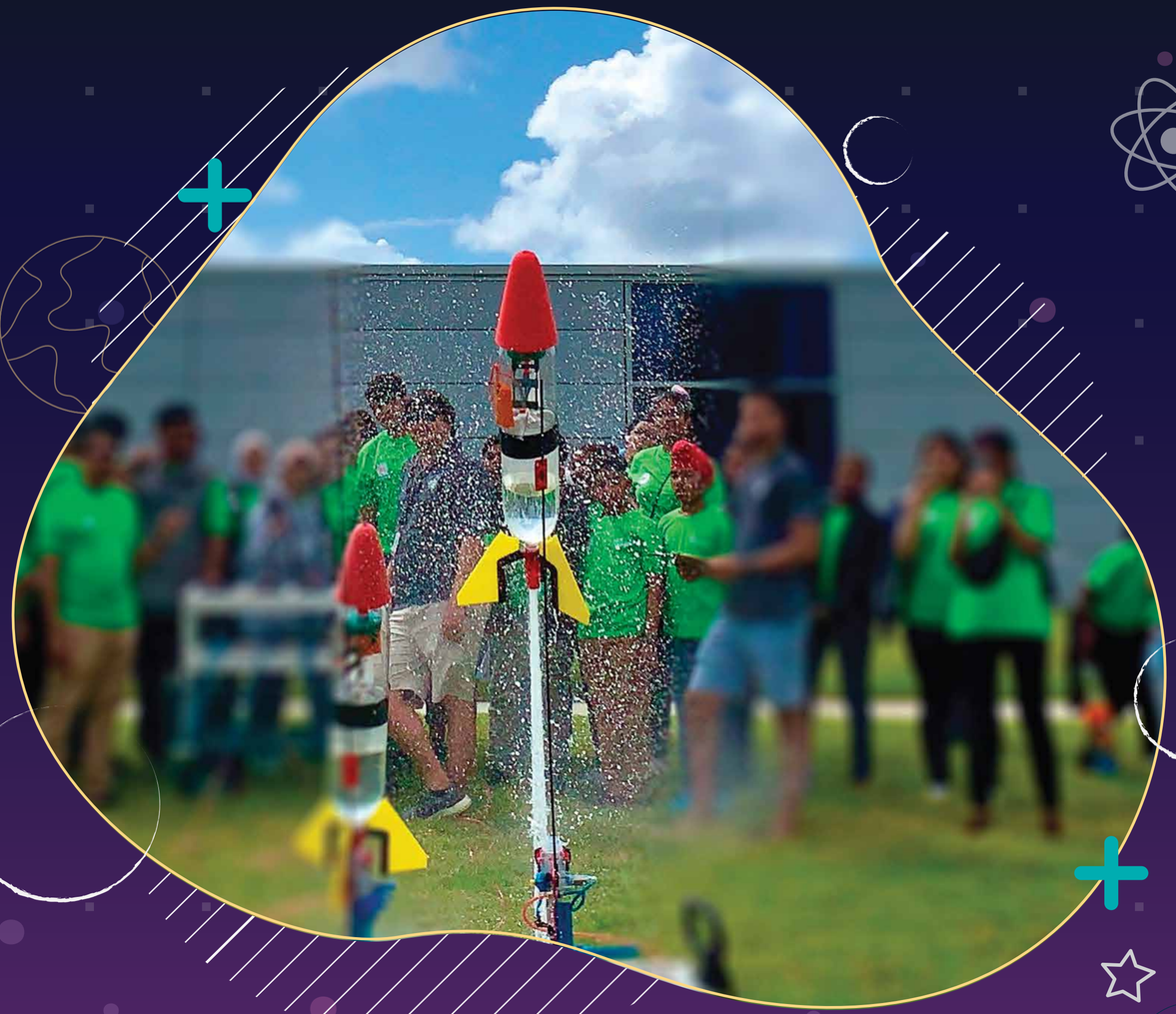
HYDR LAUNCH



THIS IS ROCKET SCIENCE

&

IT IS FOR EVERYONE

SCIENCE

TECHNOLOGY

STEM

ENGINEERING

MATHEMATICS

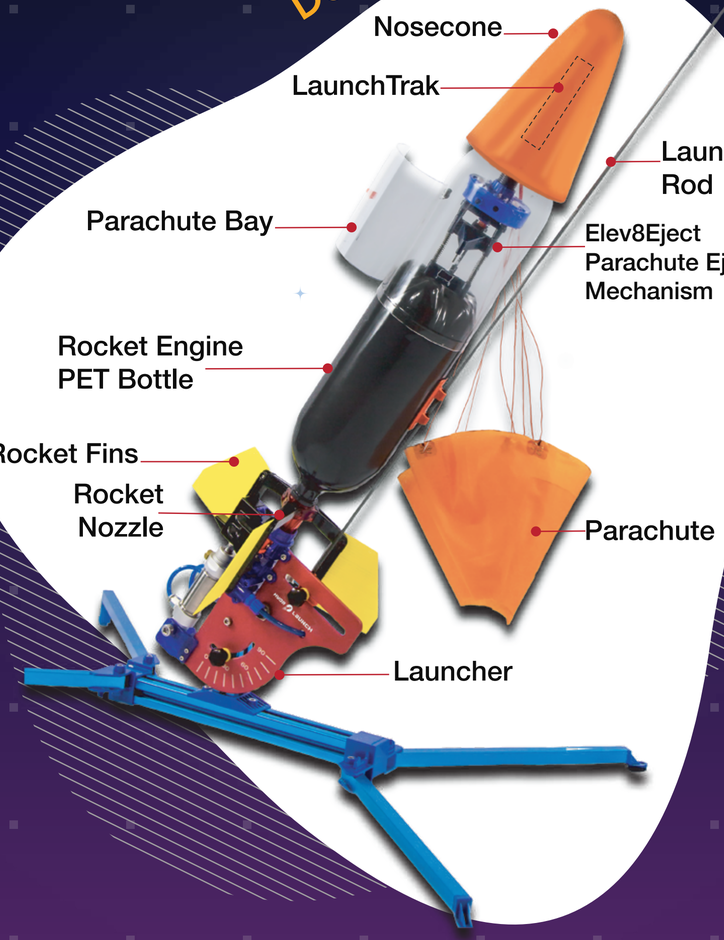
WWW.ELEV8SPACE.COM | WWW.SPACETREK.COM

EDUCATORS + STUDENTS + HOBBYISTS

ELEV SPACE

HYDR LAUNCH

Design - Build - Launch - Recover - Repeat



STAGE 1
Water Rocket pressurization and lift-off from pneumatically operated launch pad

STAGE 2
High Thrust and acceleration phase

STAGE 3
Rocket coasts to peak altitude (apogee)

STAGE 4
Water Rocket tilts over, parachute eject is triggered

STAGE 5
Parachute is fully deployed and rocket descends safely to the ground

Design - Build - Launch - Recover - Repeat

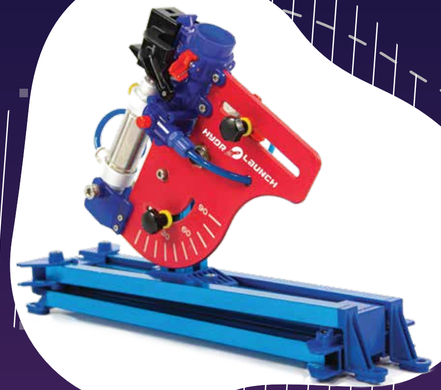
HYDR LAUNCH

EACH PRODUCT IS UNIQUE IN ITS OWN WAY

HydroLaunch Water
Rocket System

LaunchTrak

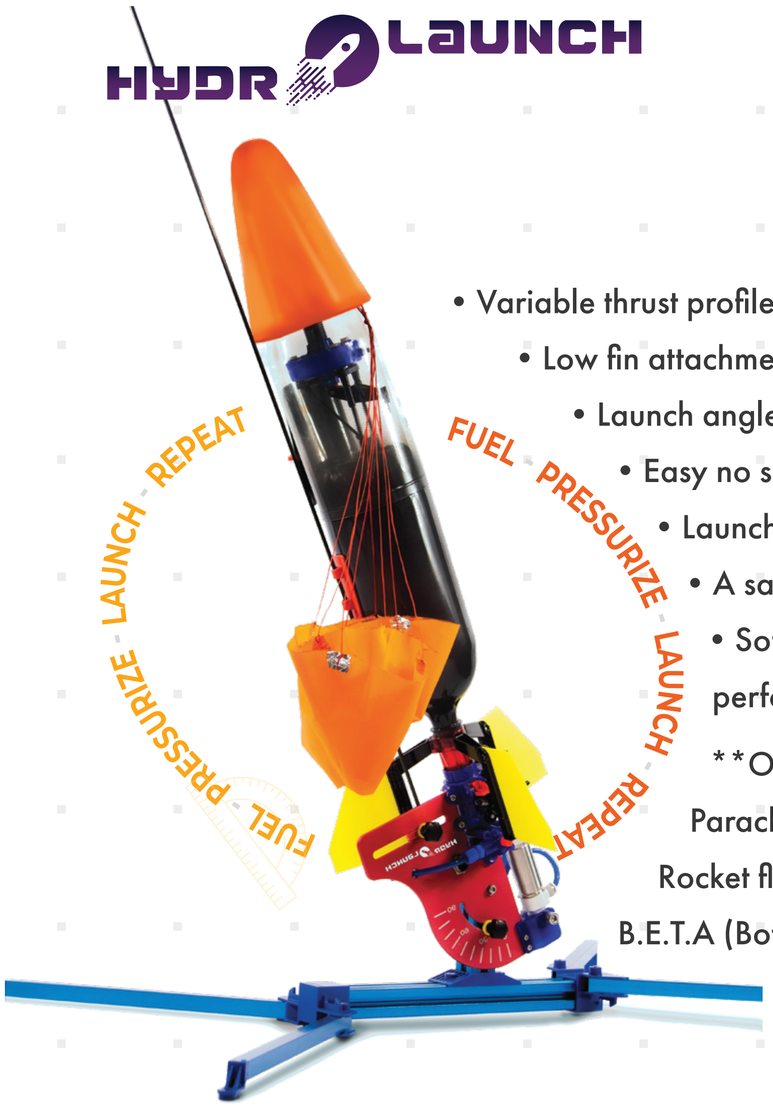
B.E.T.A.
Bottle Engine test
Apparatus



HydroLaunch Water
Rocket Launcher

Parachute Eject
Mechanism

HYDR LAUNCH



- Variable thrust profiles
- Low fin attachment and nose mounted payload bay
- Launch angle adjustment
- Easy no spill loading
- Launch Guide for stability
- A safety purge button for launch abort
- Software package that simulates rocket performance and trajectory

**Optional

Parachute Eject Mechanism

Rocket flight computer (LaunchTrak)

B.E.T.A (Bottle Engine Test Apparatus)

HydroLaunch Water Rocket Launcher

Launch rockets high into the sky using nothing but air pressure and water!

The perfect S.T.E.M.* companion for students, teachers and enthusiasts alike. The HydroLaunch Water Rocket system converts a simple toy into an ultimate teaching tool and offers the most versatile water rocket experience.

The HydroLaunch Water Rocket kit includes one rocket nozzle (for standard soda bottle threads), 3 sets of detachable fins, 3 nozzle inserts (8mm, 10mm and 12mm) and a Nose Cone.

* The acronym STEM stands for the disciplines of science, technology, engineering, and mathematics.

BOTTLE
ENGINE
TEST
APPARATUS

B.E.T.A. (Bottle Engine Test Apparatus)

Researched, designed, and developed at the Center for Space Education, Kennedy Space Center.

Test water rocket engines as a rocket scientist in your classroom. Conduct the right kind of engine test to make precise predictions.

Utilize rocket engine test to refine engineering designs. Manipulate and test variables for your rocket engine performance

B.E.T.A. brings to you the ultimate engine testing experience. From a 500ml to 2L soda bottles, you can use a variety of engine sizes easily available in your region.

B.E.T.A. is now patented in the United States, patent no. US 11,226,247 B2

* New Generation Science Standards

- **Fully enclosed launcher housing with portable computing device and cloud processing.**
- **A dynamic load cell assembly for variable engine sizes**
- **Real time data recording and analysis**
- **Automated control of the arming and launch procedures**
- **An engaging device for schools to access and meet NGSS***
- **Cloud based data analysis programs for remote learning**

HYDR LAUNCH

- Software for advanced data analysis post flights.
- High performance 32-bit microprocessor
- Nine Degrees of Freedom Inertial Measurement Unit (9DOF IMU)
- High accuracy pressure sensor
- 100 G three axis accelerometers
- SD card data logging
- 100 Hz data sample rate
- No launch mode required
- Values of interest for last five flights on screen

LaunchTrak - Rocket Altimeter

Track launch data for up to five launches on the device, and up to 1,000 records on SD card

An instant always-ready-to-launch flight analysis tool for not just water rocketry but all forms of model rocketry. Small enough to fit most hobby rockets, and ideal for Water Rocketry 2.0, LaunchTrak uses a rechargeable battery and provides 2 hours of ON time, with capability to record Peak Altitude, Top Speed, thrust time, maximum acceleration, average acceleration, coast time, time to apogee, total flight. Time, descent speed, and impact acceleration on landing.

LaunchTrak is a device designed for New Generation Science Standards (NGSS) and ideal for all STEM education projects that revolve around Newton's laws of motion.

HYDR LAUNCH

In K-12 education, the chute allows for minimizing impact. Thus, making the launcher coupled with your LaunchTrak a unique and engaging way to teach NGSS standards.

Parachute Eject Mechanism

Reusable parachute deployment for safe landings
A reliable side-release ejects the parachute perpendicular to the rocket body. Usable with any launch system capable of launching standard soda bottle water rockets, it allows enthusiasts to experiment with a variety of fragile payloads and safely return them to Earth.

With over 75 deployments per charge, the Parachute Eject adds a new dimension to your next Rocketry Expedition.

- Reliable tilt switch trigger system
- Easy to arm through the nose cone
- Fits standard two-litre soda bottles
- Safely land your water rocket
- USB Charging
- Supports launch angles from 45° to 90° from the horizontal.

HYDRO LAUNCH

Rocket Nozzle with detachable fins

Nose Cone

Nozzle Inserts

HydroLaunch Water Rocket

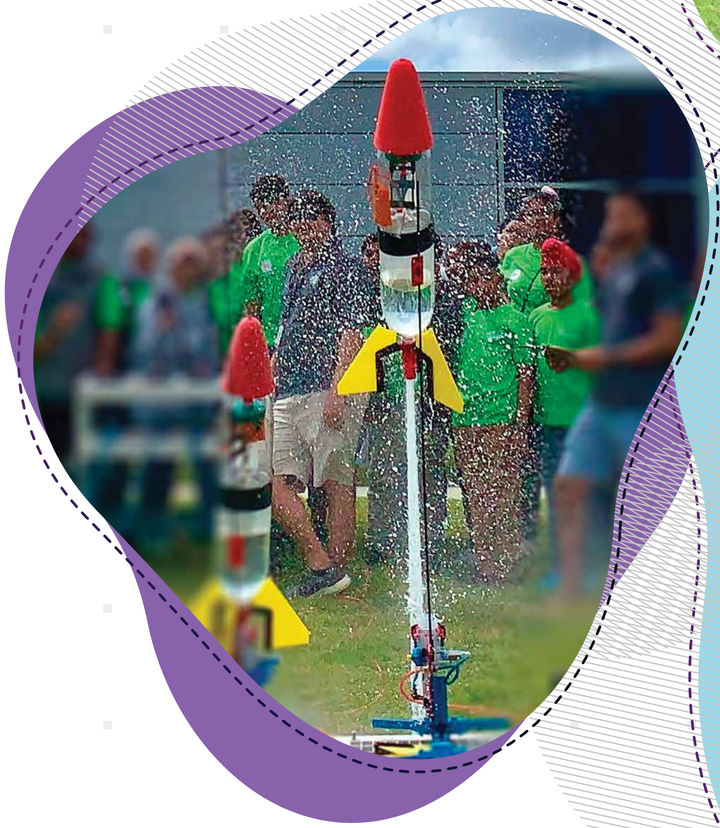
Threads mated with standard soda bottles, low profile detachable fin system, variable nozzle inserts and the LaunchTrak Nose Cone, HydroLaunch system allows for maximum experimentation when building a water rocket.

Use different Nozzle Inserts with diameters 8mm, 10mm and 12mm to experiment with variable thrust profiles. Here, you can use the product image

LaunchTrak Nose Cone: A polyurethane nose cone weighing just 80 grams to make your water rocket aerodynamic. Specially designed to house the LaunchTrak, this nose cone adds advanced capabilities to your water rocket game

Detachable Fin System is a low profile solution to reduce drag on your water rocket, and minimizes damage on impact

HYDR LAUNCH



ELEV SPACE
HYDR LAUNCH

$379.00

Water Rocketry 2.0

Basic Pack

- HydroLaunch Water Rocket
- Launcher Water Rocket Kit with
  - –Nose Cone,
  - –Nozzle,
  - –Fin Attachments,
  - –Nozzle inserts

$449.00

Water Rocketry 2.0

Starter Pack

- HydroLaunch Water Rocket
- Launcher Water Rocket Kit with
  - –Nose Cone,
  - –Nozzle,
  - –Fin Attachments,
  - –Nozzle inserts
- Parachute Eject Mechanism

$5449.00

Water Rocketry 2.0

Classroom Pack

- B.E.T.A. (Bottle Engine Test Apparatus) 1x
- HydroLaunch Water Rocket Launcher 2x
- Launcher Water Rocket Kit with 8x
  - –Nose Cone,
  - –Nozzle,
  - –Fin Attachments,
  - –Nozzle inserts
- Parachute Eject Mechanism 4x
- LaunchTrak Altimeter 2x

B.E.T.A. (Bottle Engine Test Apparatus)	$3895.00
HydroLaunch Water Rocket Launcher	$349.00
Water Rocket Kit with Nose Cone, Nozzle, Fin Attachments, Nozzle inserts	$49.00
Parachute Eject Mechanism	$99.00
LaunchTrak Altimeter	$139.00

The HydroLaunch Water Rocket Launch System uniquely engages students to interact with, and learn about important STEM objectives while having a blast!

Note for Educators:

NGSS requires three-dimensional learning experiences. While commercially available curricula claim to do this, none meet this as well as Space Trek's curriculum developed around rocketry phenomena. Consider bundling NGSS, PS2-1 through PS2-3. BETA 2.0 and Space Trek rocketry materials, coupled with our curriculum, provides the perfect intersection for students to analyze and refine a device, utilize mathematical relationships to support a claim, and apply science and engineering ideas to examine force and its effects on an object to exactly meet defined performance indicators.

Students will manipulate variables with NASA-like precision to discovery aspects of Newton's Laws for themselves. This system invites all learners to become scientists and instills confidence within their STEM learning.

www.elev8space.com | www.spacetrek.com

SPACE TREK @ KENNEDY SPACE CENTER

HYDRO LAUNCH

BOTTLE ENGINE TEST APPARATUS

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