

# Speed

## How can a car go faster?

### Key Objectives

In this project, you will:

- Explore race car features.
- Create and program a race car to investigate what factors would make it go faster.
- Document and present ways to make your car go the fastest.



## 1. Explore phase

Max and Mia have noticed that race cars have changed in many ways since first being invented.

They wish to investigate how a car can go faster.

### Explore Max's and Mia's questions:

1. What are some ways that cars have been improved to become faster?
2. What factors influence the time a car takes to travel a distance?

Share your ideas with the documentation tool.



## 2. Create phase

### Use the bricks:

Build a race car that can move forward and stop at the finish line.

### Connect your Smarthub

Turn on the Smarthub and connect it to your device. Watch the video if you need help.

See the Help panel for more guidance.

### Program your model

Program your race car to move forward over a distance of 2 meters or more



### Investigate with Max and Mia

Set the motor power level to 10.

1. Run the program with the small wheels, and repeat three times.

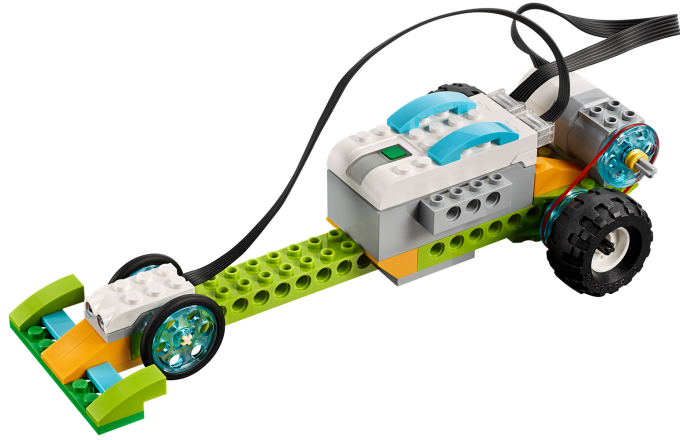
Document your test.

2. Change to the big wheels, repeat step 1.
3. Predict how much time it will take the car to travel twice the distance with the small and big wheels.

Document your predictions.

4. Test your prediction with the small and big wheels.

Document your findings.



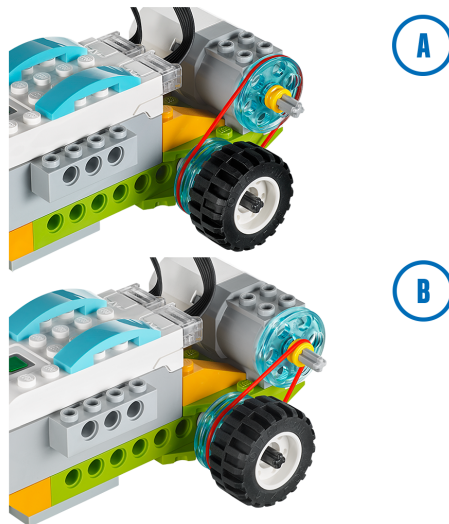
### Investigate more with Max and Mia (optional)

1. Run the program with the big wheels with motor power 5 and pulley configuration A. Repeat three times.

Document your findings.

2. Change to pulley configuration B, repeat step 1.
3. Find other factors influencing the speed of the car.

Document how these findings compare to those of your previous investigation.



### 3. Share phase

#### Share your findings:

Based on your investigations, present in your own words what factors make a car go faster.



### **Finalize your document**

1. Review your prediction and explain what happened in this investigation.
2. Organize your information to share with others.
3. Insert important text, pictures, screen capture or videos into your project.

