A BOOMERANG CAR

The Scientific Explanation

The car rolls forward until it stops on its own, then rolls in the opposite direction.
Why does it go back?

- When the car rolls in one direction, the weight (the nut) persists in its hanging position and does not rotate with the car.
- This causes the rubber band to twist.
- The car comes to a stop due to the force exerted by the rubber band when it is s stretched.
- The car then rolls in the opposite direction as the elastic rubber band returns to its original state, the weight holds its position, and only the car turns back b b because of the force exerted on it by the rubber band. Friction exerted on the c car – with the floor, the air, and the rubber band – causes the car to eventually s stop.

The car's motion can be described in terms of the energy conversions involved:

- We roll the car – kinetic energy (motion).
- As a result, the elastic band attached to the car is stretched – elastic energy.
- The nut attached to the rubber band stays in place and the car stops – kinetic energy is converted to elastic energy.
- The car moves in the opposite direction – the rubber band's elastic energy is turned into the car's kinetic energy.

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