Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mousetrap Car Handout – Bring materials for the car to class with you on Friday. They must be things picked up from around the house.

Design a vehicle powered by the release of a mousetrap spring.

The vehicle must cover a flat distance of at least 3-meters.

No additional power source can be applied to the vehicle. (You cannot push it.)

The spring must not be adjusted. (Wound tighter.)

The wooden part of the mousetrap may be adjusted. (Cut, etc.)

The lever arm (the metal part attached to the spring) may be adjusted. (Lengthened, straightened)

As you learned, the energy needed to propel the mousetrap car comes from the spring of the trap. When the spring is pulled back, it stores energy. With a controlled release of this tension, the energy can be transferred into the spin of the car's axle.

Compose a drawing that shows the placement of the mousetrap on your chassis (the body of your car). Remember to include a pull string going from the lever arm of the mousetrap to the rear axle. As the mousetrap snaps, this movement is transferred to the spin of the axle.

In your drawing label all parts so that I can tell what materials you plan to use. I recommend extending the lever arm of the mousetrap. Also, be sure the end of the lever arm ends up over the back axle when the trap is set.

When putting together the wheels and axles do not put both wheels onto the axle. Put the first wheel on and then put the axle through the chassis (body) of the car and then put the other wheel on. The part the axle goes through can be straws, washers, etc. Remember this is where friction will occur. You want the least amount of friction possible.

Make a labeled drawing on the back of this page. An example is shown here. You would label what you plan to use for the body, wheels, axles, string, and lever-arm extender. Also, explain how you plan to attach the wheels to the axle and what the axle be put through to reduce friction. How will that piece be attached? Do you plan to put the mousetrap on the front or the rear of the car? Will you have three or four wheels? Will the single wheel be in the front or the back if using three wheels?

