

Solar Car Roll Down Test

Names _____

Directions: Complete the task. Get your teacher to initial the box when you complete each step.

Period _____

Build the chassis with bushings, axles and wheels

Gather the ROLL DOWN test data

You may repeat this step several times to get the best data you can get for your car. You may need to realign or modify your car to improve your score.

A. Mass of your car: _____ g (A low mass is good!)

B. Distance car rolls from the bottom of the ramp: _____ cm
(The longer, the better!)

C. When the car stops, how many cm's outside (to the right or left) of the runway is the car located?

_____ cm (The smaller the number, the better!)

D. Calculate *deduction* points: Every 10 cm outside of the 30 cm runway is equal to 1 point. Use these *examples* to help you:

9 cm to the left or right of the runway = 0 points

15 cm to the left or right of the runway = 1 point

28 cm to the left or right of the runway = 2 points

_____ cm to the left or right of the runway = _____ points

(The fewer points, the better!)

Calculate Roll Down Test score!

$$\left(\frac{\text{Distance car rolls}}{\text{Mass of car}} \right) - \text{points from D.} = \text{ROLL DOWN Test Score!}$$

Sample Calculation:

$(410 \text{ cm} \div 43.6 \text{ g}) - 2 = 7.4 \text{ points}$