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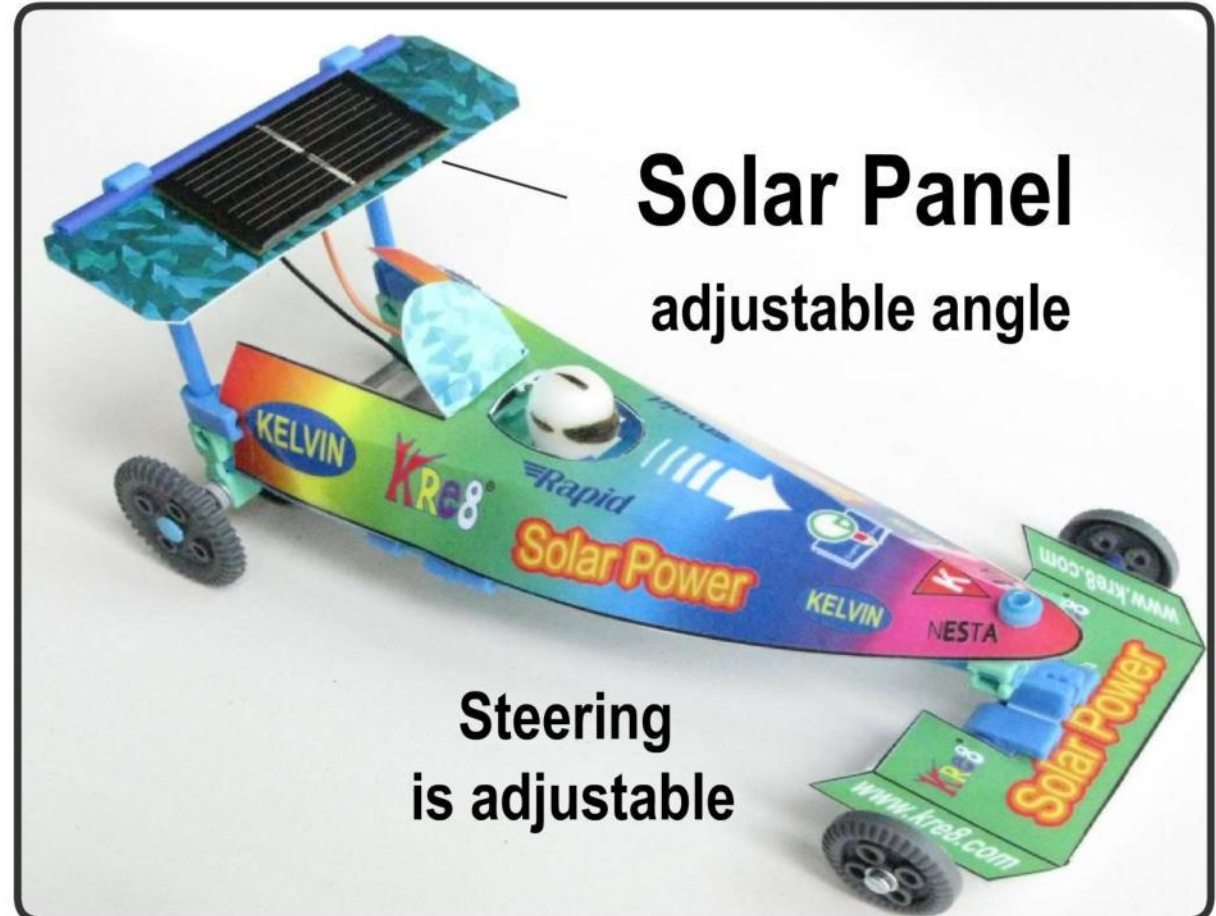
Making skills - Assembly and construction skills involving measuring and cutting out

Designing - You can design your own top or use the given design as shown (also printable via www.Kre8.com website) Extra - Model and add a driver.

Control, Electrics and Mechanisms - Learn how to connect the electric motor. Assemble the rubber band mechanism to reduce the speed and for steering.

Testing

This can only be done in good sunlight - ensure front wheels turn freely



Solar Panel
adjustable angle

Steering
is adjustable

Other.

If no sun you could power this model using a Super Capacitor or a AA battery (not provided)

25cm long

Solar Powered Model Cars

Possible problems

1) No direct sunlight

Don't expect car to work without good strong sunlight.

2) Wheels not spinning freely

Adjust wheels so wheels spin freely

3) Floor not smooth

Use table top or similar not concrete paths

Fault finding

a) Check motor spins without wheels connected up. (unhook rubber band)

b) Check motor spins when rubber drive is connected (rubber must not be stretched much)

c) Ensure solar panel faces the sun - (its angle can be adjusted depending on the sun's elevation)

To prevent disappointment use at sunniest time of year and have a plan B ready just in case such as:-

1) Have a substitute sun in the form of a 500w halogen lamp and use fairly close.

2) Charge up a large Super Capacitor (e.g. 10Farad size) when the sun available then power stored, like a battery, to drive the electric motor later on.

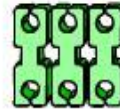
(P.S. you can cheat and charge Super Capacitors up using a battery instead in just a few seconds)

3) Explain the lack of sun and use a AA 1.5volt battery to get the cars going, by connecting the battery direct to the electric motor, explain that the battery used could have been charged up by solar power somewhere else in the world and explains the rise in use of hybrid vehicles.

Trim all sharp edges after cutting



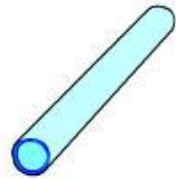
5 x clip connectors - blue



2 x Multiblocks (green)



1/2 x 4mm dia. snap rod grey



4 x 5mm light blue



3 x 5mm slit rod



2 x 4mm ID washers



4 x 3 mm ID washers



2 x Cap end



1 x 3.9mm grey tube



2 x bolt 3mm x 15mm long



1 x larger motor



1 x Orange pulley



2 x blue collar



1 x 45mm band



1 x 60mm band



Bag

Abrasive paper

Pencil and Rule

Use to mark lengths of blue tube or slit rods before cutting.



ALSO NEEDED

Clear tape - to thicken decoration edges

Paper punch - to punch hole in card



SAFETY WARNING



Care needs to be taken with all sharp tools - Students under 9 years old need to be supervised by an adult.

Never use rechargeable batteries as they can catch fire if the circuit is shorted.



2 x 40mm dia wheel grey



4 x 28mm dia wheel grey



4 x Grey Collars

Solar Panel

with wires

Abrasive paper

Making Instructions print these pages www.kre8.com

1 x Laminated sheet



For Easy Assembly

The rods are easier to insert into the connectors if twisted as they are pushed into place.

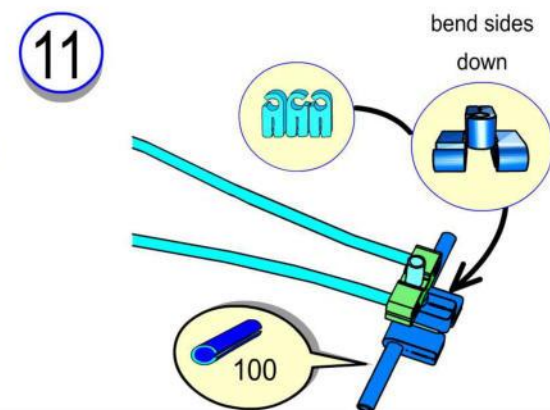
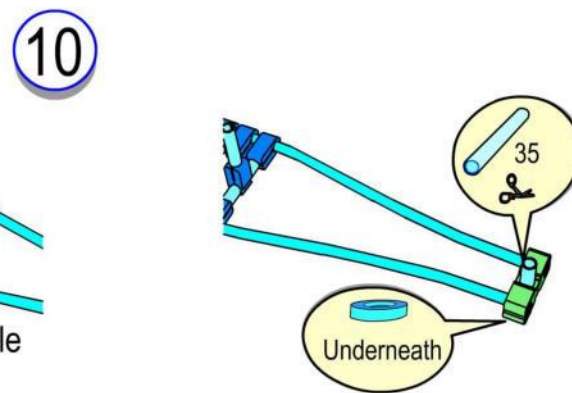
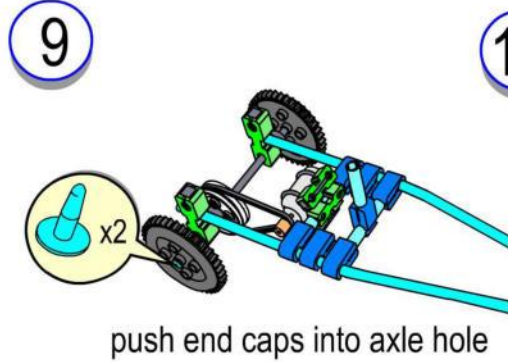
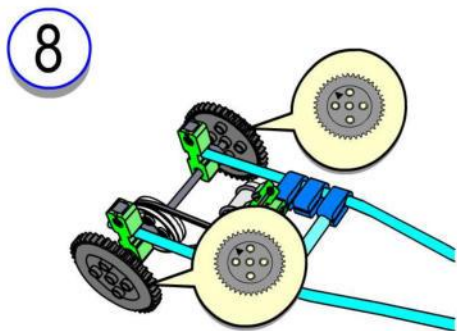
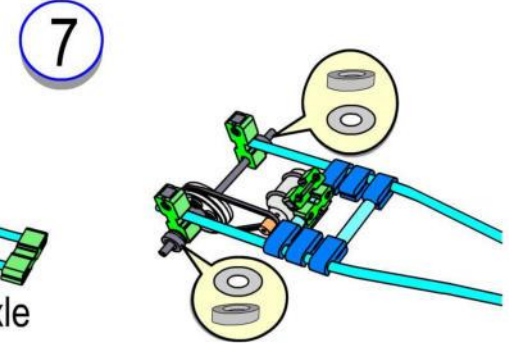
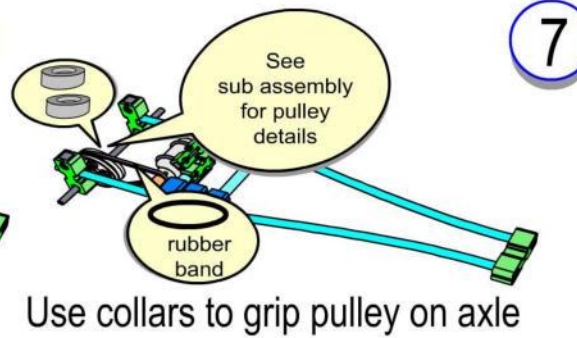
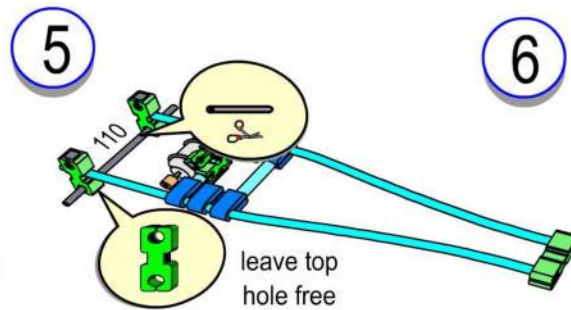
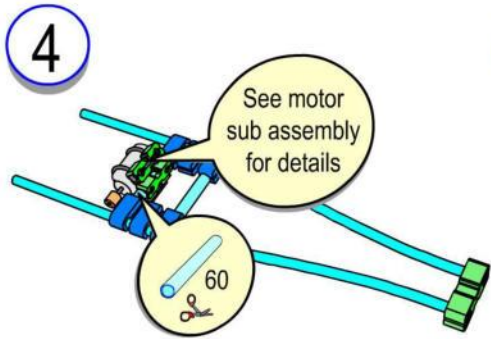
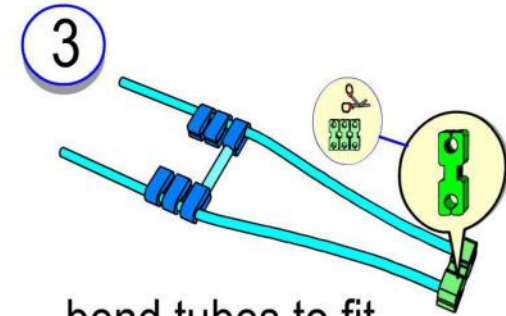
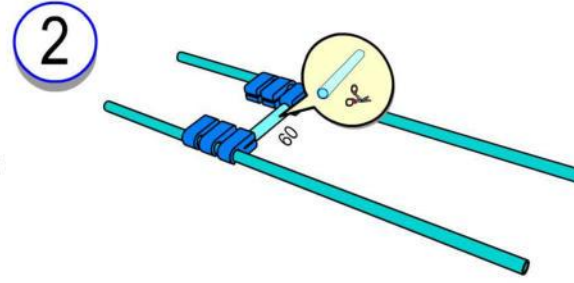
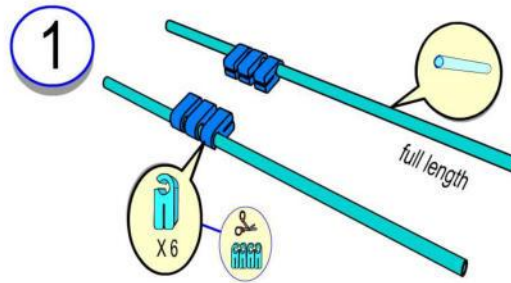
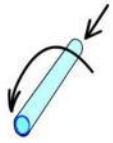
Younger students should 'round off' and smooth the tube and rod ends using the abrasive paper.

3

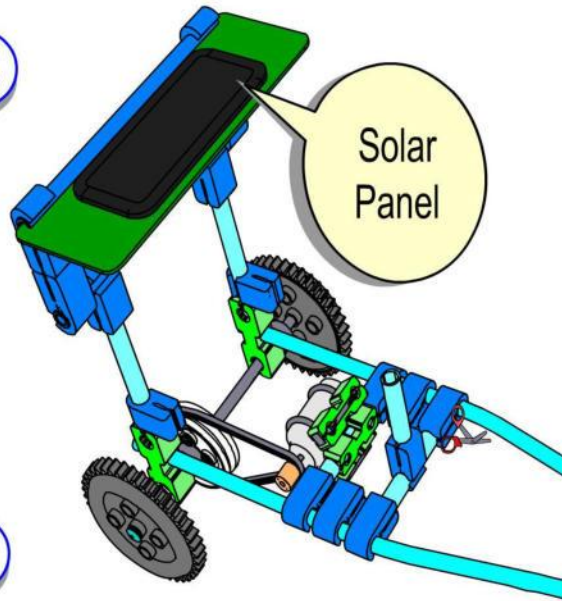
Kre8® Solar Car - Making 1

Note - To make assembly easy smooth and round the ends with **abrasive paper** before pushing and twisting into the connectors.

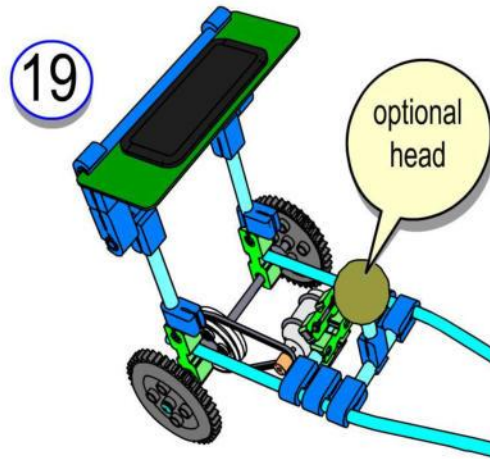
All sizes in mm



18



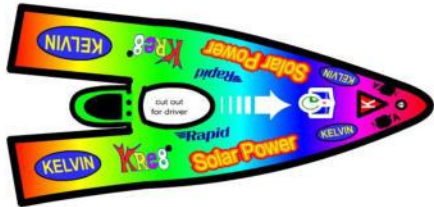
19



20

Connect the solar panel wires
to the motor terminals

21



Cut out top provided
or make your own

Note - Thicken edges where
needed using clear tape
bend over edge

22

Test out
on a clear
sunny day
or under
holagen lights

NOTE
Rubber band
must NOT
be very tight



Add decoration
provided or design
your own

Sub-Assemblies

Making a 28mm Pulley

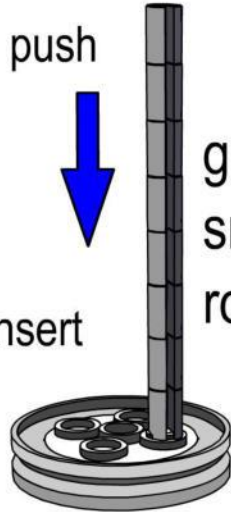
1

Place together two bevel sides facing each other



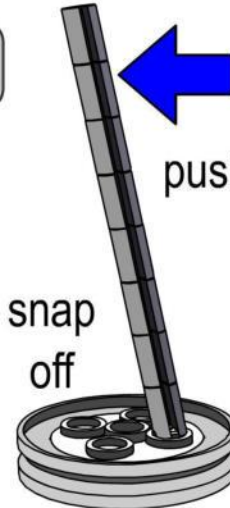
2

push
insert
grey snap rod



3

push
snap off



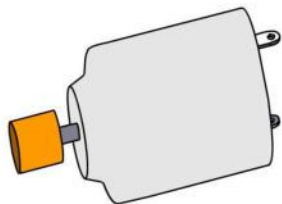
4

repeat for two or more opposite holes (NOT the centre hole)



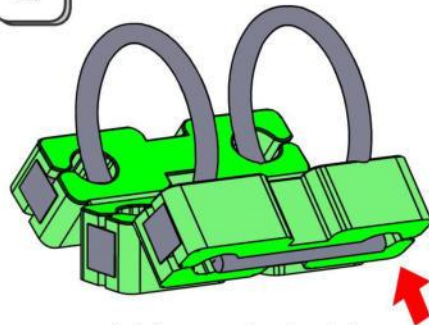
Making your Motor Assembly

1



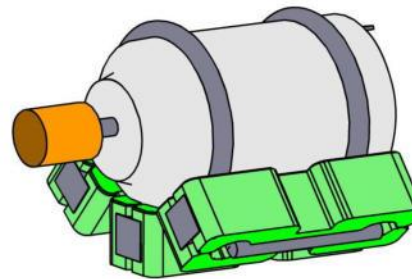
Push 5mm long piece of tube on axle end

2



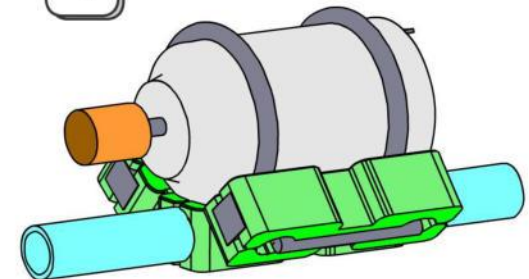
Add one short rubber rubber band as shown then and bend up sides

3



Lift up rubber band and slide motor into place

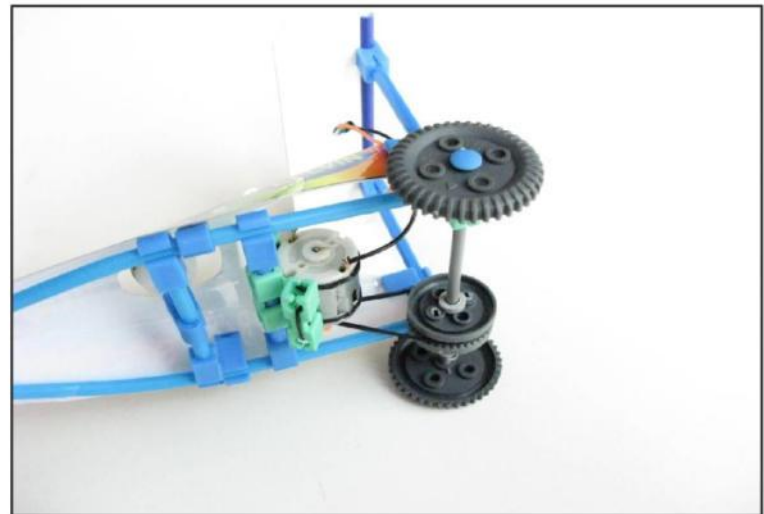
4



Optional - add tube through centre hole (or used others)



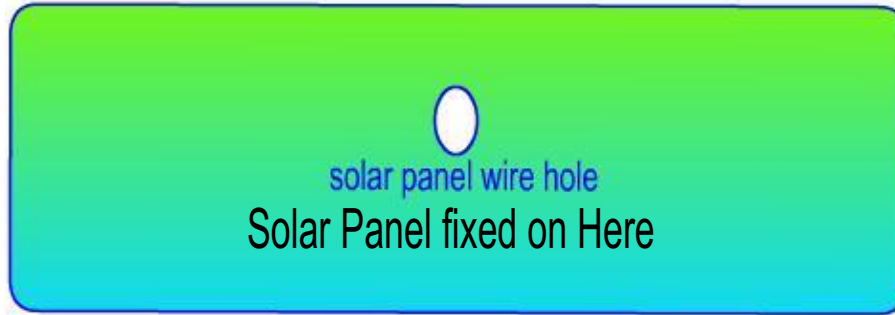
underneath
views



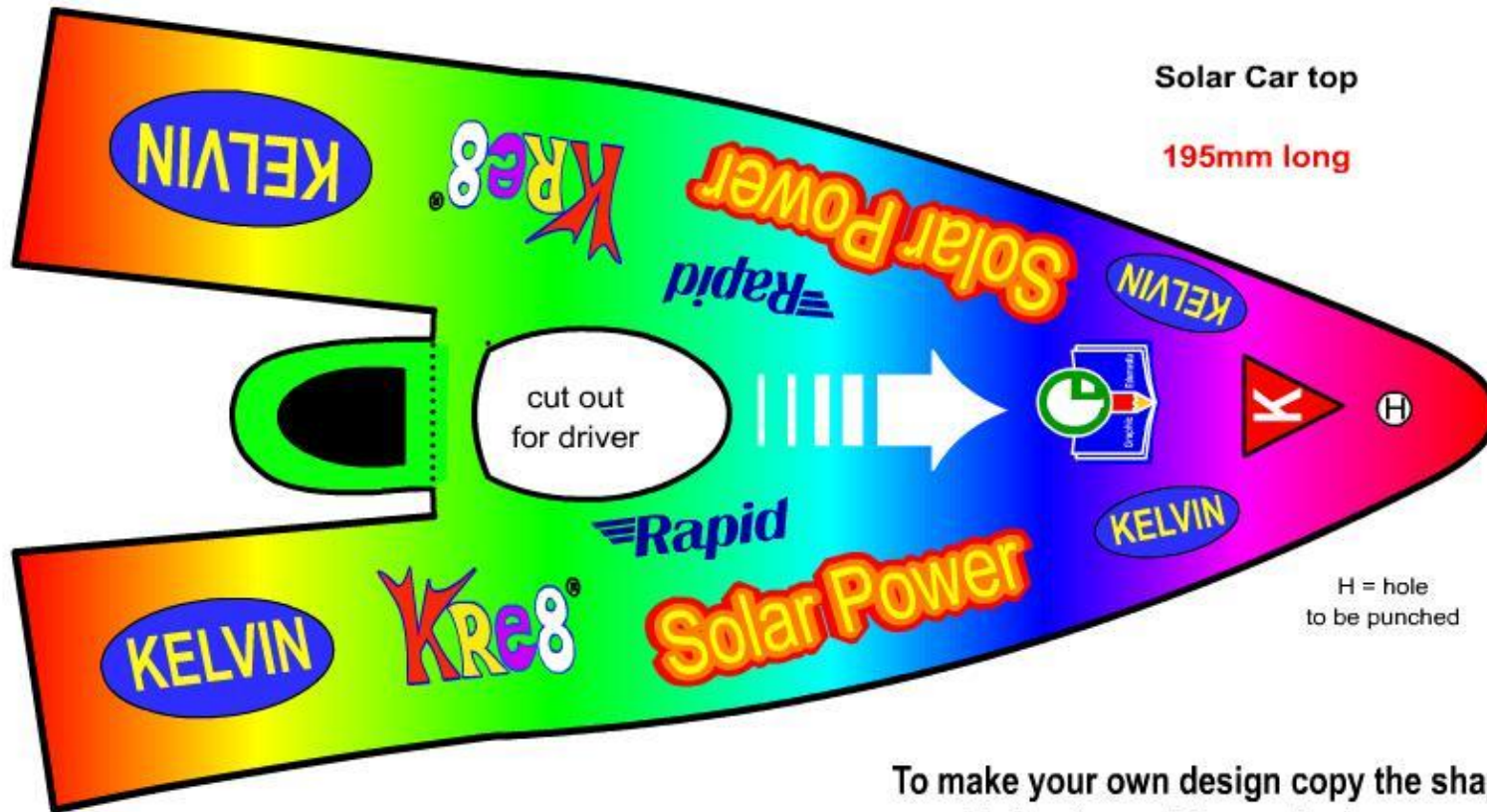
Kre8® Solar Car Decorative Parts

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slide this edge inside the slit rod (then use clear tape too hold in place)



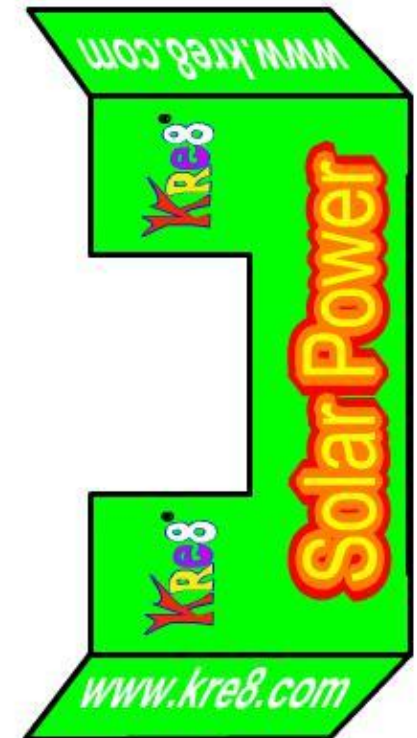
Solar Car Front ideas



Solar Car top

195mm long

H = hole to be punched

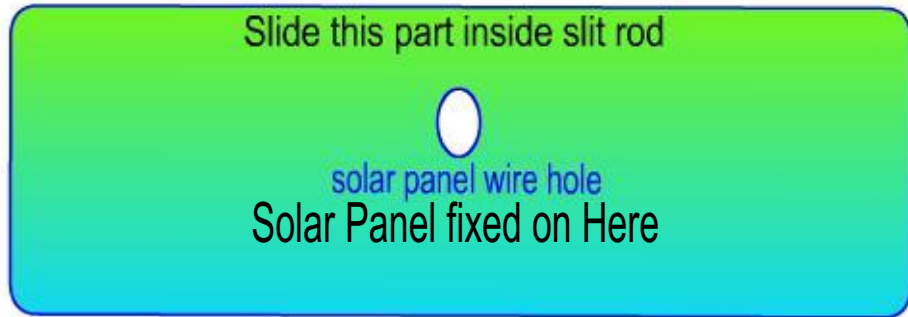


To make your own design copy the shapes provided onto card then adapt as you want

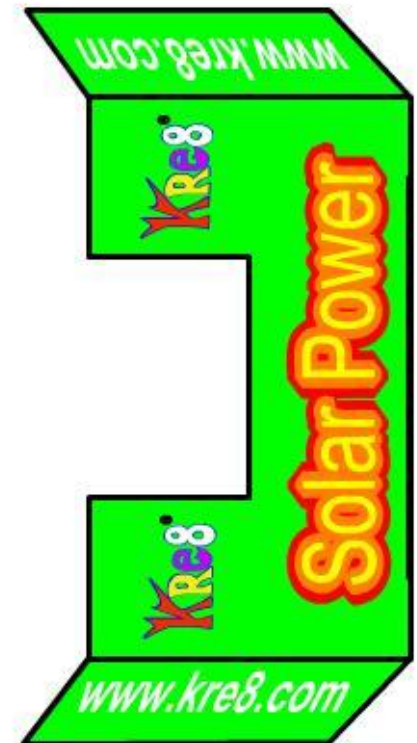
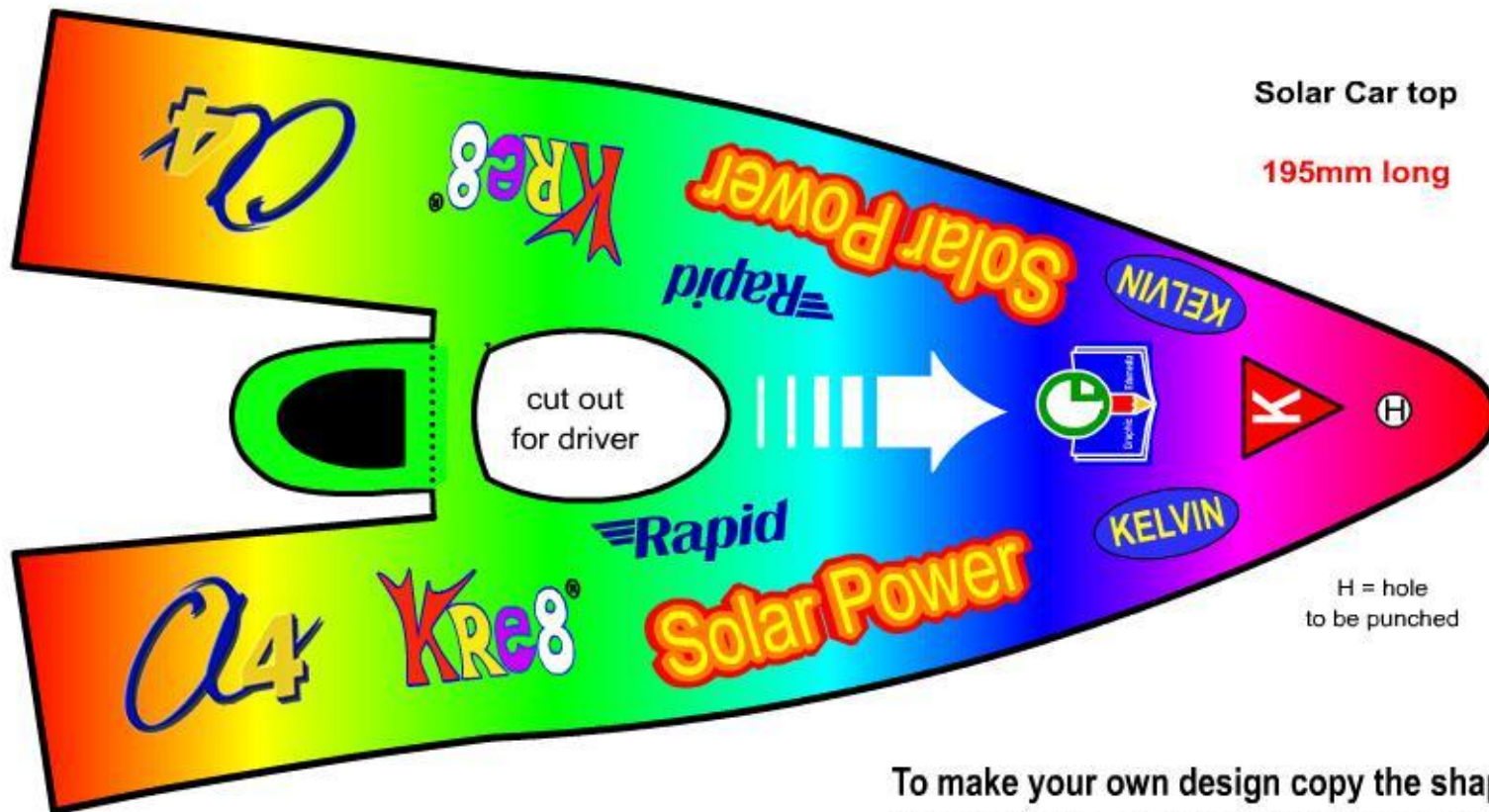
Kre8® Solar Car Decorative Parts

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Solar Car Front ideas



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