



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> <b>Nicholas R. Ford</b>	<b>Project Number</b> <b>J0911</b>
<b>Project Title</b> <b>Trailer/Truck Light System Tester</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My projects goal is to find out if I am able to test a commercial trailers light system without having a truck available as a power source. The tester I will build needs to be small and light enough so that I can move it from trailer to trailer by hand.</p> <p><b>Methods/Materials</b> Looking through several wiring schematics I chose the materials for my list. I had to modify the schematics with two flashers so that it would work with my toggle switches. This was to simplify the system and still mimic the commercial truck light system. The first time I used my new tester it didn't work with every trailer. I found that the tester worked with the old incandescent lights but didn't work with the newer L.E.D. lights. Replacing the flashers with a lower amperage style fixed this problem. Retesting showed the tester working properly with both style lights.</p> <p><b>Results</b> I now have a tester small enough to push by hand that I can take out into a parking lot and test commercial trailers. I went from trailer to trailer to test each of their light systems. By building this tester I was able to eliminate having to hook up each trailer to a truck to test the trailers light system. This Trailer/Truck light system tester cost \$ 500.00 to build.</p> <p><b>Conclusions/Discussion</b> By using my tester on commercial trailers the first time I was able determine that it needed different flasher to work properly with all styles of lights. With that being fixed I was able to prove my hypotheses true. By building this portable trailer/truck tester I was able to test the commercial trailers light system and it worked without having to hook up to a truck as the power source. Having this tester will save a commercial trucking company money each time they use it.</p>	
<b>Summary Statement</b> By building a portable trailer/truck light system tester I can eliminate using a truck as a power source.	
<b>Help Received</b>	