

SOLAR POWERED CAR Follow Up Experiments



Once your car construction is complete you can work on improving the distance travelled by the car and the speed it travels.

https://video.deakin.edu.au/media/t/0_2eztmhze

You might investigate some or all of the following:

- Adding Weights
- Changing the Weight Distribution
- Changing types of wheels
- Changing Surfaces
- Changing surface of wheels (making more or less rough)

Adding Weights

Questions:

1. Do you think adding weight will increase or decrease the speed the car will travel? Why? Why not?

2. Construct a graph below of your findings using appropriate axis and titles.

3. Explain what happened when you added more and more weight, is there an optimal weight for the car? What else could be impacting the speed the car can travel?

Changing the Weight Distribution

For this experiment you will only use the optimal weight you found in the “Adding Weights” section and see how the location of the weight impacts how the car travels, e.g. veering left or right.

Note: All other variables must remain constant. EG. The surface the car travels on and the wheels used.

Questions:

1. Do you think changing the placement of the weight will affect the speed the car travels? How?

Using the optimal weight fix the weight to the back, front, left side, right side, and anywhere else you’d like to investigate. Place data and observations of the car in table below.

Weight Location	Distance Travelled	Notes E.g. Spun, flipped up, veered left

2. Did the location of the weight impact the speed travelled? Where some location more or less effective? Please elaborate.

3. Describe what happened when using different surfaces, in terms of friction and the speed the car travelled.

4. Choose one surface and theorise how you could improve the speed the cars travels.

Summarise

Using the experiments and data you completed above summarise what you have learnt. You should include such things as: constants and variables, friction, energy, energy loss, which activity you think had the most impact on the speed travelled? Could you combine modifications to keep improving the car?

Design Your Own Experiment

In the space below outline your own experiment and test accordingly. Be sure to include what constants and variables you are testing. Display your found data via charts or graphs.

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