AQUA ROCKET

About

When someone mentions bottle rockets, do you envision placing a firecracker attached to a stick into a glass bottle and launching it? Let's aim for the sky in our Aqua Rocket Challenge. Come and join in. Let's water rockets!

A **water rocket** is a type of model rocket using water as its reaction mass. Such a rocket is typically made from a used plastic soft drink bottle. The water is forced out by a pressurized gas, typically compressed air. Like all rocket engines, it operates on the principle of Newton's third law of motion. The competition involves team distance flying of water rockets under an agreed pressure and angle of flight. The distance from target for each rocket over the two flights is recorded, and the final team distances are collated, with the winning team having nearer distance to the target.

Registration-

Teams must register on our website www.chemclave.org before 10 pm of 10th march in order to participate in Aqua rocket competition.

Date and venue for competition-

Competition will be held on 11th March from 9 am onwards

Venue- KV Ground

The Challenge

· You are required to launch a rocket powered by water/air pressure and land it in designated target zones to compete against other teams within the constraints below.

· Teams are limited to **maximum of 3 people**. More than one team may be allowed per college.

· Each team will be given an opportunity to conduct 1 test launch prior to the competition.

· During the competition, **each team will be given opportunity to conduct two (2) launches**. **Exact distance from the point of impact and the centre of target will be measured. The nearer distance of the above two launches will be recorded.**

· **Time of flight** of the rocket with nearer distance from the target will also be recorded

There are some general rules that apply to these challenges:

· Rocket body should be made up of only aerated plastic bottles of soft drinks of **maximum capacity 2.5 litres**. You can use more than one number of bottles but **total capacity should be less than 2.5litres.**

· Distance of the target from the point of launching rocket will be told on the event day **1hr before starting of competition**.

· Maximum pressure supported is **60 psi**.

· Teams bring their **own rockets, launchers**.

· All energy given to the rocket must only come from the water/air pressure combination. No other source of energy is allowed. You can only compress air manually, with a foot or bicycle pump. Water will be provided by organizers. Even **bare foot pump will be provided compatible with standard bike valve.**
· At the time of launch, each competitor may adjust the **volume of water, air pressure, launch angle and launch direction**.
· Use of parachute is allowed
· **No external metal parts are allowed on the rocket**, but are allowed on the launch mechanism.
· Using metal parts on the pressurized portion of the rocket is strongly discouraged because in the event of a rupture, they can become harmful projectiles. Metal parts can also short out power lines.

Judging criteria

· **The distance will be measured from the centre of target to the point of impact. The rocket that lands closest to the target centre gets the best score.**
· **In case, the two participants have same distance between the point of impact and centre of target, the one with less time of flight will win the competition.**
· **Decision taken by the event coordinator will be final.**