



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> <b>Sophia G. Cotman</b>	<b>Project Number</b> <b>J0109</b>
<b>Project Title</b> <b>Swim Caps: Do They Really Make You Faster?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> This project was designed to determine if wearing a swim cap while swimming increases your speed. My hypothesis was that using a swim cap would help increase your speed significantly.</p> <p><b>Methods/Materials</b> I purchased two Barbie dolls for this experiment. I shaved the hair off of one of the dolls and left the long hair as-is on the other doll. I then placed weights inside the dolls' heads to give them equal weight. After that, I dropped both dolls into a pool and timed their underwater descent to see if the difference was significant. Immediately thereafter, I placed tape on the head of the doll with long hair to create a "swim cap" on its head and the process was repeated.</p> <p><b>Results</b> The doll with no hair traveled the fastest, and the doll with the "swim cap" traveled slower than the bald doll, but faster than it did with its full head of hair. The doll with hair was the slowest of them all.</p> <p><b>Conclusions/Discussion</b> My conclusion is that swimmers who want to swim faster should definitely wear swim caps and, if they are Olympic swimmers going for the gold, they should shave their heads and be bald.</p>	
<b>Summary Statement</b> I showed that using a swim cap makes swimmers a lot faster by dropping two dolls (one with hair and one without) underwater and timing their underwater descent.	
<b>Help Received</b>	