



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY**

Name(s) Emogene G. Karas	Project Number J2110
Project Title Measuring the Attributes of Different Fabric Weaves	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals In this experiment, I wanted to find out if there was a relationship between the weave of a fabric (plain twill satin weave) and the strength stretch and fray of it. I tested by ripping the fabric for strength, putting weights on the fabric for stretch, and fraying the fabric with sandpaper. I tested each type of fabric 9 times, 3 along grain, 3 cross the grain, 3 diagonal grain. In the end, twill was strongest, plain frayed most, and plain stretched most.</p> <p>Methods/Materials I tested by ripping the fabric for strength, putting weights on the fabric for stretch, and fraying the fabric with sandpaper</p> <p>materials~ 1 yard of twill cotton, 1 yard of satin cotton, 1 yard of plain cotton, fishing scale, 2 spring clamps, 1 2pound weight, drill, sandpaper.</p> <p>Results the tests show that twill was the strongest weave, plain frayed the most, and plain also stretched the most.</p> <p>Conclusions/Discussion patterns in the grain of the fabric show that there is probably a relationship in the grain of the fabric and the strength and stretch of it. One could possibly test this for further research.</p>	
Summary Statement In this project i tested to see if the weave of a fabric affected it's strength, stretch, and fray.	
Help Received Although my parent's helped me come up with the project idea, I designed and performed the experiment by myself.	