



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Sonia Samra	Project Number 22382
Project Title Opilliones: Harmonic Oscillators	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to learn how a spider's mass effects it's vibrations. I believe as the spider's mass increase the vibrations will decrease.</p> <p>Methods/Materials Six of the same type spiders with different mass. First spiders were massed. Then a photocell was attached to the computer and on the other side was a laser hitting the cell. The spider was placed inbetween. Every two times the beam was broken that was one vibration. Each spider was tested four times.</p> <p>Results The spider with the greatest mass had the least vibrations compared to the least mass spider.</p> <p>Conclusions/Discussion My conclusion is that heavier spiders vibrate at a slower rate, this is an example of harmonic motion. My hypothesis was supported by my data. The research on harmonic motion helped me develop a good hypothesis.</p>	
Summary Statement My project is about figuring out how mass effects the harmonic motion of a spider.	
Help Received Fresno State University used scale under supervision of a university student: Sukhdeep Bassi	