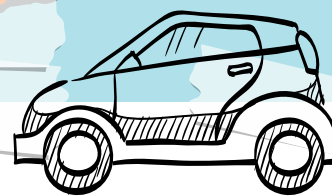


ACTIVITY 1

Vehicle designers have to make a lot of decisions early in the process of designing and creating a vehicle. One of their considerations is how the **design** will affect how the vehicle will be used. Another early consideration is how it will look. You will have to take both of these into consideration. Let's get started on your vehicle!

A design is a plan or drawing to show the look and function of an object before it is built.

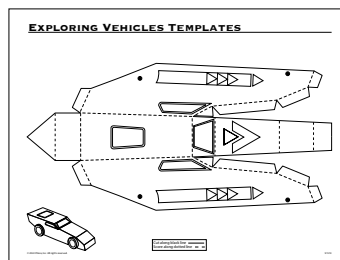
LET'S MAKE



WHAT YOU'LL NEED

INCLUDED

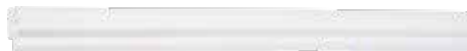
MINI FOLD-N-ROLL TEMPLATES



COLORED PENCILS



1/8-INCH STRAW



GT-FX WHEELS



AXLES



TRANSPARENT TAPE



NOT INCLUDED

RULER (for straight lines)



SANDING BLOCK



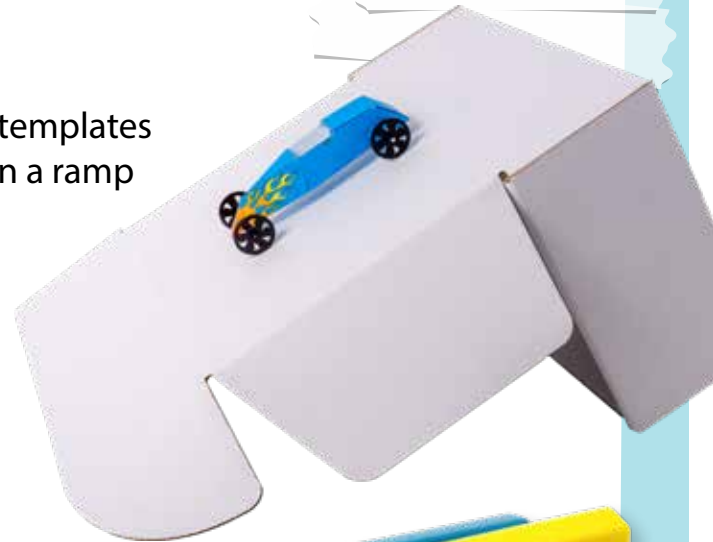
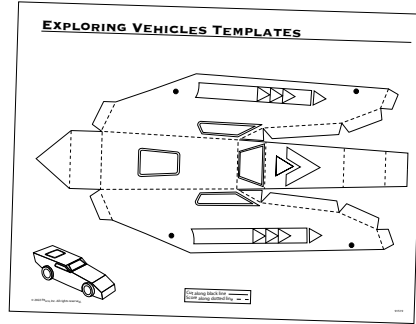
SCISSORS





STEP 1

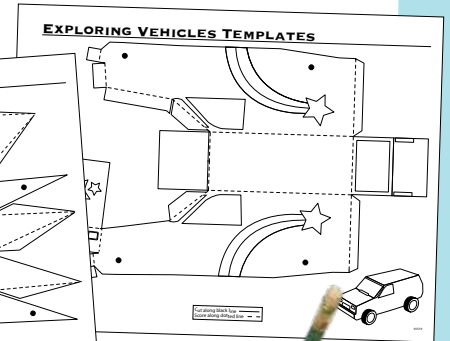
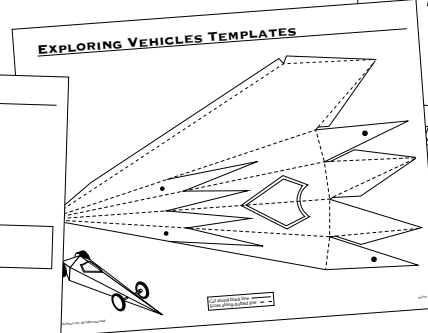
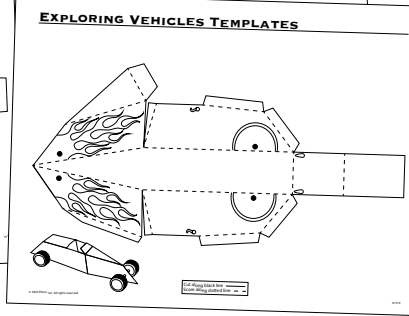
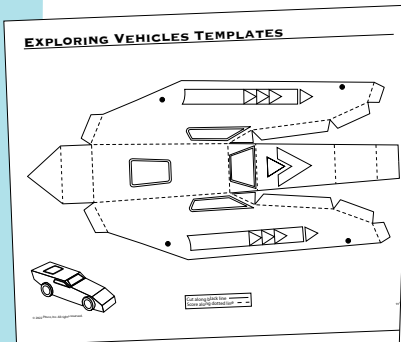
Examine the four Mini Fold-N-Roll Vehicle templates and select one that you think will roll down a ramp the best or that you think looks the best.



STEP 2

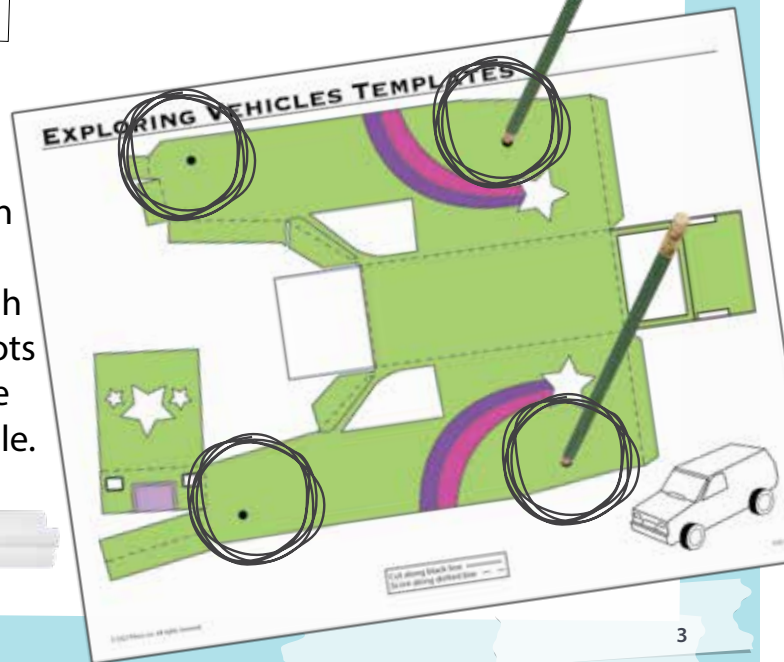
Before cutting anything out, use colored pencils to customize your vehicle template.

Tip: You don't have to limit yourself to the design printed on the vehicle – let your imagination run wild!



STEP 3

On each of the templates are four solid black dots that mark the location where the axle guides will be placed. Use a pencil with a sharp point to push through the template at these four dots to make the hole large enough for the 1/8-inch straw to fit snugly in the hole.



STEP 4

Gather the four wheels and the sanding block. Sometimes, there is a small plastic **burr** on the wheel when plastic is molded. Find any burrs on the wheels and use the sanding block to sand the burrs smooth.

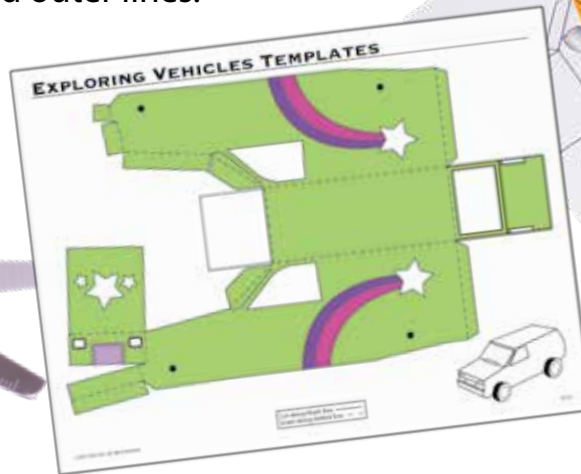
Tip: Be careful not to sand a flat spot on the wheels. You wouldn't want a flat tire!

A burr is a rough or irregular piece that sticks out of an object.



STEP 5

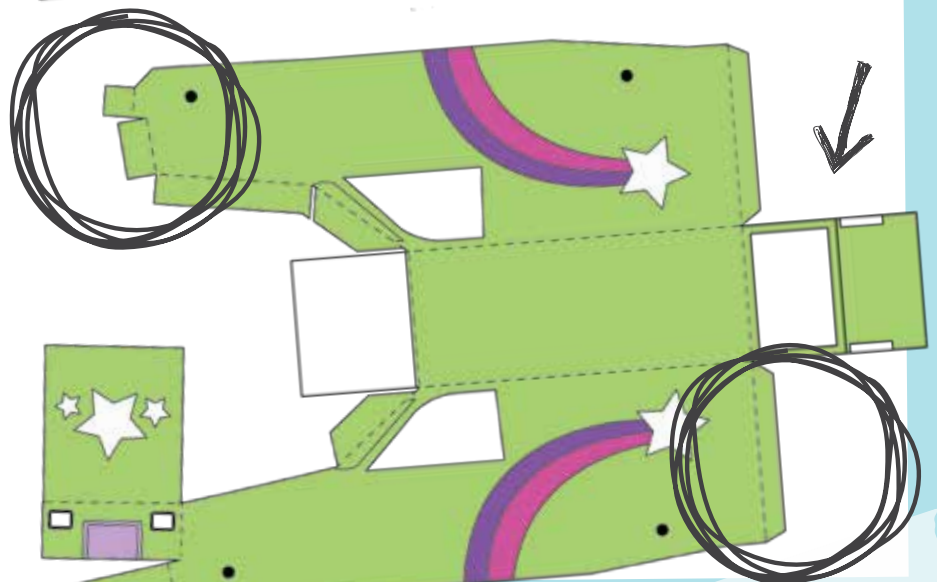
Use scissors to cut out your template by cutting only on the solid outer lines.



STEP 6

It's time to fold the tabs on your template. Fold the template on each of the dotted lines.

Tip: Using a ruler to fold the template straight can be helpful.





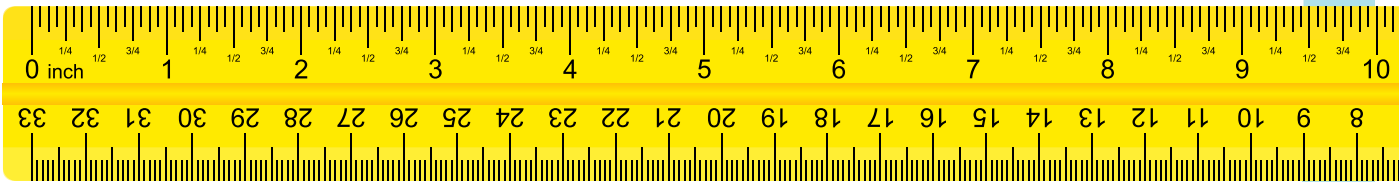
STEP 7

Tape your template together at the folded tabs.



STEP 8

Cut two 1-3/4-inch lengths from the 1/8-inch straw.



STEP 9

Push the straw pieces through the holes in your vehicle to act as axle guides. These should not spin in the holes. If you need to, add tape to hold them in place.





STEP 10

Press one axle into one of the wheels. Repeat this action so you have two axles with only one wheel on one end of each.



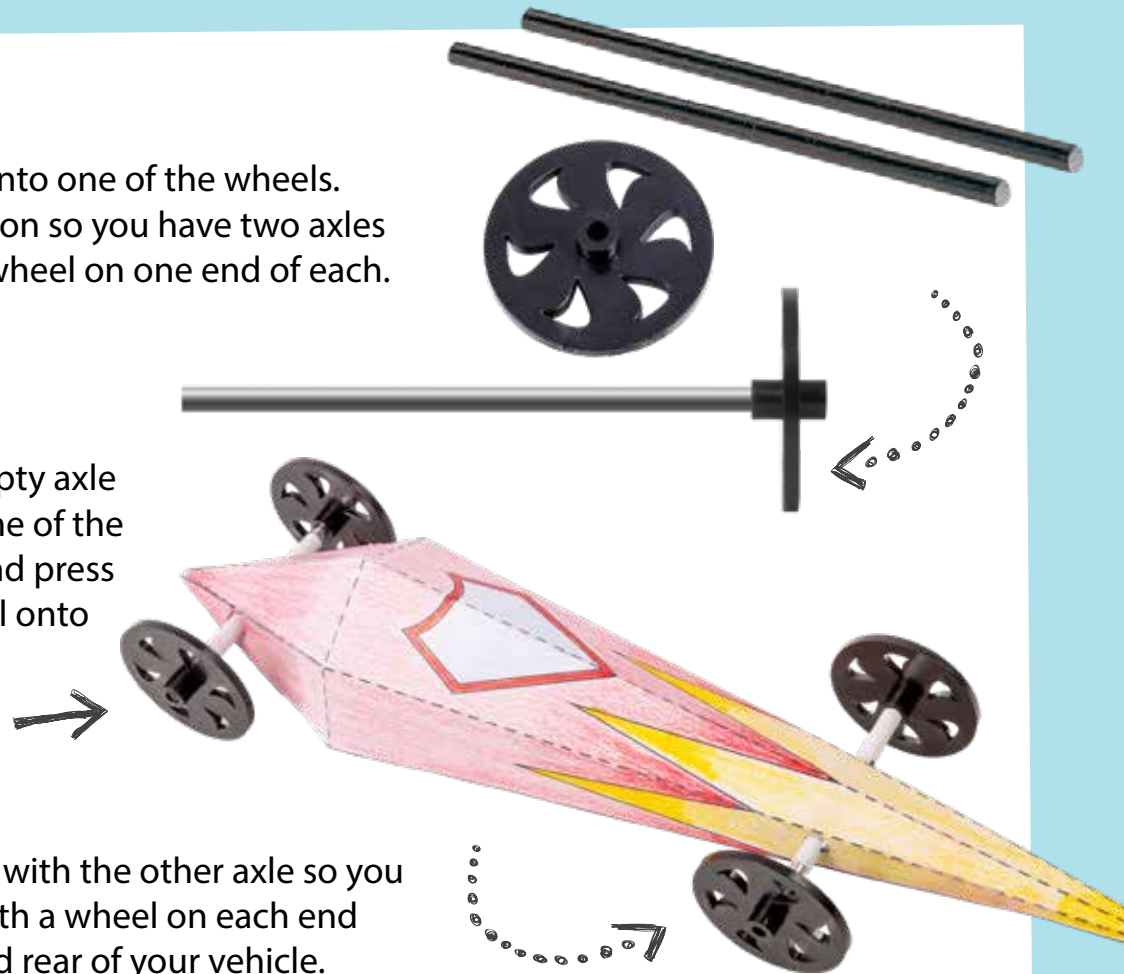
STEP 11

Guide each empty axle end through one of the guide straws and press the other wheel onto that end.



STEP 12

Repeat Step 11 with the other axle so you have an axle with a wheel on each end on the front and rear of your vehicle.



THINK ABOUT IT

Vehicles begin as a concept and finish as a working vehicle built from that concept, but they often change along the way. Did your vehicle meet the expectations you had in the beginning? Why or why not?

A design is based in large part on what you will do with something. Write a story about how you imagine your vehicle being used based on the design.

