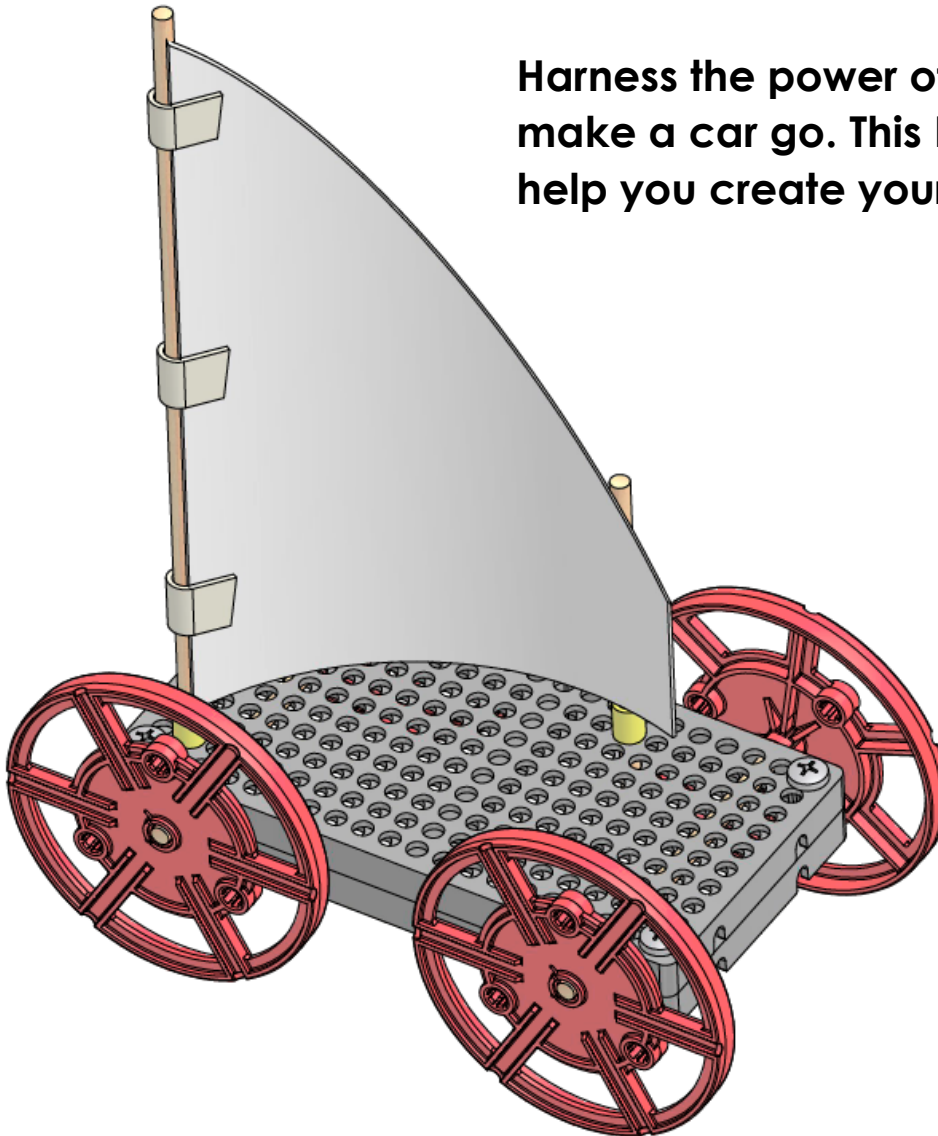


# SET-UP GUIDE SAIL CAR



Grades  
**Pre-K to 3** 4-12+ version available at  
[teachergeek.com/sailcar](http://teachergeek.com/sailcar)



**Harness the power of the wind to make a car go. This Build Guide will help you create your own Sail Car.**

## You Are Here

Choose how you would like to complete this activity.  
Download these documents at [teachergeek.com/sailcar](http://teachergeek.com/sailcar)

### Set-Up Guide

Start here to build your sail car. Once built, the sail car bodies can be reused while kids test sail designs.

### Optional Labs

#### Pre-K

- Push Pull
- Wind

#### Gr: K-1

- Push Pull
- Wind

#### Gr: 2-3

- Wind
- Balanced Forces

### Challenge Documents

- Challenge Set-Up
- Pre-K Engineering Notebook
- K-3 Engineering Notebook

# SET-UP GUIDE SAIL CAR



This guide will take you through the simple process of creating a Sail Car.

It is recommended that this step is done with the adult assistance/supervision.

Once set up, the cars can be reused year after year, while kids design and test new sails!

## SAILCAR COMPONENTS

Here are the TeacherGeek components you'll need to make each Sail Car.

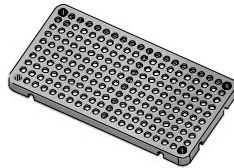
The advanced version of this activity contains extra components so you can make more creative designs!



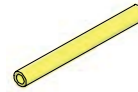
**4 Wheels**



**3 Dowels**



**2 Hole Plates**



**Slide Stop**  
2 cm (3/4 in)



**4 Screws**  
(1in #10 Screws)

## TEACHERGEEK TOOLS

These are the tools you will need for the Sail Car Body Build.

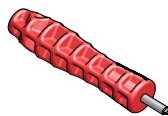
You will not need them for the Labs or Engineering Challenges. These tools are part of the TeacherGeek [Maker Cart](#), or are available at [teachergeek.com](https://teachergeek.com).



**Multi-Cutter**

[SKU 1823-81](#)

*Or anything else that can  
cut dowels & slide stop*



**Reamer**

[SKU 1823-87](#)



**Phillips  
Screwdriver**

[SKU 1823-90](#)



**Hammer  
(optional)**

[SKU 1824-41](#)

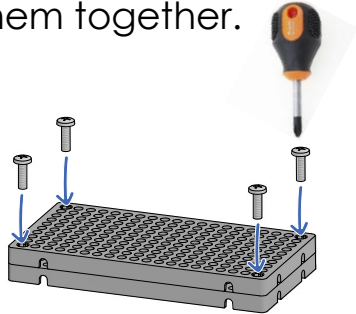
*Caution: Tools are to be used by ages 13+, or with close adult supervision.*

# SET-UP GUIDE SAIL CAR

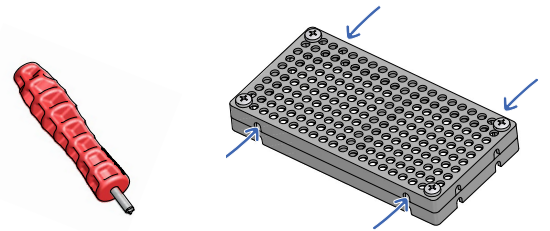


## BUILD THE BODY

- 1 Stack two **hole plates** on top of each other. Use four **screws** to attach them together.



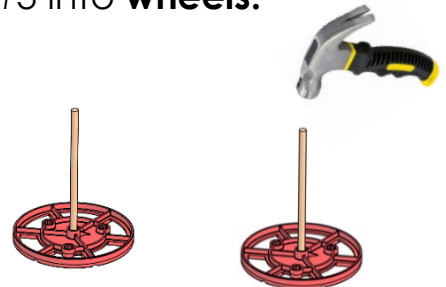
- 2 **Ream** the 4 holes that were created by attaching the two **hole plates**.



- 3 **Cut** two 11cm (4.25in) sections from one **dowel**. These will be your wheel axles.



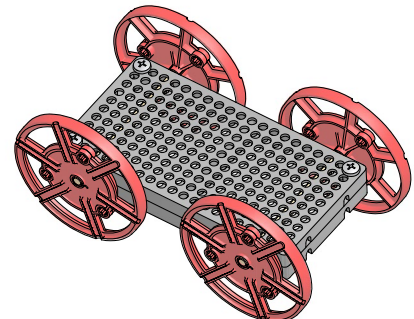
- 4 Wiggle or tap the **dowels** from Step #3 into **wheels**.



- 5 Slide the **wheels** with **dowels** from Step #4 into the reamed **hole plate** holes. Then wiggle or tap on two more **wheels**.



- 6 **You did it! You made the car body.** Make sure the **wheels** spin easily. If not, try taking the wheels off and reaming the **hole plate** holes more.



# SET-UP GUIDE SAIL CAR

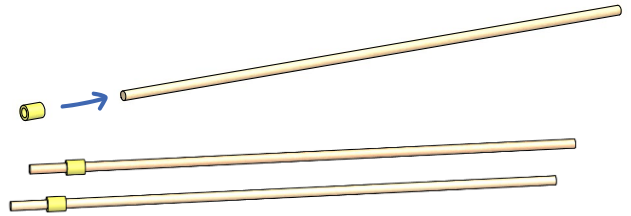


## MAKE THE MASTS

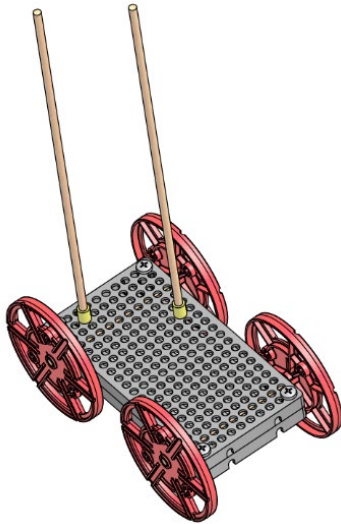
- 1 Cut two 1 cm (3/8in) sections of **slide stop**.



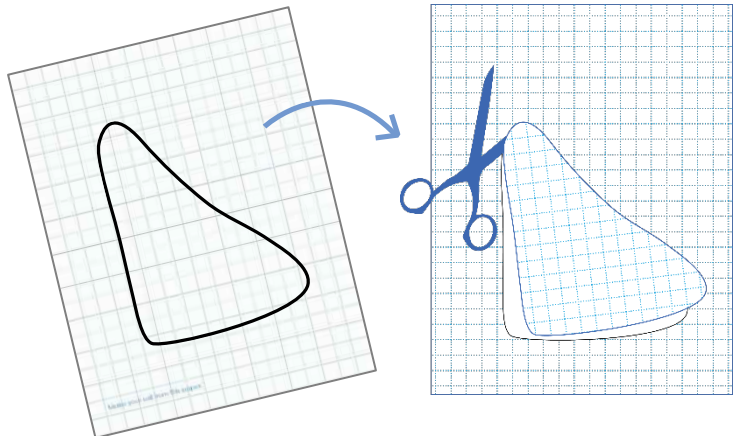
- 2 Place each **slide stop** section approximately 2cm (3/4in) onto an uncut **dowel**.



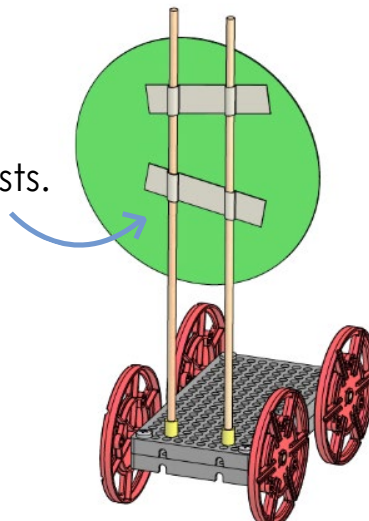
- 3 Place the masts into the Sail Car body. The masts will be used to attach the sails.



- 4 Draw a sail design and cut it out using scissors.



- 5 Tape your sail to the **dowel** masts.



### You're done!

Use a fan to push your Sail Car. Next, try the Design & Engineering Challenge.

documents at [teachergeek.com/sailcar](http://teachergeek.com/sailcar)



**Make your sail from this paper.**  
**Print this page on cardstock for a stiffer sail.**