



**CALIFORNIA STATE SCIENCE FAIR  
2008 PROJECT SUMMARY**

<b>Name(s)</b> <b>Robyn J. Swift</b>	<b>Project Number</b> <b>J1320</b>
<b>Project Title</b> <b>Time for Primes Phase II: Experimental Verification of the Prime Number Theorem</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The average distance between prime numbers is calculated using a random sampling method. The average distance between the primes up to a positive integer $n$ is numerically showed to be approximately $\ln(n)-1$ . <b>Methods/Materials</b> A random sampling method is used both by hand and using the computer program mathematica to calculate the average distance between consecutive prime numbers. <b>Results</b> The average distance between prime numbers is shown to be approximately $\ln(n)$ . <b>Conclusions/Discussion</b> The data obtained experimentally verifies the prime number theorem.	
<b>Summary Statement</b> To experimentally show that the average distance between consecutive primes increases.	
<b>Help Received</b> Parents helped assemble display board.	