Name_____

Problem Solving Car Rubric

Your car/truck will roll down a ten-foot ramp from a height of 78 inches and collide with a stationary object (at rest). No friction/brake systems are allowed. The wheels must easily roll.

Grading Rubric:

1. Your car/truck should closely resemble your prototype including dimensions.
2. It must contain a front bumper (crush zone) to absorb the impact.
3. It must have a restraint device (seatbelt) for the driver that must hold the driver in place during the crash.
4. The driver must be 1/4 visible from the front and a part of each side.
5. This car will roll down a ramp and have an accident at the bottom because it runs into a stationary object. (**An object at rest stays at rest until it is acted on by an external (outside) force**. The egg (driver) must survive (be unbroken) the crash for maximum points.
6. The wheels must easily roll.
7. The car/truck should look neat and well built.

Directions:

1. Draw the car/truck full size so you know what you are making and can see if you have enough material. Include all folds or glue seams in the paper that you think you might need.
2. Make a **prototype**. The prototype does not have to roll.
3. Design a restraint device for the egg.
4. Make sure your bumper is attached the car/truck so it won't come off.
5. If you want to put some windows in you car/truck, I have some transparent (see through) plastic.
6. The designer is responsible for cleanup at the accident site.

Additional Notes:

1. The axles are 3 inches long.
2. You will be given 1 1/2 sheets of material for the body
3. The bumper must not be over 1 1/2 inches past the car.
4. Only the wheels may be hot glued to the axles. The rest of the car should be put together with white glue.
5. Use tabs to hold the car body together.
6. Holes may be punched with a 1/4-inch hand punch.
7. Wheels may be double laminated.