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

The first type of friction that affects the mouse trap car is called rolling friction. This friction occurs between the wheel and the surface of the ground. The second type is air friction which occurs when the mousetrap car is moving.

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

I experienced rolling friction, which was the issue with friction. Because we glue that wheel to the axle, I had trouble getting it to roll.

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

We are building a car with less friction, and we decided that the car should have four wheels and rotational inertia, and it should move slowly over long distances.

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

We decided to use DVD for Wheels because it has extremely low rotational inertia and may move through the air with very minimal air resistance.

The effect of using large or small wheels is that smaller wheels on speed-trap racers will accelerate more readily and require less pulling power to attain the same acceleration as larger wheels, but they will have a shorter travel distance every turn.

Compared to small wheels, large wheels have more rotational inertia. This implies that once they begin rolling, it is more difficult to stop them. Large wheels are thus ideal for distance-based competitions since they will theoretically accelerate more slowly than smaller wheels yet roll even further and cover a larger distance.

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

The mouse-trap car is subject to Newton's first law, which states that it will remain at rest before being released and will tend to continue moving after being let free, with the exception of when it is acted upon by an external opposing force

The mousetrap car is subject to the second law because its mass and acceleration affect its force and speed.

Because the lever or mousetrap car is tugging the wheels forwards and commanding them to move, the third law is in effect. behind the car, pushing the ground.

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

The distance and torque of the vehicle are influenced by the lever arm's length. However, the longer lever arm pulls more string from the drive axle than the shorter lever arm even though it has less pulling force and travels a greater distance.

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

As the mouse-trap car starts to drive, this potential energy will change into kinetic energy. However, there is friction, and you must put forth more effort to get around it. Friction pulls energy away from your motion and transforms it into heat and sound, which causes the car to stop as its energy is transformed into various forms.

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

The energy that is wasted as heat and sound

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

essentially indicated that we taped the wheels to reduce heat and friction so that the next time, we might have a more durable body. I also noted how we selected discs since their lightweight and thin design helped to reduce friction and heat. Make the frame long and narrow and also using strong wood to make the body stronger