects has their shortest times with no feedback at all.</p>	
Summary Statement Does positive or negative peer support affect a person's ability to perform a physical task?	
Help Received My parents helped me design my experiment. My father helped me build the posts to create my maze.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Ryan M. Ponec	Project Number J1712
Project Title The Effects of a Student Generated Lesson Summary on Retention	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals At the end of a lesson, a teacher will sometimes have students summarize the information presented by stating, "Tell me something you learned". The purpose of this experiment is to determine whether or not this "lesson summary" significantly enhances the students' ability to later recall the information presented.</p> <p>Methods/Materials Students from grade levels fifth through eighth were divided into six groups. All six groups were read the same article. None of the students knew they would be tested on the material later. At the end of the article, half of the groups were asked to state something they had learned from the article until ten responses were obtained (about three minutes). This was called a "lesson summary". It was a brief, student-generated summary (the students volunteered the oral information). The other groups did not perform a lesson summary. Both groups were later tested for retention of the information, and their scores compared. The process was then repeated for a second article and test, but with the groups reversed (i.e. the previous "lesson summary" group was now the no "lesson summary" group).</p> <p>Results In all cases (for all groups), the students who participated in the brief lesson summary scored significantly higher than those who did not. The average score for all students with a "lesson summary" was 18% higher than the average score for students with no "lesson summary".</p> <p>Conclusions/Discussion Although further studies should be done to confirm the outcome of this experiment, the results of this study would support a general recommendation to include lesson summaries as a part of a normal lesson plan. Students taking part in the lesson summary scored consistently and significantly higher than those who did not, suggesting greater retention through participating in the lesson summary.</p>	
Summary Statement The purpose of this experiment was to determine whether or not a brief, oral, student-generated "lesson summary" significantly enhances the students' ability to recall the information presented in a lesson.	
Help Received Thanks to Mrs.Hunker for letting me use her classes for testing.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Sanhita Reddy	Project Number J1713
Project Title Are You Blinded by Color? Influence of Color on People's Choices	
Abstract Objectives/Goals My project was to determine if color influences people's choices in choosing an item when given a favorable color and another favorable trait. I believe that a person will choose a favorable color over another favorable trait. Methods/Materials The materials I used in this experiment were food, fashion products, working tools, and people who can see color. I asked the testers questions to find out what their favorite color was and another favorite trait of a product. Then I presented them with two choices, neither of them had both the traits they liked. Depending on whether they chose their favorite color or favorite trait over their favorite color, I concluded whether or not color influences them. I repeated this experiment on the same people so I could get a more accurate result. Results Color influenced 83% of the people I tested. This result is very similar in all the products I tested. Color seemed to influence kids of the ages 2-5 more than any other age group I tested. As the ages increased, the influence of the color decreased. This happened in both genders. Conclusions/Discussion My conclusion is that color influences children more than adults. When children were given two choices-- one with a color they liked and another with another trait they liked, then they most likely picked their favorite color. Adults didn't seem to be influenced by color of the products I tested. This data suggests that companies that make products for little kids should make color the highlight of their product, and at the same time little kids should be taught to like a product for it's features, not just for it's color.	
Summary Statement My project was to find out if people's choices are influenced by their favorite color over another favorable trait when choosing an item.	
Help Received	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Ivana P. Rojas	Project Number J1714
Project Title Do You Know What Your Children Watched Last Night?	
Abstract Objectives/Goals To find out whether movie theaters in LA county have the necessary methods in place to prevent children under age from watching movies that are not appropriate for them, due to violence, explicit sexual scenes or foul language. Methods/Materials 18 cineplexes were picked and theaters were graded according to the way their security responded to 3 different situations. 1- Can a 12 year old child buy tickets for an R [Rated movie without her parents present? 2.-Can she come into a room where R Rated movies are being watched unscorted without being stopped? 3.-Can she stay in the room. watched the movie without being asked to step out? Results 1.-9/18 (50% of theaters did not sell R-rated movie tickets to us. 2.-5/18 (28%) theatres had security guards at the entrance of the movie and did not allow the children in. 3.-13/18 (72%) allowed children to stay in the theater while watching the R-rated movie. Conclusions/Discussion In conclusion I think I proved my hypothesis to be correct: that the theaters in general lack a good security system to prevent children from watching R- Rated movies. That the voluntary system does not work because parents trust a system that is faulty or does not exist and most do not understand.	
Summary Statement I'm testing whether or not Movie theaters in LA county lack the necessary methods to prevent children from watching movie inappropriate for their age.	
Help Received Mother helped with the board	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Bryan A. Roth; Marc J. Weintraub	Project Number J1715
Project Title If Einstein Had Watched More TV, Would We Have $E=mc^2$?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Our objective was to determine if there is a negative correlation between TV watching and grade point average amongst 6th, 7th, and 8th grade students.</p> <p>Methods/Materials We developed a survey to collect data about students' GPA and the hours of TV they watch per week. Four hundred forty-one 6th, 7th, and 8th grade students completed the survey. The breakdown by grade level was: 58 6th graders, 234 7th graders, and 149 8th graders. Based on the survey, we calculated the GPA for each student who responded, and we entered each GPA into a spreadsheet for their grade level. Within each grade level, we grouped the individual GPAs into the corresponding groups of #hours of TV watched. These groups were: 0-1 hours, 2-3 hours, 4-5 hours, 6-8 hours, and 9+ hours of TV watched. Then, we calculated the mean GPA for each group, and graphed the results.</p> <p>Results In seventh grade, for 9+ hours of TV watching per week, the mean GPA was 2.22, the lowest GPA in that grade. By contrast, the 0-1 hours group had a mean GPA of 3.04. In eighth grade, the lowest mean GPA, 2.38, was associated with 9+ hours of TV per week. In comparison, the 0-1 hour group had a mean GPA of 3.07. Finally, in sixth grade, the lowest GPA, 2.83, was associated with watching TV for 6-8 hours per week, but the second lowest GPA, 3.08, was associated with watching 9+ hours of TV per week. By comparison, the mean GPA of those who watched 0-1 hours was 3.46. For both 7th and 8th grade students, as the amount of TV watched per week increased, the mean GPA decreased. Though the correlation was not as obvious for the 6th graders, they generally followed this trend, in that the lowest mean GPA was generated by those who watched many hours of TV per week.</p> <p>Conclusions/Discussion Our hypothesis appears to be correct in two of the three grades. For 7th and 8th graders, the more TV that they watched, the lower their grade point averages. For 6th graders, we saw the same relationship, except for the group that watched nine or more hours of TV per week. For that group, the grade point averages were higher than prediction.</p>	
Summary Statement Four hundred forty 6th, 7th, and 8th grade students were surveyed to determine if there is a negative correlation between TV watching and grade point average.	
Help Received parents reviewed work	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Carrie K. Schwartz	Project Number J1716
Project Title Meal Appeal	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My project was a survey to see if red food in a meal would make the meal more visually appealing. I believe that the meals with red food in them will be more instantaneously eye appealing than meals without red food. I believe this because red triggers positive physiological changes in the body including acting as an appetite stimulant.</p> <p>Methods/Materials As of the date of the county science fair, I had surveyed 106 randomly selected males and females in the following age groups: 18-30 years, 31-50 years, and 50+ years. Using the following four parameters, I prepared four fruit salads (two with red food accents) and four vegetable salads (two with red food accents): (1) red as an accent color only; (2) the rule of "two and odd" which limits the number of colors on a dish to two or any odd number starting at three; (3) the rule of "light, dark and bright" where there should be light foods, dark foods, and bright foods displayed on a dish for maximum eye appeal; and (4) the colors of food stand out best on a white plate. After pictures were taken of these salads, I surveyed people by asking their opinions as to which fruit salad and which vegetable salad were the most appealing.</p> <p>Results I found that, of the people surveyed, 91% chose fruit salads with red food and 65% chose vegetable salads with red food. I also found that, while females favored the combination of red, yellow and green foods, males preferred the combination of red, orange and green foods. There were no significant preference differences among the age groups, they all preferred the salads with red food.</p> <p>Conclusions/Discussion My conclusion, which supports my hypothesis, is that meals with red food are more visually appealing than meals without red food.</p>	
Summary Statement I surveyed people to see if red food in a meal would make the meal more visually appealing.	
Help Received Ralphs provided a survey space; college librarians assisted with computers and microfilm; parents gave me editing suggestions; mother drove me where needed	



CALIFORNIA STATE SCIENCE FAIR 2002 PROJECT SUMMARY

Name(s) Sarah T. Silverstein	Project Number J1717
Project Title Who Takes Better Care of Their Teeth?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Taking good care of your teeth requires brushing, flossing and having a healthy diet. The objective of this project is to determine who takes better care of their teeth. It is hypothesized that girls take better care of their teeth than boys, and children with braces take better care of their teeth than those without braces.</p> <p>Methods/Materials A survey was used to obtain information about braces, brushing frequency and technique, flossing, and daily servings of milk, fruit and vegetables. 136 seventh graders (N=68 boys and N=68 girls, mean age=12.2 years) responded; 13 boys and 15 girls had braces. Means and percentages were calculated by gender and braces.</p> <p>Results More girls than boys brushed 3 or more times/day (29.4% vs. 10.3%), used the correct technique (48.5% vs. 38.2%) and flossed (48.3% vs. 38.2%). Children with braces took better care of their teeth than those without braces; more brushed 3 or more times/day (23.1% vs. 7.3% in boys; 40.0% vs. 26.4% in girls) and used the correct technique (53.8% vs. 34.5% in boys; 53.3% vs. 47.2% in girls). More boys with braces flossed than those without (53.8% vs. 47.2%), but the opposite was found for girls (46.6% vs. 66.0%). There were few differences by gender or braces in servings of milk or fruits and vegetables, which were below the recommended amounts for good health.</p> <p>Conclusions/Discussion The results of this study confirmed that girls take better care of their teeth than boys and children with braces take better care of their teeth than those without braces. Overall though, the majority of both boys and girls brush less often than recommended, possibly because they are unable to brush when away from home. Most boys and girls do not use the correct brushing technique and less than two-thirds floss daily, which suggests that dentists and hygienists need to review oral health behaviors with older children.</p>	
Summary Statement This project compares the oral health behaviors of boys and girls and children with and without braces.	
Help Received Science teacher gave out surveys; Mother helped type report; Father gave dental molds; Orthodontist gave dental photos.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Soukarana Stephens	Project Number J1718
Project Title Remarkable Memories: Comparing the Memories of Literate and Non-literate People	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to determine if people from non-literate societies have better memories than people from literate societies.</p> <p>Methods/Materials I read a list of 16 words to individuals between the ages of 9 and 14 from both a literate and a non-literate society. I asked them individually to recall the words and I recorded the correct answers. I compared the results of the groups to see which group had better memories.</p> <p>Results The group from the non-literate society had a higher percent of correct answers than the group from the literate society.</p> <p>Conclusions/Discussion The result of my experiment supported my hypothesis that people from non-literate societies have better memories than people from literate societies. I also learned that there may be other factors that affect memory.</p>	
Summary Statement My project compares the memories of people from a non-literate society with those from a literate society.	
Help Received Father helped with project design, language on report composition and generation of graphs using computer software.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Elizabeth M. Tauscher	Project Number J1719
Project Title Does the Strength of the Parent-Child Relationship affect Grades?	
Abstract Objectives/Goals This experiment tests if the parent-child relationship affects grades. If the relationship does, maybe people can find out what it takes to have a good relationship to raise grades. The experimental hypothesis is that if a child has a positive parent-child relationship, then that child's grades will be in the A's and B's 80% of the time. Methods/Materials To test the hypothesis two surveys of thirteen questions were written, one for parents and one for children. The parent surveys were all given on September 19, 2001, during the Thurgood Marshall Middle School Back-to-School Night in Mrs. Gillum's classroom. Exactly 163 parents were surveyed. The students then took the surveys on November 30, 2001, and exactly 175 students were surveyed. Results A correlation between grades in A's and B's with good or excellent relationships appeared 62.7% of the surveys. Families with students earning grades in A's and B's and spent at least an hour talking with each other appeared 54.2% of the time. Parents and students with a relationship of good or excellent and spend at least one hour talking with each other appeared 66% of the time. Students who had families dinner at least three times a week, earned grades in A's and B's 70.3% of the time. Conclusions/Discussion The experimental hypothesis was proven wrong. The positive parent-child relationship was stronger for students with better grades only about 50% of the time, instead of 80%. This shows that the parent-child relationship is a factor, but not as large as hypothesized. Although the hypothesis was proven wrong, the data still shows that the parent-child relationship plays a large part of a child's grades. More studies should be done on what specific parts of the parent-child relationships play a part in a child's school grades.	
Summary Statement The role of the parent-child relationship in achieving good grades.	
Help Received Mrs. Gillum and my mother helped to make copies of the survey.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Courtney M. Venable	Project Number J1720
Project Title The Power of Suggestion! Subconscious Response to Physical Suggestion	
Abstract Objectives/Goals The objective of my project is to determine if children will subconsciously react to physical suggestion more often than adults. Based on my research of brain development, I hypothesize that children will react more often. Methods/Materials Identify 30 adults and 30 children (half male/half female) to test. Select 2 newspaper articles of common theme and equal length. Define 4 physical suggestions, e.g. yawning, to be performed while reading 1 of the articles. Write a script so that all subjects are asked the same questions and given the same instructions. Include a question on past head injury. Based on my research, injury to the brain's frontal lobe can cause a person to be more likely to react to physical suggestion. Head injury information on subjects can help determine if it is a factor in this experiment. Meet with subjects separately and follow script. Each subject serves as their own control. Read the first article to them and perform no physical suggestions. Observe subject's physical behavior. Read the second article while performing the 4 physical suggestions. Observe subject's physical behavior and any responses. Record observations with notebook and pen after reading is complete. Repeat procedures for all subjects. Results Of 30 adults, 2(6.7%) reacted to physical suggestions. Of 30 children, 19 (63.4%) reacted. Of 5 adults that had head injuries, 0 reacted to suggestions. Of 9 children that had head injuries, 6 (66.7%) reacted. Of 21 children with no head injuries, 13(61.9%) reacted. Conclusions/Discussion My conclusion is that children will react more often than adults to physical suggestion. My results support my research which states that the brain's corpus callosum fully develops by the age of 20. The corpus callosum is a band of nerves that connects both sides of the brain and controls intelligence, consciousness, and self-awareness. My results partly support my research on frontal lobe damage. None of the adults that had head injuries reacted to suggestions. The percentage of children with head injuries that reacted was slightly higher than those without. Either head injury or brain development could affect their reaction to suggestion. It is most likely that head injury was not severe enough to affect their behavior and that it was not a factor in the results of my experiment.	
Summary Statement My project is about the effect of age and brain development on a person's subconscious reaction to another person's physical suggestion.	
Help Received Parents drove me to meet with subjects; Mom cut out colored matting for my board; Teachers allowed me to meet with children during class time.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Michael Walston	Project Number J1721
Project Title Whole, Left, and Right Brain Dominance	
Abstract Objectives/Goals Do students that receive high grades (A's) in math or science in school test more "Whole" (can use both sides of the brain fairly equally), "Left" (uses predominately the left academic side of the brain), or "Right" (uses predominately the right creative, intuitive side of the brain) brain dominant and are they older/younger/male/female? Methods/Materials Three published brain dominance tests were given to a total of (85) individuals. (11) were in a trial group and (74) in the actual test group for data. There were (48) 7th grade math students and (26) 8th grade science students tested in their classroom environment. The data was collected, scored, and charted. "Whole" was grouped with "Left" due to a small number testing "whole brain" and similar academic performance. I then ran a statistical Z= test with P= values with data. Results Results showed in grade 7 math, 48% tested whole/left with 70% "A" grade. 52% were identified Right with 44% "A" grade. 91% "older" students tested Whole/Left with A's compared to 42% of Rights. The differences between the percentages are statistically significant ($Z=9.8, P=.00$). Subgroups were consistent with the above. Grade 8 science presents similar results. W/L have higher performance. Subgroups were not consistent due to a smaller number of students tested in grade 8. Conclusions/Discussion The data supported the evidence for these hypotheses. Students that tested Whole/Left brain dominant performed better than those testing Right brain. The "Older" Whole/Lefts performed better than "Older" Rights. The "Younger" Whole/Lefts performed better than "Younger" Rights and both male and female Whole/Left brain dominant students obtained more "A Grades" than the male and female Right brain dominant students.	
Summary Statement My project is about brain dominance as compared to grades, age, and gender.	
Help Received Mother and father took me to numerous libraries, renewed books many times, and got supplies.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Lauren A. Waterhouse	Project Number J1722
Project Title Do Democrats and Republicans Recycle Their Trash at the Same Rate?	
Abstract Objectives/Goals My project was to determine if Democrats and Republicans recycled their trash at the same rate. My hypothesis was that Democrats would have a higher recycling rate than Republicans. Methods/Materials One hundred and eleven households, 59 Republican and 52 Democratic, were surveyed. I used only those households in which all the voters in the house were of the same political party, either Democrat or Republican. On the night before trash pick-up day, I surveyed people in my large neighborhood and measured the volume of garbage in the gray bin and the volume of recycling in the blue bin. I then calculated the recycling percentage. Results On average, Democratic households had a higher recycling rate than Republican households. The Democratic recycling rate was 59.5% and the Republican recycling rate was 47.1%. Conclusions/Discussion My conclusion is that the recycling rate of Democrats is higher than the recycling rate of Republicans; therefore, my hypothesis is correct.	
Summary Statement My project is to determine if Democrats and Republicans recycle their trash at the same rate.	
Help Received My mom and dad drove me throughout the neighborhoods so I could collect data.	



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Kyle A. Zimmerman	Project Number J1723
Project Title Many ZzZs a Day Keeps the Counselor Away	
Abstract Objectives/Goals Does the average amount of weeknight sleep an eighth grade student get, effect his/her academic performance in school? Methods/Materials 1. Make a survey to collect data on the average amount of week night sleep and report card grades earned by 8th grade students. 3. From the surveys returned, record the gender, average hours of week night sleep, and report card grades earned for each student. Record the report card grades under the categories: Male and Female, Math, Science, English, History, and total GPA. 4. Study the data recorded to determine if the average amount of week night sleep an 8th grader gets has any effect on her and/or his earned report card grades. Results 500 survey copies pencils report card data 1 calculator Motorola Star Max 3000/180 Power PC Claris Works and Microsoft Word Software adult assistance to obtain report card data Conclusions/Discussion My science project was fun! The hypothesis I arrived at for my experiment was partially correct and partially incorrect. My hypothesis is, #My research has led me to believe that people with an average of 9 to 9.5 hours of sleep will preform better academically than people who average less or more sleep than 9 to 9.5 hours of sleep.# My experiment proved to me that 8th graders with a sleep average between 8 and 9 hours of sleep get better grades. I did not think that 8th graders with an average of 8 hours of sleep would earn the highest percentage, straight A#s. The 8 hour sleep range was also the best when it came to A and B GPA#s. If I was to do this experiment again I would conduct the experiment with more 8th graders, and do more research on the specific age of 8th graders. One way I would gather more data is to ask teachers to fill out a section on work habits for the students in the experiment. I would possibly survey an entire high school for a better range of teenagers, not just 13 year-olds.	
Summary Statement My project is all about trying to find out how much sleep effects grades in a positive way.	
Help Received I recieved help from my principal by blacking out all the names on my survey so that their names would not reach me. My biology teacher placed me in a gook category and helped improve my project. My mother helped make my board look wonderful!	