

The Joule Car

The objective of this project is for you to design and build a DEVICE that will TRANSPORT a 305 g (10 3/4 oz.) TOMATO SOUP CAN a distance of 4 meters or more over a level surface. The energy to propel the TRANSPORTER originates from Gravitational Potential Energy by placing the soup can at a height of 0.2 meters above its resting point.

RULES:

1. The 305 g can of tomato soup must be carried, NOT rolled or dragged, across the floor by the transporter that has maximum dimensions of H 30 cm x W 30 cm x L 30 cm.
2. The energy to run the transporter is to originate from lifting the can no more than 20 cm above the place where it will come to rest on the transporter at the end of the run. Non-compliance with this rule disqualifies the entry. Measurements of dimensions and dropping distance will be taken prior to your run.
3. Your entire transporter must stay intact. Nothing may detach from your transporter. If any part of the transporter falls off during the run, that part which covers the least distance will be used for the official distance measurement. The entire transporter must cross the designated finish lines (see below) for full points.
4. Once the transporter begins its run, it must be self-guided. The course will be 1 meter wide. If the transporter does not move in a straight line, the distance measurement will be taken from the starting line along the boundary to the point where the first wheel crossed the course boundary.
5. No source of chemical, elastic, spring, electrical or magnetic energy can be employed on the transporter.

SCORE

FIRST TIER:

Devices clearing the 4-meter-Mark will be placed according to the time it took to get there.

SECOND TIER:

Devices that do not reach the 4-meter-Mark will be placed according to the distance traveled. The tie-breaker is the time traveled.