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# GFG Foundation Drag Race Car Event





# Overview

**During today's event you will take part in a variety of activities that let you explore STEM and STEM applications. The main challenge is to build your drag racer and compete in race events, where the fastest cars will take home the challenge trophy. As a team you will be expected to come-up with different modifications and tactics in order to win.**

# 01. CHALLENGE 1

Use the spaces below to come up with your team's name, slogan and logo.

The slogan should be catchy, short and simple.

**EXAMPLE:** McDonald's - "I'm lovin' it"

Team Name:

Slogan:

Team Logo:

# 02. CHALLENGE 2

Build your racing car.

Using the instructions below, build your drag racer. There is more than one way to build the car so think carefully and plan ahead.

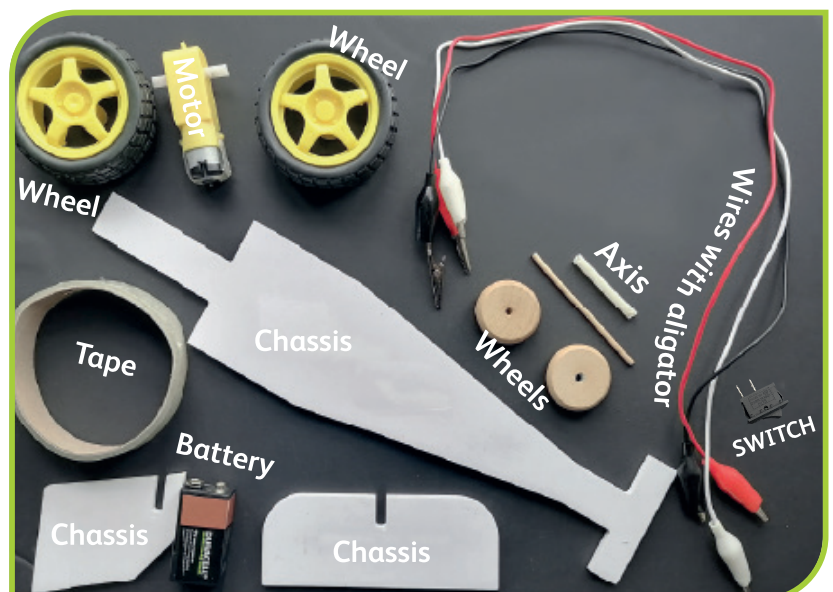
## Before building think about:

Whether the wheels are attached properly, and also able to move freely.

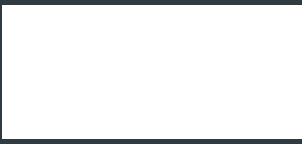
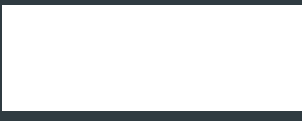
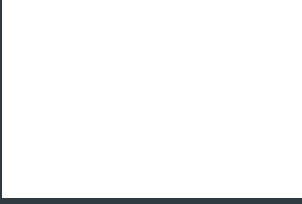
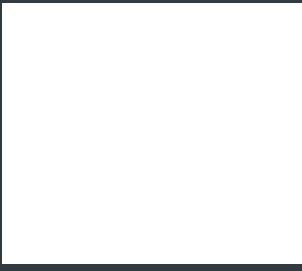
Whether there are any loose wires that might interfere with the movement of the wheels or cause friction with the ground.

Whether you have folded the cardboard casing to look like a real drag racer. The casing should hide the wiring and be as aerodynamic as possible.

Remember that your aim is to ensure the car is as fast, efficient and stylish as possible.



Look at the picture on the previous page. Can you assign the correct part name to its description?

	When turned on and the other terminals are connected, an electric circuit is completed. Once turned to off, it will break off the circuit.
	Two axels on this part will start turning once connected to a power source (battery).
	This is the power source, so the switch and the motor need to be connected to it. Be careful to not touch the wires attached to the terminals together as it could create a spark and give a small electric shock.
	The wires are protected by plastic and have an alligator clip at each end. They create an electrical connection when linked to other terminals in order to complete a circuit.

### BUILDING THE CIRCUIT:

Start by connecting one wire to the terminal on the switch.

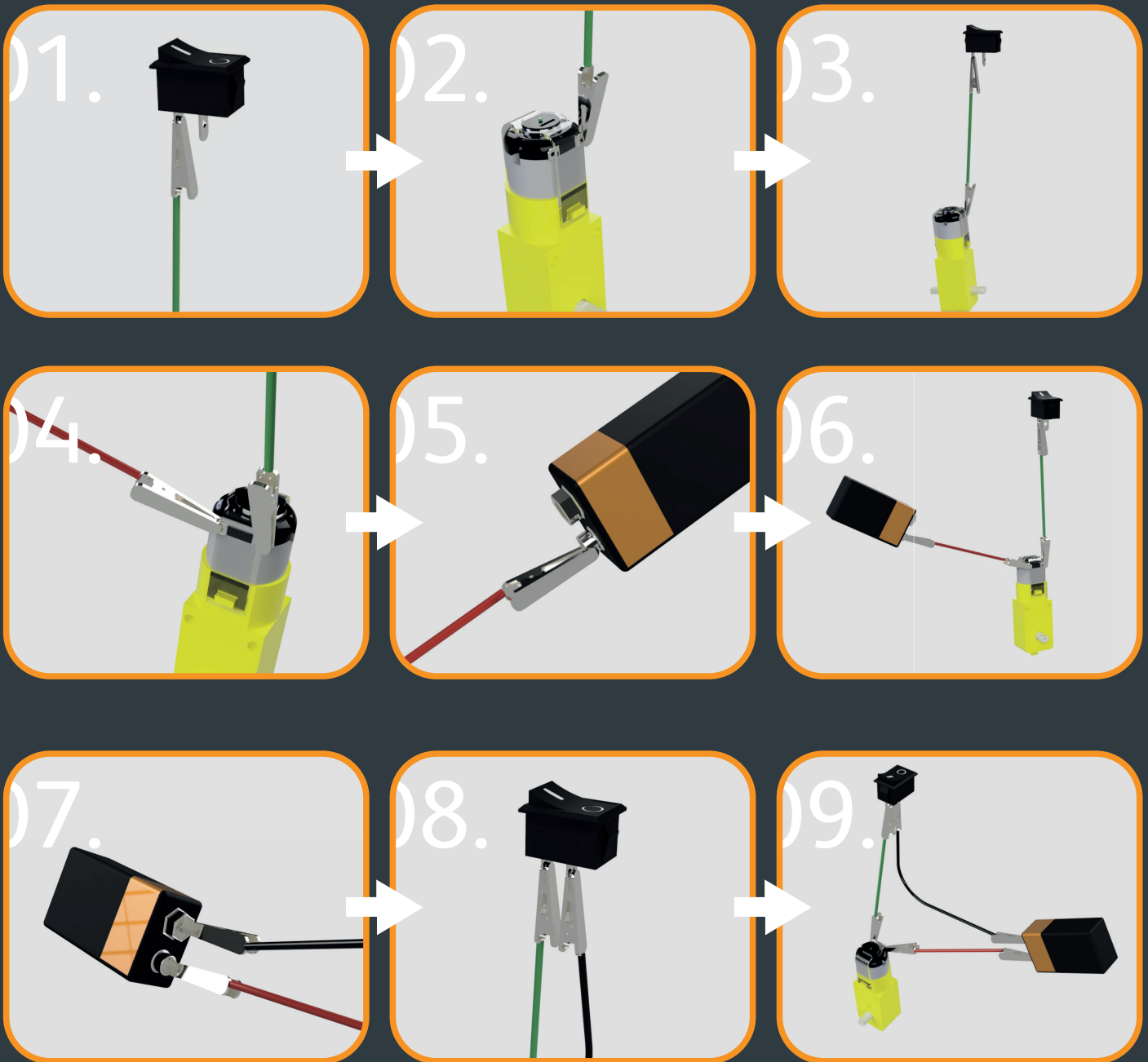
Take the other end of the same wire and connect it to one of the terminals on the motor.

Take another wire and connect it to the other terminal on the motor. Connect the other side of the same wire to the battery.

Take another wire and connect it to the last terminal on the battery and last terminal on the switch.

Time to turn the switch on and test the circuit.

**BE CAREFUL WHEN CONNECTING THE BATTERIES!** Make sure the wires are spread apart and not touching each other with the ends (metal bits).



Now it's time to build the chassis and shell of your racing car.

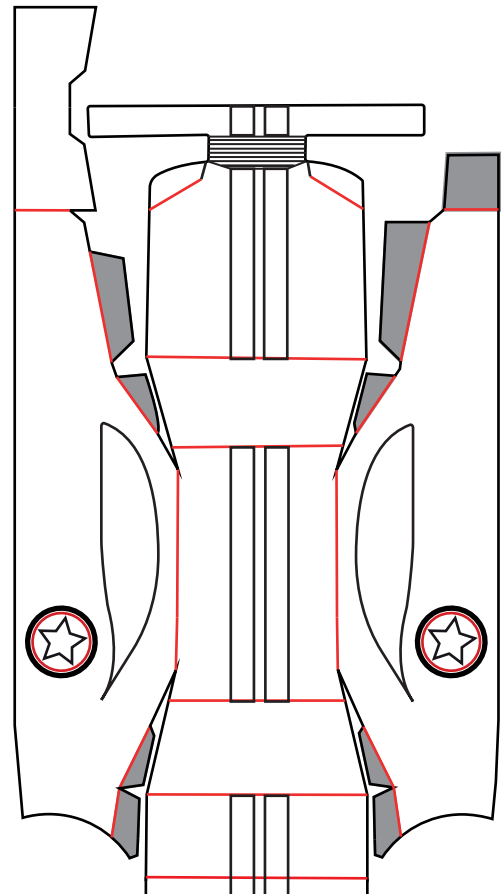
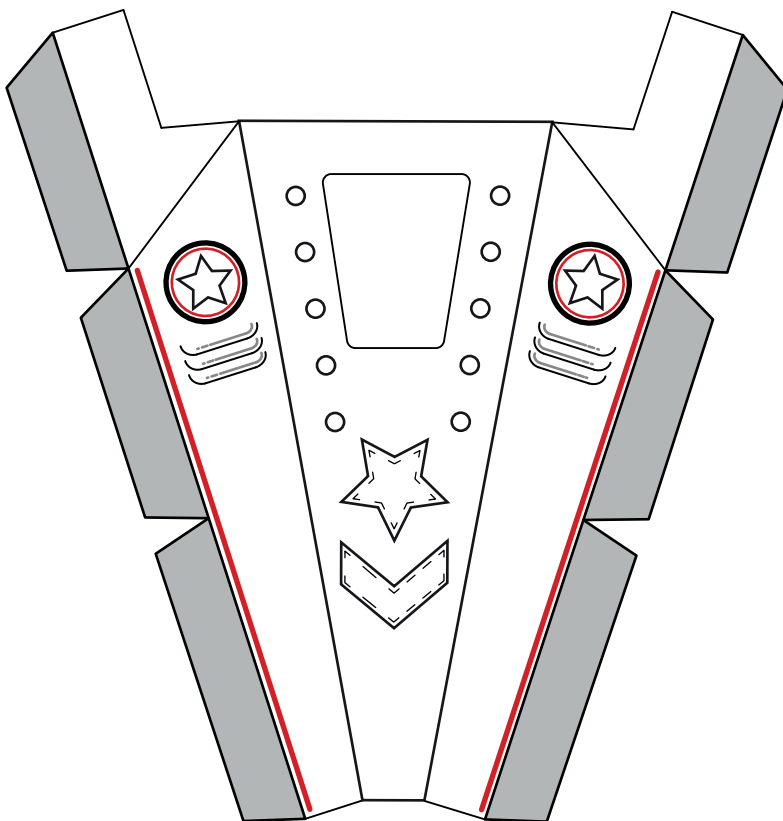
There is more than one way to build your chassis and the shell. Do your best to assemble the car. It has to be efficient, look good, and be functional!

**When it comes to building the chassis and shell of your car you need to think about the following:**

How, and where you will attach the yellow motor to the main, white body of what will be your car

Which wheels will go at the back and which will go at the front of your chassis?

There are two shell designs you can choose from. After choosing the design you have to find a way to fold and assemble the chassis and shell. Do you need to use all the parts given?



# 03.

## Challenge 3

Design your team's outfit. Imagine you are part of a racing team. What would your outfit look like? Discuss with your team the colour scheme and design, think about your logo and your slogan.



**USE THE A3 HANDOUT- CHALLENGE 3**



# 04.

# Challenge 4

Design a car for your team. You have to think about the colours you have chosen for your outfit as well as your branding. Maybe you have a sponsor you need to showcase on your car?



**USE THE A3 HANDOUT- CHALLENGE 4**

# 05. CHALLENGE 5

Design car from the future. Imagine you are studying automotive design and it is currently year 2121.

Before Drawing answer a few questions:

What would be the top speed of the car?

How many people would the car be able to carry?

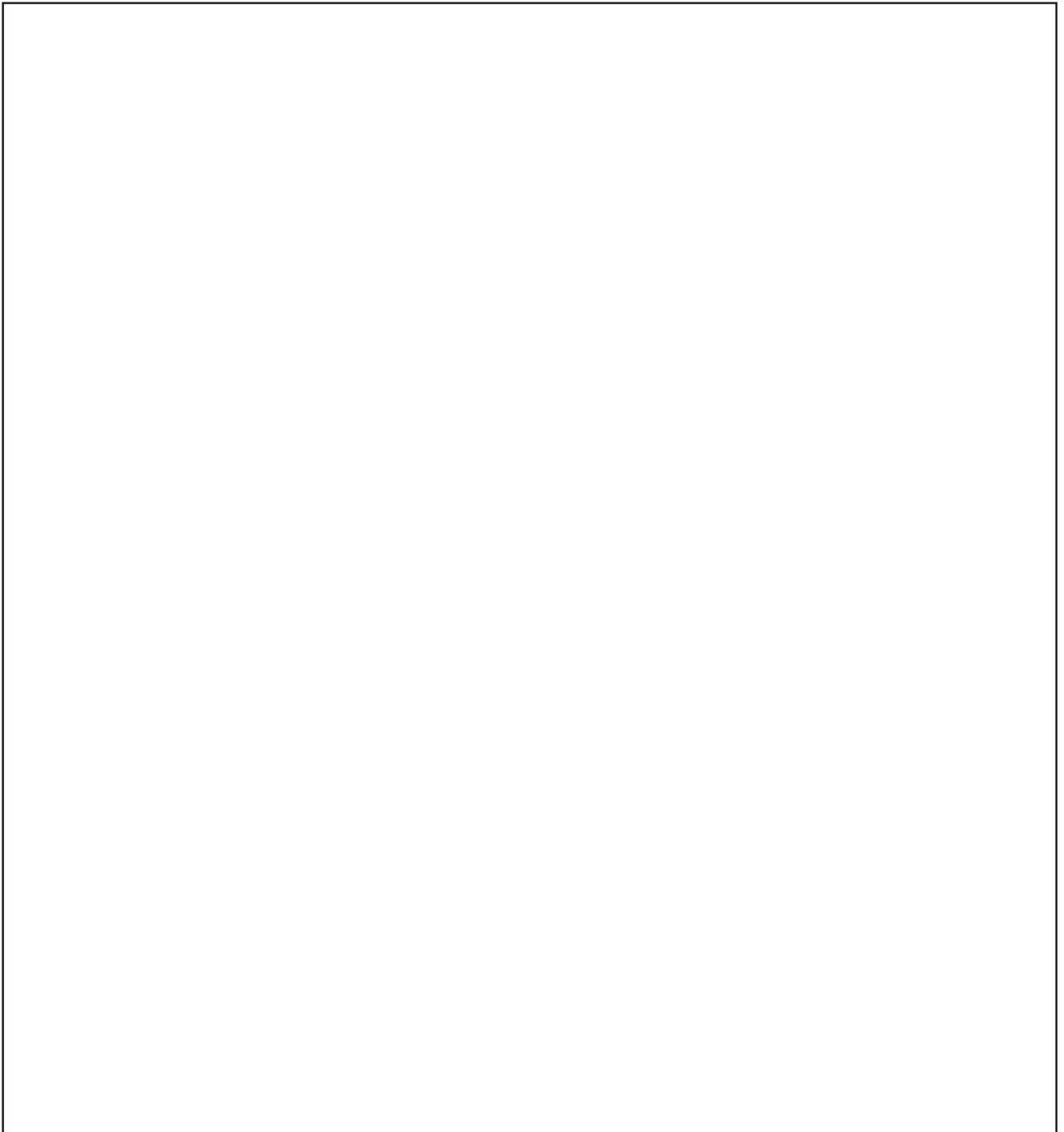
How will it meet environmental requirements?

How many wheels will it have?

Use the space below to draw your car from the future.

# 06. CHALLENGE 6

Use this page to design your own paper shell for the car.





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