



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.) Jesse L. Nabel	Science Fair Use Only <h1 style="margin: 0;">J1525</h1>
Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) How Height Affects Running Speed	Division <input checked="" type="checkbox"/> Junior (6-8) <input type="checkbox"/> Senior (9-12)
Preferred Category (See page 5 for descriptions.) 15 - Physiology	
Abstract (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>Objective: The objective is to find out if shorter people or taller people run faster and why.</p> <p>Methods: Twenty-four student volunteers ranging in age from 11 to 14 years were measured for height, weight, and leg length. They were timed with a stop watch and filmed on video camera for the 50 yard dash. The running course had visible yard markers to make stride length measurements possible on review of the video. Using freeze frame technology, stride rates were also calculated. Running speeds were compared to runners' heights, leg lengths, ages and body mass indexes. Stride rate and stride length were compared to height.</p> <p>Results: The results of my study showed that running speed decreased with increased height, leg length and age. There was a small trend showing that a higher Body Mass Index resulted in a slower running time. Although there was very little variability in stride rate, taller people had a little faster stride rate. Taller people also had a longer stride length.</p> <p>Conclusion: My conclusion is that taller people ran faster in my study than shorter people. Since speed is the product of stride rate and stride length (both of which were greater in taller people), this probable explains why taller people were faster.</p>	
Summary Statement (In one sentence, state what your project is about.) My project is about how height affects running speed.	
Help Received in Doing Project (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. Dr. Whiting of CSUN and UCLA provided telephone consultation. Ms. Diple (P.E. teacher) provided students volunteers, helped set up the field, and timed Jesse when he ran. Jesse's mother filmed while Jesse clocked the runners; supervised measurements of ht, wt, and leg length; Jesse's father taught Jesse how to use the computer program for his graphs.	