Criteria for Success

Building

- Build the Initial Data Table to capture the following information:
  - 6 trials with qualitative data
  - Measurements of distance car #2 travels after collision (optional)
- For bumper:
  - Bring materials from home
  - Bumper must be detachable
  - Car 1 must still collide with Car 2
  - The only modifications to this system can be made to the bumper of Car 1
- Build the Final Data Table to capture the following information:
  - 6 trials with qualitative data (focusing on the effectiveness of the bumper during collision)
  - Measurements of distance car #2 travels after collision (optional)

Modeling

- Construct a before, during, and after model of the collision system for the car with the modified bumper
- Label all components of the system
- Label all the forces acting within the defined system
- The before, during, and after models should have a brief explanation of what is occurring in the system at that time

Writing a Proposal

- Write a formal design proposal to General Motors
  - Provide a description of materials used to modify the bumper
  - Provide a rationale for the modification of the bumper
  - Include and explain qualitative data
  - Argue using data how the improved bumper reduces the force of impact