



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> Sukhdeep S. Samra	<b>Project Number</b>  23403																		
<b>Project Title</b> Creepy Crawlers																			
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> To determine how the mass of a harvest spider affects its vibrations on its web.</p> <p><b>Methods/Materials</b> Materials</p> <p>Six Harvest Spiders Laser Photocell Mac LC II Computer Flashlight Balance</p> <ol style="list-style-type: none"><li>1. Mass several spiders (6) of different sizes.</li><li>2. Start up the Data Logger computer program</li><li>3. Attach photocell to computer.</li><li>4. Shine laser so that the beam is centered on the photocell</li><li>5. Place spider between photocell and laser.</li><li>6. Shine a flashlight at the spider</li><li>7. Start the Data Logger program to record the number of vibrations.</li><li>8. Record data for 1 minute.</li><li>9. Repeat steps 5-8 for all spiders</li><li>10. Repeat step 9 a total of 4 times per spider.</li><li>11. Record all data</li></ol> <p><b>Results</b> Spider vpm = vibrations per minute / mg = milligrams</p> <table><tr><td>#1</td><td>28.43 vpm</td><td>191.62 mg</td></tr><tr><td>#2</td><td>22.73 vpm</td><td>250.35 mg</td></tr><tr><td>#3</td><td>22.22 vpm</td><td>332.60 mg</td></tr><tr><td>#4</td><td>18.74 vpm</td><td>461.31 mg</td></tr><tr><td>#5</td><td>16.49 vpm</td><td>502.03 mg</td></tr><tr><td>#6</td><td>12.30 vpm</td><td>530.79 mg</td></tr></table>		#1	28.43 vpm	191.62 mg	#2	22.73 vpm	250.35 mg	#3	22.22 vpm	332.60 mg	#4	18.74 vpm	461.31 mg	#5	16.49 vpm	502.03 mg	#6	12.30 vpm	530.79 mg
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<b>Summary Statement</b> My project is about determining how the mass of a spider affects its vibrations on a web.																			
<b>Help Received</b> I recieved help form Mr. Bodily at Fowler High School in setting up the computer program.																			