

AQUA PORT

PITSCO
E D U C A T I O N



55801 V0509

Disclaimer

Pitsco, Inc. is not responsible for bodily injury or property damage that results from misuse of its products. Follow all directions and standard safety procedures to ensure student safety.

Items Included

Your AquaPort packages should contain the following items. If anything is missing, call Pitsco Customer Service at 800-358-4983.

- AquaPort with attached pressure hose, bottle plug, launch cord, and launch safety pin
- 3 AquaPort legs
- Tube of Super Lube
- Air valve

Items Required (not included)

- Tire pump (59323 or 34344) (unless using the Gauge/Manifold Accessory, in which case use compressed air)

Optional Items (not included)

- AquaPort Gauge/Manifold Accessory (19981)
- AquaPort Competitive Launcher (23820)

AquaPort Assembly

1. Insert the legs into the three-way fitting of the launcher unit (Figure 1).



Figure 1

2. Unwrap the AquaPort hose and straighten it out. Remove the launch cord and handle and unwind it enough to have it a few feet from the AquaPort.
3. If you have the Gauge/Manifold Accessory, install it now according to its instructions.
4. If you have the AquaPort Competitive Launcher, install it according to its instructions.
5. If using a the standard tire pump, attach the air valve to the AquaPort's tubing (Figure 2).



Figure 2

Launching Bottle Rockets with the AquaPort

Caution: It is not recommended to use rockets made with bottles other than those sold for the purpose of making water rockets. Depending on size, color, and shape variations, commercial soda bottles may burst when air pressure is applied. Do *not* use water bottles at all as they will not launch properly.

1. Add the desired amount of water to the bottle rocket (Figure 3). (If you don't know how much to add, try filling the bottle half-full.)



Figure 3

2. With the bottle rocket inverted, insert the launcher plug into the bottle mouth (Figure 4). If you have difficulty inserting the plug, lubricate the O-rings on the plug with a small amount of Super Lube.
3. Set the rocket upright on the launcher. As you do so, pull the hose down through the launcher shaft (Figure 5).



Figure 4



Figure 5

4. Squeeze the three aluminum release fingers against the bottle so the notches hold onto the bottle flange (Figure 6).



Figure 6

5. While holding the release fingers against the bottle, slide the collar up the launcher shaft so that the three release fingers are held in position against the bottle (Figure 6).
6. Insert the launch safety pin through the shaft (Figure 7). The safety pin prevents an accidental launch.

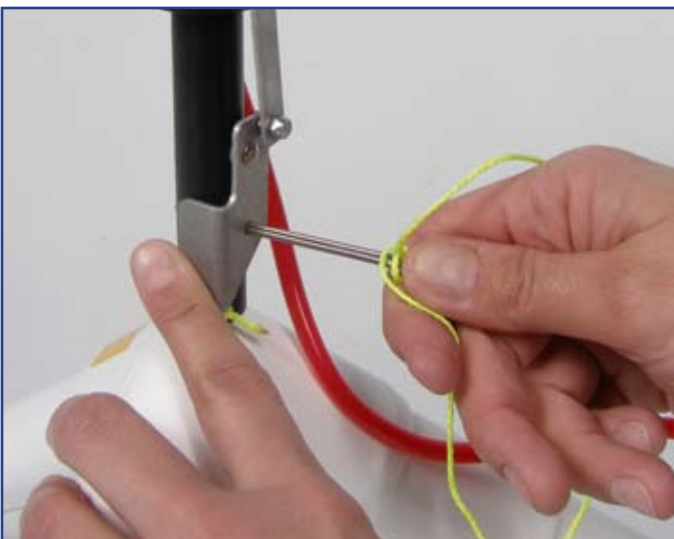


Figure 7

7. Connect the launcher hose to the air source (Figure 8). For the basic AquaPort launcher without the Gauge/Manifold Accessory, the air source will be a bicycle pump (Figure 8). With the addition of the Gauge/Manifold Accessory, you can connect to a variety of air sources, including a bicycle pump, an air compressor, an air tank, or the optional CO₂ converter.



Figure 8

8. If launching a rocket with a loose ball on top, place the ball now. Make any other needed adjustments to the rocket at this time.
9. Pump up the bottle. Watch the pressure gauge on the bike pump (Figure 9) or on the Gauge/Manifold Accessory as you pump. Do not exceed 90 psi.

Warning: Never place your head or any other body part over a pressurized rocket.



Figure 9

10. Clear the launch area by having all spectators stand at least 25 feet from the launcher. Fully extend the launch cord in the direction shown in Figure 11. Remove the launch safety pin from the launcher shaft (Figure 10).

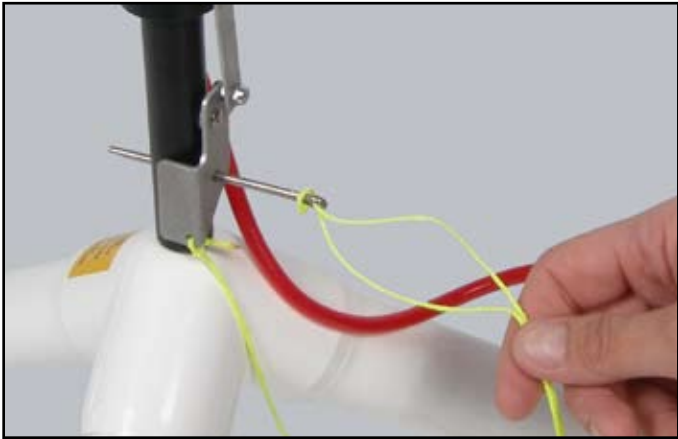


Figure 10

11. After the five-second countdown, gently pull the launch cord (Figure 11). The three release fingers will fall away from the bottle flange. The bottle's internal pressure will blast it up and away from the launcher.
12. When done launching, disconnect the AquaPort from the tire pump and store them both properly.

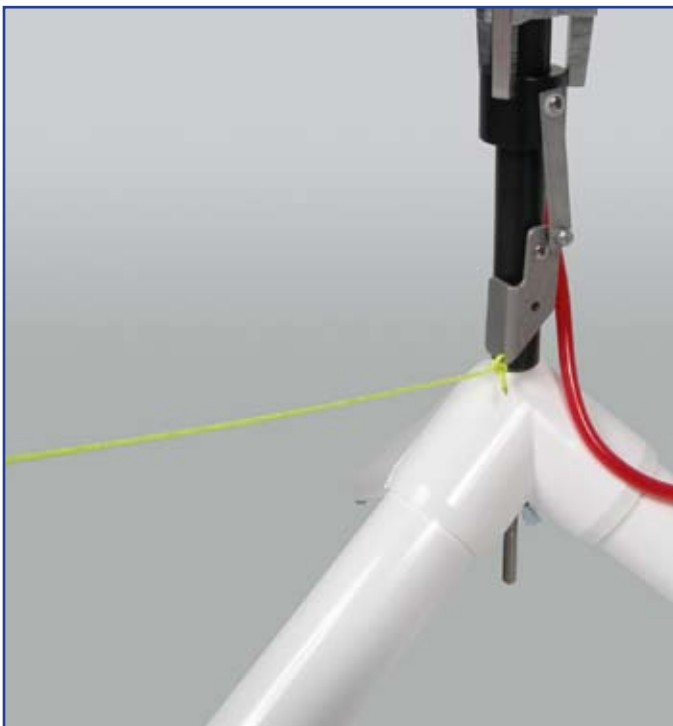


Figure 11

AquaPort Safety

- Do not pressurize any bottle higher than 90 psi. We recommend the use of a bicycle pump equipped with a pressure gauge for launching bottle rockets with AquaPort. This isn't necessary if you have the optional Gauge/Manifold Accessory.
- Do not use an air compressor, air tank, or CO₂ converter unless you have the optional Gauge/Manifold Accessory. Failure to follow this rule could result in potentially dangerous bottle ruptures.
- Never place your head or any other body part over a pressurized rocket.
- Read and follow the Bottle Rocket Safety Code on page 6.

Bottle Rocket Safety Code

My Responsibilities:

1. **Materials:** I will make my bottle rockets of lightweight materials such as paper, wood, rubber, and plastic that are suitable for the power used and the performance of the bottle rocket. I will not use any metal for the nose cone, body, or fins of my bottle rocket.
2. **Bottle Pressure:** I will not pressurize my bottle rocket to more than 90 pounds per square inch.
3. **Stability:** I will check the stability of my bottle rocket before its first flight except when launching a bottle rocket of already-proven stability.
4. **Payloads:** I will never use my bottle rocket to carry live animals or a payload that is intended to be flammable, explosive, or harmful.
5. **Launch Site:** I will launch my bottle rockets only outdoors in a cleared area, free of tall trees, power lines, and buildings.
6. **Launcher:** I will launch my bottle rocket only from a stable launch device.
7. **Launch Safety:** I will make sure that all persons are at least 25 feet from the bottle rocket during launch and behind the person who is launching the rocket. I understand that it is my responsibility to ensure that people in the launch area are aware of the pending bottle rocket launch and can see the bottle's lift-off site before beginning the audible five-second countdown. I will not allow anyone to put his or her head or any other body part above the rocket during or after pressurization. I will not launch my bottle rocket so that its flight path will carry it against a target.
8. **Flying Conditions:** I will never launch my bottle rocket in a manner that is hazardous to people or property.
9. **Prelaunch Test:** When conducting research activities with unproven bottle rocket designs or methods, I will determine the reliability of my bottle rocket by conducting a prelaunch test. I will conduct the launching of an unproven design in complete isolation from any person not participating in the actual launching.
10. **Launch Angle:** I will point the launch device within 30 degrees of vertical. I will never use the bottle rocket launcher to propel any device horizontally.
11. **Recovery:** If a bottle rocket becomes entangled in a power line or other dangerous places, I will not attempt to retrieve it.

Notes



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