



**CALIFORNIA SCIENCE & ENGINEERING FAIR  
2019 PROJECT SUMMARY**

<b>Name(s)</b> <b>Trevor Berry</b>	<b>Project Number</b> <b>J0604</b>
<b>Project Title</b> <b>Studying the Decomposition of Cotton and Polyester Fabric</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives</b> The objective of my project was to determine if cotton and polyester would decompose naturally in a home composter.</p> <p><b>Methods</b> My study was conducted using the following items: One, white, 100% cotton t-shirt cut into 10 equal strips measuring 2"x13". One, black, 100% polyester t-shirt cut into 10 equal strips measuring 2"x13". One- FCMP Outdoor IM4000 Tumbling Composter, 37 gallon, dual chamber tumbling composter. Seven gallons of organic compost. My experiment was conducted by placing 3.5 gallons of compost into each side of the dual sided composter. I then placed the ten cotton strips into one side, and the ten polyester strips into the other side. I rotated the composter every other day. My experiment lasted 5 months. My experiment began October 1, 2018 and ended February 28, 2019. On the last day of each month, I would remove the fabric, rinse it in distilled water, let it dry, then weigh it.</p> <p><b>Results</b> The results of my experiment show that cotton fabric strips will decompose and polyester fabric strips will not. On October 1, 2018, the cotton strips weighed 27.4 grams. On February 28, 2019, what was left of the cotton fabric weighed 2.1 grams. On October 1, 2018, the polyester fabric weighed 40.7 grams, and on February 28, 2019 the polyester fabric weighed 40.3 grams.</p> <p><b>Conclusions</b> Based on my results, I can conclude that cotton fabrics will decompose naturally in land fills and a home composter. Therefore, instead of throwing away cotton fabrics in our regular garbage bins, we should be putting them in our green waste garbage bins since they will decompose naturally like leaves, twigs, branches, and grass clippings. My experiment also determined that man-made fabrics, such as polyester, will cause a problem for recyclers and land fills because these fabrics will not decompose naturally, and will continue to take up more and more space.</p>	
<b>Summary Statement</b> I determined if cotton and polyester fabrics would decompose in a home composter.	
<b>Help Received</b> Mr. Gulbranson, my classroom teacher, taught me how to use a scale to accurately measure the weight of my fabrics.	