



California Science Center  
**CALIFORNIA STATE SCIENCE FAIR**  
**2001 PROJECT SUMMARY**

<b>Your Name</b> (List all student names if multiple authors.) <b>Preeti Gupta</b>	<b>Science Fair Use Only</b>  <h1 style="margin: 0;">J1516</h1>
<b>Project Title</b> (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) <b>Does Soda Consumption Lead to Fragile Bones?</b>	<b>Division</b> <input checked="" type="checkbox"/> <b>Junior (6-8)</b> <input type="checkbox"/> <b>Senior (9-12)</b>
<b>Preferred Category</b> (See page 5 for descriptions.) <b>15 - Physiology</b>	
<b>Abstract</b> (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.	
<p><b>Objective:</b> The objective of this project is to determine if the acid in soda will decrease bone density. My hypothesis is that children who drink more than five cans of soda per week will have a low bone density.</p> <p><b>Materials and Methods:</b> Informed consent was given to 200 11-14 year olds. Of the 200, 97 students were issued consent from student's guardians. A questionnaire was given out to all of the students that participated in this experiment. The questionnaire asked about how much soda did the subject consume per week, how much milk, exposure to sunlight, race, vegetable consumption and exercise. The subject then took an ultrasound test and the results were recorded.</p> <p><b>Results:</b> Thirteen out of 97 subjects were below one standard deviation which put them below the normal. Of those 13, 6 drank more than 5 cans of soda per week. There is no definite relation between soda consumption and low bone density. Other factors contributed to the subjects that had low bone density, lack of calcium, exercise, vitamin D or a family history of osteoporosis.</p> <p><b>Conclusion:</b> My conclusion is that through my experiment, no definite relationship is shown between high rates of soda consumption and low bone density.</p>	
<b>Summary Statement</b> (In one sentence, state what your project is about.) My project tested the bone density of human subjects using an Ultrasound unit and I compared that number to the students' soda consumption habits.	
<b>Help Received in Doing Project</b> (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. Ramona Medical Clinic provided an Ultrasound unit, UCLA Medical Research Library	