# CALIFORNIA STATE SCIENCE FAIR
## 2014 PROJECT SUMMARY

**Name(s)**
Sierra G. Gilmore

**Project Number**
**J0110**

**Project Title**
## Does the Type of Material Affect How Long a Parachute Floats?

**Abstract**

**Objectives/Goals**
My project was to determine if certain materials affect how long a parachute floats. I believe that the type of material does affect how long a parachute floats due to the balance needed between drag and gravity to create a safely landed parachute.

**Methods/Materials**
Four model parachutes with identical structure, but different masses and weights, were constructed. One parachute had a silk base, the second had a nylon base, the third had a denim base, and the fourth had a tulle base. The parachutes were each given the same amount of weight (4 pennies) to carry when making the flight down from the 7' 7.5" height for 25 trials per parachute, then each given a heavier identical weight (12 pennies) to carry for an identical flight height for another 25 trials. All times were recorded down to the hundredth of a second.

**Results**
The silk parachute consistently had the longest air time of all four parachutes for trials holding a four penny weight. The nylon parachute consistently had the longest air time of all four parachutes for trials holding a twelve penny weight. The denim parachute had a slightly shorter air time then the silk or nylon parachutes, while the tulle parachute had a significantly shorter air time then all four parachutes.

**Conclusions/Discussion**
My conclusion is that the type of material does affect how long a parachute floats and that the only reason we don't use silk rather than nylon is most likely due to economic reasons, since nylon costs significantly less than silk.

**Summary Statement**
The focus of my project was to determine whether the mass and structure of a parachute has significance on how it falls.

**Help Received**
Mother purchased project supplies and helped with trials.