Physics Flow Chart

My design started out simply with a base for the mousetrap to be attached to. I wanted to make it rather easy to swap out in case the mouse trap broke, so I decided to use industrial-strength Velcro connected to the body of the car. I then tried connecting a power axle, but I couldn’t get the string to grip it properly, so I moved on. I then had about three variations trying to use two gears on different levels, but the two different levels kept pulling apart. I eventually found a gearing solution and finalized the body of my car, using three different gears. The first and last gears were really the only ones I needed to use, but I couldn’t drive the center gear’s axel, so I added a gear in front so I could drive it more easily. I then directed my attention to making the car move and started by trying to squish a string between the side of the body of the car and a piece attached to the axel. I could not get the string to stick with this method, so I ended up connecting a piece to the axel which would allow me to tie the string on. This would stop the car once the string was used up, as the mousetrap would resist the string winding itself up again. The final change to my design came when I extended my mousetrap arm with a few lego pieces.

Final Design: My final design is made almost entirely of legos. The mousetrap is located at the front, and uses an extended arm to pull on an axle. This axle is connected through 3 gears to the main axle, which directly powers the wheels.