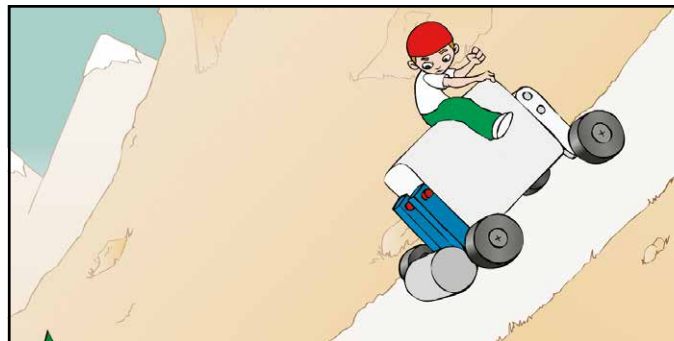


# Power Car

Name(s): \_\_\_\_\_  
 \_\_\_\_\_

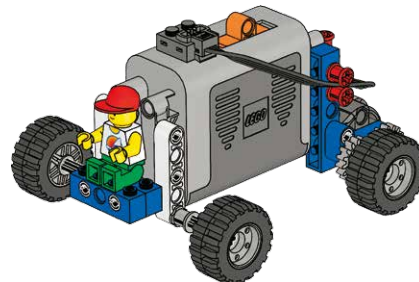
**How can you make a power car that climbs hills?  
 Let's find out!**



## Build the Power Car

(all of book 11A and book 11B to page 9, step 10)

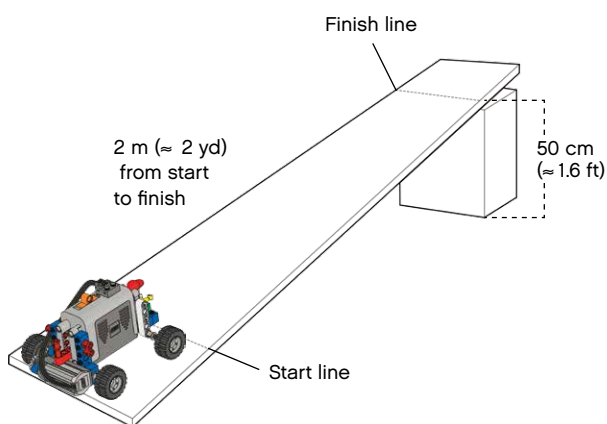
- Turn on the motor by pushing the battery box switch forward
- Make sure all the wheels turn freely and do not rub on the sides of the power car



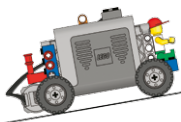
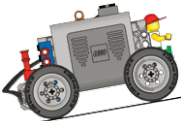
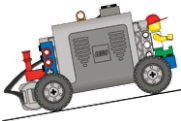
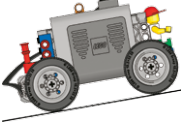
## Which is the fastest uphill power car?

The power car needs to be as fast as possible when driving uphill.

- First predict how fast power car A will travel 2 m (≈ 2 yd) uphill. Then test your prediction. Next, follow the same procedure for power cars B, C and D.
- Test several times to make sure your results are consistent.



**Tip:**  
 The power car can travel very fast, even up hills, so it might be a good idea to put the ramp against the wall in a corner to prevent it going over the edge.

	My Prediction	What happened?
A 		
B 		
C 		
D 		

## Gear Ratios

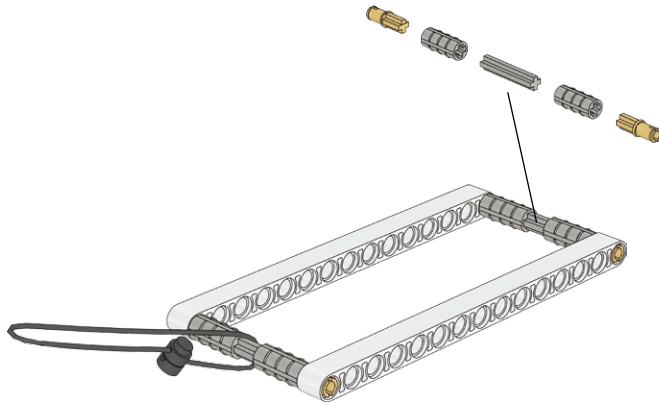
- Car A 16:16
- Car B 16:16
- Car C 24:8
- Car D 24:8

**How strong is your power car?**

Build a sled and attach it to your power car using a string around the hook at the rear.

Load the sled with books.

- First predict how heavy a load power cars A and C can pull. Then test which power car can pull the heaviest load.
- How heavy a load can your best power car pull?



	My Prediction	My Measurements

**My Power Car**

Draw and label your favorite power car design. Explain how the 3 best parts work.