



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

Name(s) Kelly R. Fitzgerald	Project Number 31006
Project Title Balance through the Ages	
Objectives/Goals Which age group has the best balancing skills? Can participants improve their balancing skills after practicing over five days? Methods/Materials I used a stopwatch, a paper, and a pencil. I had participants stand on their right foot with their left leg by their right knee. Their arms should be out to the side with their eyes closed. I used a stopwatch to see how long they could hold this pose. They were instructed to do ten ankle raises, two times a day for five days. After five days, I tested the participants again to see if their balance has improved. Results People around twenty years of age have the best balancing skills. As a child, your balancing skills are still improving because your brain and your muscles are still developing. When you are twenty, you are at your physical peak of muscle coordination and strength. After age twenty, your balancing skills start to decrease because your vestibular function, strength, and muscle coordination all decrease. Your muscles continue to develop coordination and strength up to age twenty. Your vestibular function is at its maximum at birth, and slowly decreases with age. When you are twenty, your vestibular function will be at its highest, relative to your muscle strength. That is why your balancing skills are the best when you are twenty, and not any other age. This experiment also demonstrated that you could improve your balancing skills with practice within five days. Conclusions/Discussion My hypothesis stated that your balancing skills are the best when you are around twenty years of age. 21-25 year olds have, on average, a time of 307 seconds; their second time was 330 seconds. The next closest age group I have to that time was the 16-20. Their first time was 248.65 seconds, and their second time was 330.49 seconds. This proves that twenty year olds have the best balancing skills. Plus it is now proven that you can improve your balance within five days. Out of twenty-nine participants, only three of them did not improve their times, two of them got the same time. If I had to redo my project, I would separate the males from the females, because males and females could have different balancing skills.	
Summary Statement I was trying to find the age group with the best balancing skills, and see if the participants would improve within five days.	
Help Received My parents proof-read my summary and project.	