

Do bigger wheels (tires) make a car go faster?

**S8**

# PURPOSE & HYPOTHESIS

To find out if wheel size on a car makes a difference in speed.

My hypothesis is that a small wheel will go faster, because it's lighter and spins faster.



# RESEARCH

I like building Lego cars and fire trucks, and they come with different size wheels. I also like cars like Bugatti and Lamborghini, and these have big wheels. I wondered if wheel size makes a difference on how fast a car can go.

On the Internet, most fast car pictures show big wheels.

<https://truckpowerup.com/how-does-wheel-size-affect-speed/>

This website says that larger wheels increase speed and distance traveled.

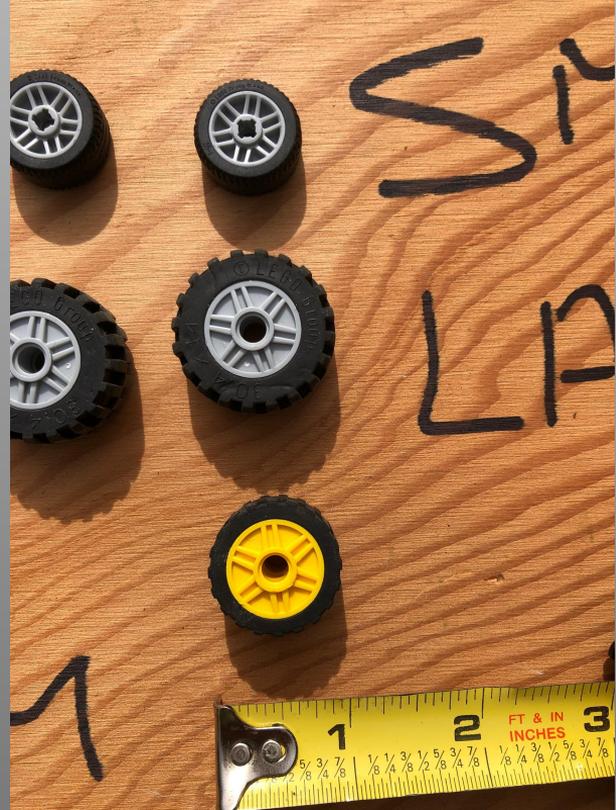


# MATERIALS

3 sizes of wheels from my Lego collection.

- Small
- Medium
- Large

A car to test each wheel size.

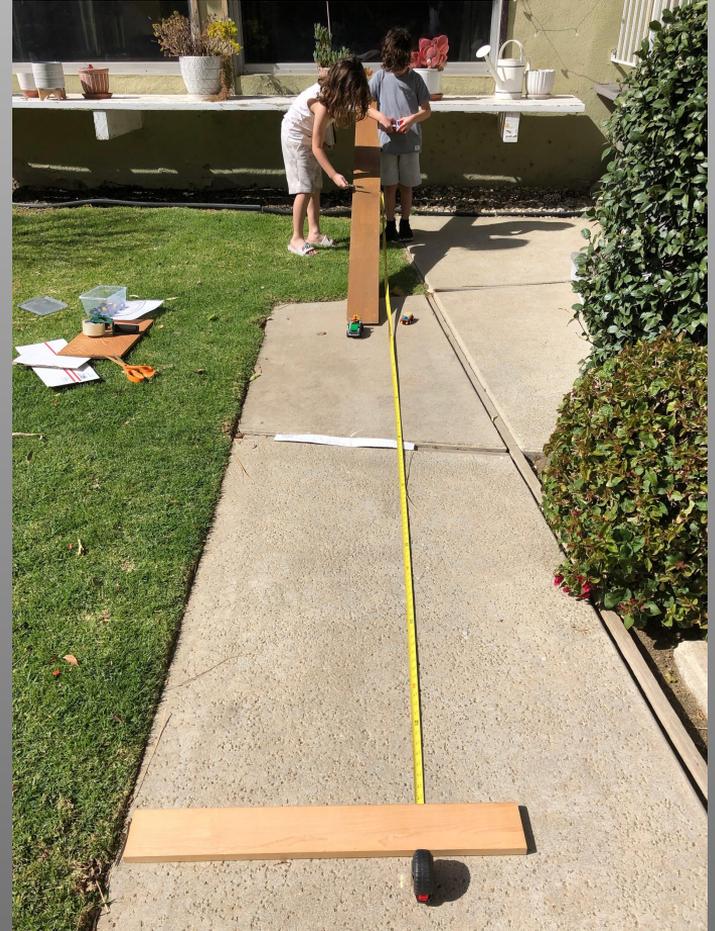


# EXPERIMENT

I used a wooden ramp and then with a tape measure, I marked the distance to travel.

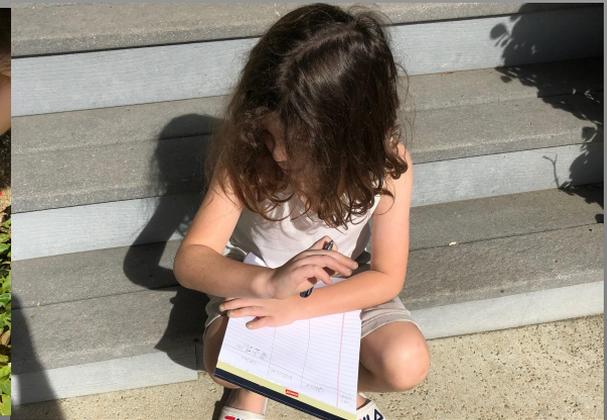
The experiment was to use the same Lego car and the same point of release on the ramp, only change the tires.

I kept a log of the distance travelled and had my dad time the travel from point of release to past the 100 inch line.



# PHOTOS

I used the timer on an iPhone to measure the time and the yellow tape measure distance in inches.



# ANALYSIS

From the table you can see that the car with the larger wheels travelled faster. It took less time to travel 100 inches. The time is in seconds.

Large	Medium	Small
To Travel	100 inches	in seconds
1.63	1.93	2.3
1.35	2	2
1.78	2.4	2.1
1.75		2.2

# CONCLUSION

My Hypothesis is incorrect. Smaller wheels do not make a car go faster because they are lighter and spin faster. The bigger the wheel and the faster the car will travel. The bigger wheels cover more distance in the same time.



# REAL WORLD CONNECTION

Understanding wheel size can make a difference on how fast a car can go is important in designing cars. This is very important for designing sports cars, and making sure Fire Trucks, and Police cars have the correct tire size for the mission.



# WORKS CITED

<https://truckpowerup.com/how-does-wheel-size-affect-speed/>

<https://grassrootsmotorsports.com/articles/do-larger-wheels-and-tires-really-make-you-faster/>