1. **What are the two types of friction that affect the performance of your vehicle?**

The two types of friction that affected the performance were rolling friction in the wheels (the discs) and sliding friction (the string flicking off as the engine).

1. **What problems related to friction did you encounter and how did you solve them?**

The problems we encountered that are related to friction were sliding friction because the discs didn’t move properly, and so to solve the problem, we added masking tape to the edges of it, hence; fixing the problem.

1. **What factors did you consider to decide the number of wheels you chose in your design?**

The factors we considered were the extra support for the overall body, holding up with four wheels. The kind of use in each axle were hot gluing down straws in two horizontals, then skewing both skewers through each straw to hold up the body. The affect was the body floating in the air because of all four wheels.

1. **What kind of wheels did you use in each axle? What is the effect of using large or small wheels**

Newton’s first law was the string acting upon the hot glued bottle cap that moved the back wheels, accelerating the whole car forward.

1. **Explain how Newton's first, second and third laws apply to the performance of your vehicle.**

Newton’s second law: f = mass x acceleration, applying more force on the object to move it. Newton’s third law *states that for every action (force) in nature there is an equal and opposite reaction*, meaning the force instead is moving forward to gain momentum. We tried to use make what was there. The lever had to be thin, short and sturdy for it to clasp itself onto the metal.

1. **Discuss the effect of the length of the lever arm in the pulling force of your vehicle.**

The lever is used to wind up the wheels and accelerate it. The length can depend either bring it down or make it move more swiftly. If it was a bigger lever, the lever would snap the thread to finally follow motion and longer distances.

1. **Discuss the types of energy transformations that occur in your car.**

We added masking tape to the wheels of our vehicle, so it can cause less friction when making contact with the ground.

1. **List the energy types that are wasted in your car.**

Heat energy because there is no actual motor, sound energy (the snap of the thread).

1. **Discuss how you increased the efficiency of your vehicle (reduced the wasted output energy).**

We tried to make it run smoother with a steadier body that wasn’t strong enough, nor did we understand the concept. To reduce friction however, we added masking type on the edges of the wheels (discs). To reduce heat, we’d have to make it sturdier, especially the base from curving ever so slightly. better it’s built, less wasted energy. To reduce sound, we’d have to make it more efficient for it to take motion.