IMPORTANT LEGAL AGREEMENT

The following terms form a legal agreement between you (“Consumer”) and AntiGravity Research Corporation ("AntiGravity"). By using this product and/or its documentation (hereinafter referred to as "product") as provided or in any subsequent form, you acknowledge that you have read, understood, and agree, to be bound by these terms and to comply with all applicable laws and regulations. If you do not agree to these terms, do not use this product and return it, for a full refund, to the original place of purchase.

PRODUCT LIABILITY LIMITATION

AntiGravity shall not be liable for any consequential or incidental damages, injury, loss or expenses arising from the use or inability to use this product for any purposes whatsoever, or for any willful or accidental misuse of the product. By using the product, the consumer acknowledges that the product is intended for specific educational and recreational purposes and that adult supervision, caution and reasonable care should be exercised in its use. Unacceptable uses include but are not limited to, launching the product into the flight path of aircraft, launching the product toward people or vehicles, or using the product to create an explosive device or using the product in any way which may cause injury to self or others. The consumer agrees to release AntiGravity, it's owners, employees, heirs, assigns, officers, agents and associates from any and all liability, claims, demands or actions or causes of actions arising from or blame whatever arising out of any damage, injury, loss or death resulting from any cause whatever, whether the result of misuse, the fault of the user, a defect in the product or from any other cause whatever, regardless of intention. No action or representation written or verbal on the part of AntiGravity or any other can amend, make void, or alter this product liability limitation in any way at all. The consumer agrees to all of the terms of this limitation when using the product. If you do not agree to these terms, then do NOT use the product and return it, for a full refund, to the original place of purchase.

DISCLAIMERS

AntiGravity explicitly states that this product is not meant for use by unsupervised children and is not meant for use with any air pump other than a standard low pressure hand-powered bicycle air pump, nor is it meant for use with any bottle other than a plastic bottle that previously contained fizzy pop. Using any air pump capable of applying more than 80 pounds per square inch of pressure or using anything other than a pop bottle is strongly DISCOURAGED.

JURISDICTION

AntiGravity is located in and operates from Chilliwack in the province of British Columbia, Canada and no other location. The laws of the province of British Columbia shall govern these terms and conditions and any dispute related thereto without regard to choice of law rules. Consumer hereby consents and agrees to exclusive jurisdiction and venue of courts in New Westminster, British Columbia, Canada. Use of this product is unauthorized in any jurisdiction that does not give effect to all of these terms including, without limitation, this paragraph.

SEVERABILITY

If any part of this agreement is deemed to be invalid or unenforceable for any reason, then such invalid or unenforceable provision shall be deemed superceded by a valid and enforceable provision that most closely matches the intent of the original provision and the remainder of the agreement shall remain in effect.

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Also included with the SkyLab Extreme kit:

Filling Hose / Launcher
Lets you pump up the rocket from a safe distance away. Releases automatically when you stop pumping.

Guide Rod
Keeps your rocket pointed up until it's going fast enough to continue on straight up.

Safety Marker
Ensures that the launch site is clearly visible to all.

Clear pictorial instructions
Makes the rocket easy to assemble, a breeze to launch.

Requirements:
1 - Bicycle air pump
100 ml water
1 - 1000' wide open field

SkyLab Extreme

Water Rocket Kit
To 300 feet

Integral closed-cell foam bumper pad for a safe, soft touch-down every time.

Entire rocket weighs only 60 grams, maximizing both altitude and safety.

Included proprietary rocket-profile body minimizes air friction for higher velocity and altitude.

Shock-absorbing mounting system for maximum reusability.

Super-light expanded polymer fins instantly fold out and click into place.

Low-friction guide tube keeps the rocket pointed up during liftoff.

Recessed reduction-type nozzle for long-lasting thrust, impressive vapor trail, and higher altitude.

Reasonably priced spacecraft for the home, school or office.

www.antigravityresearch.com email: sales@antigravityresearch.com toll-free: 1-866-546-8633 phone 604-824-9021 fax 604-648-8192

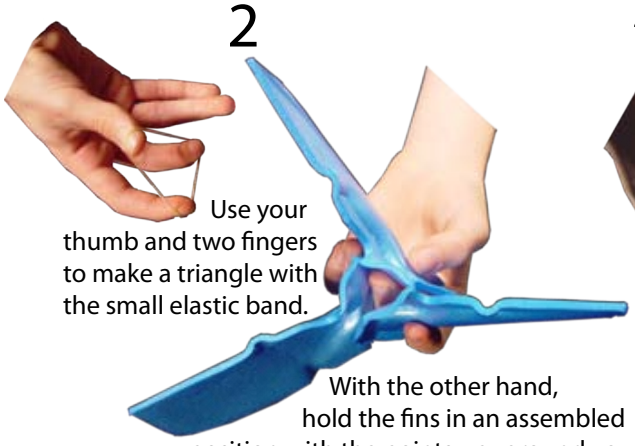
The Tripod Fins

These fins are tough to assemble because the elastics seem to want to keep popping off. Once you've got them in place though, they're there to stay! The elastics hold on tightly when the rocket is flying, but they let go easily during impact so the fins don't break.

1

Here's what you start with. Two elastic bands and three pointy fins.

2



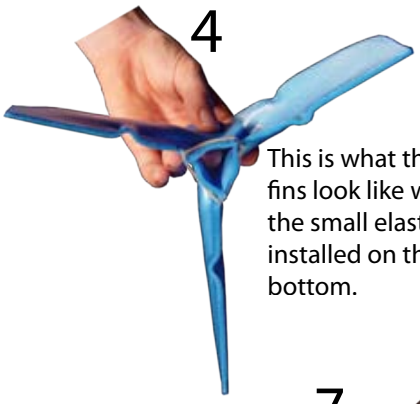
Use your thumb and two fingers to make a triangle with the small elastic band.

With the other hand, hold the fins in an assembled position with the points up, around your middle finger,

3

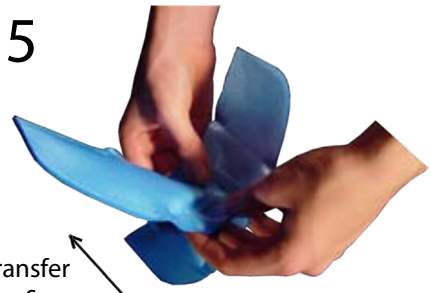
Install the small elastic on the bottom of the fins.

4



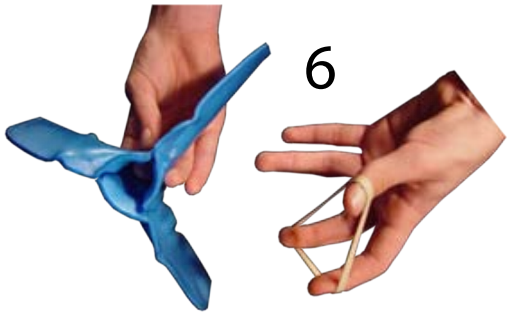
This is what the fins look like with the small elastic installed on the bottom.

5



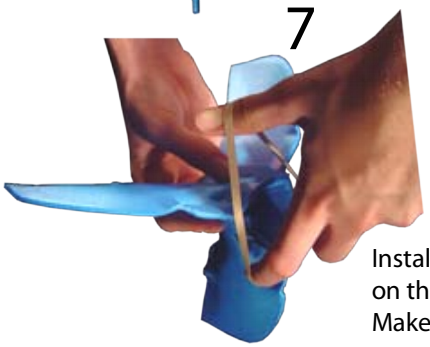
Transfer the fins to your other hand.

6



Use your thumb and two fingers to make a triangle with the fat elastic.

7

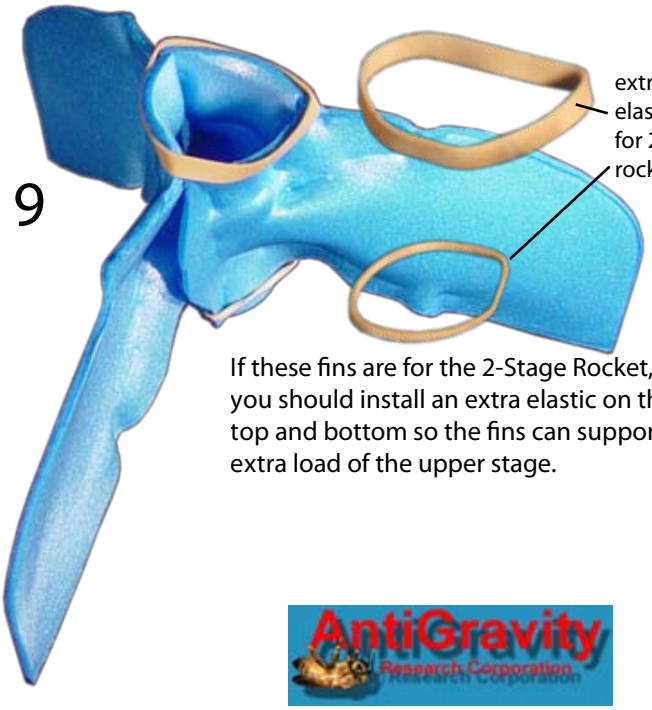


Install the fat elastic on the top of the fins. Make sure there are no twists in it.

8

The fat elastic band looks like this when properly installed.

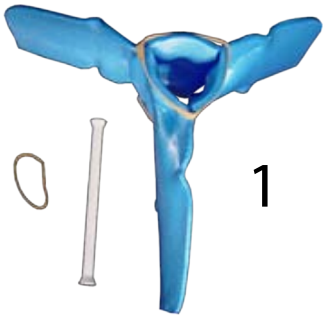
9



If these fins are for the 2-Stage Rocket, you should install an extra elastic on the top and bottom so the fins can support the extra load of the upper stage.

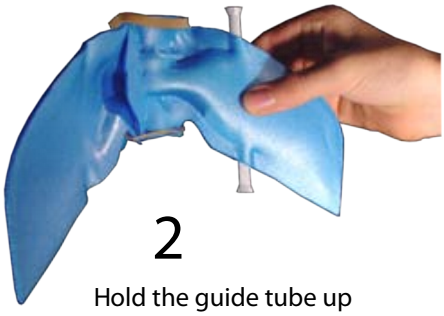
Installing the Guide Tube

The Guide Tube keeps the rocket pointed upward until it is traveling fast enough for stable flight. As the rocket lifts off, the guide *tube* slides straight up the guide *rod* until the rocket is flying freely. Once the rocket is flying, the guide tube is small enough not to interfere with the flight.



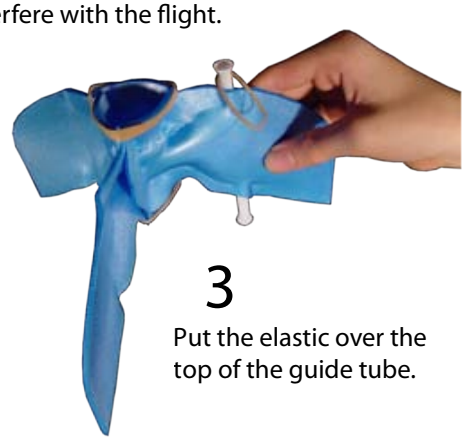
1

Start with the assembled tripod fins, a guide tube, and a mid-sized elastic band.



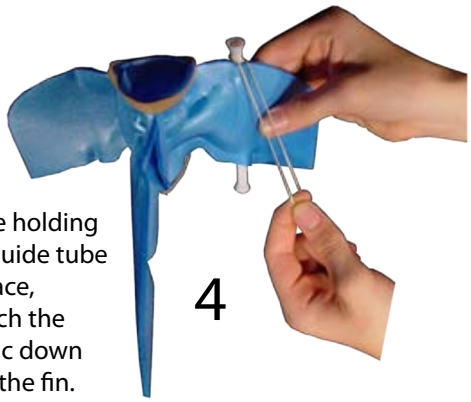
2

Hold the guide tube up against the groove in the hollow side of one of the fins.



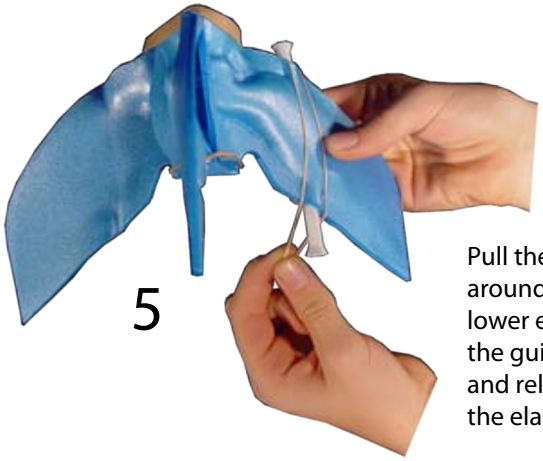
3

Put the elastic over the top of the guide tube.



While holding the guide tube in place, Stretch the elastic down over the fin.

4



5

Pull the elastic around the lower end of the guide tube and release the elastic.

6

The perfectly installed guide tube! Now the fins are ready to be installed on the rocket bottle!

Rocket Fuel

When you head out to the field with your water rocket, it is important that you bring a supply of water with you. A 2-liter pop bottle works well as a container for that supply. Two liters should give you about twenty single-stage rocket flights, or ten 2-stage rocket flights. If the weather is below the freezing point of water, add some salt to the fuel to keep it from freezing.
For extra altitude and an impressive vapor trail, add about 10% to 25% non-toxic hand-wash dish soap to your water. The soapy exhaust will leave a brown spot on the lawn where the rocket lifts off, so make sure this is okay before using soap. You can run the rockets without any water, but they won't fly as high.

1

Plain ordinary water works very well as a rocket fuel. Don't forget to put the cap back on after each use, or your supply of water will all spill out.

Or

1

For a soap mixture, first add 200 ml to 500 ml of non-toxic hand-wash dish soap into a 2-liter bottle.

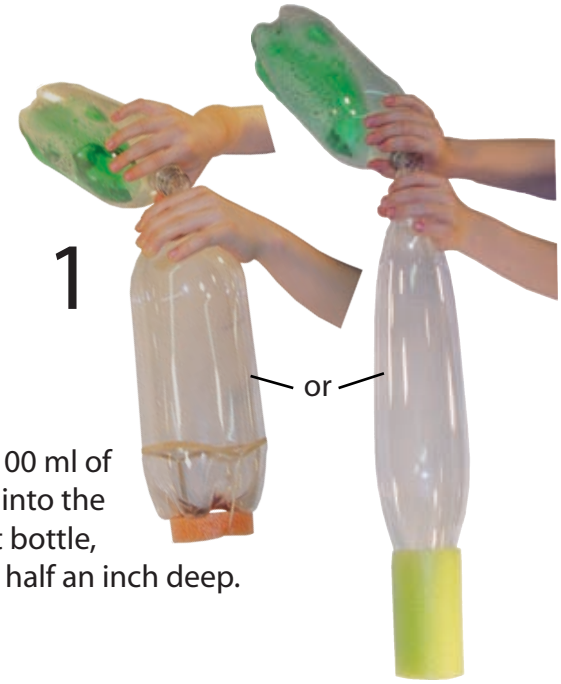
2

Then fill the rest of the bottle with water, put the cap on and gently shake until mixed.

SkyLab or SkyLab Extreme: Adding water and Connecting the Launcher

Once you put water in, keep the rocket on its side until you have completed step 4, otherwise the water will drain out!

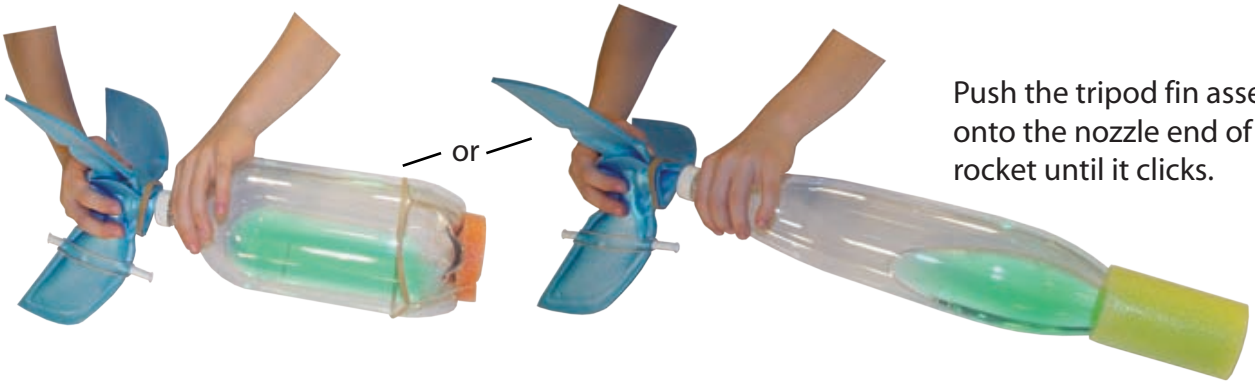
1



Pour 100 ml of water into the rocket bottle, about half an inch deep.

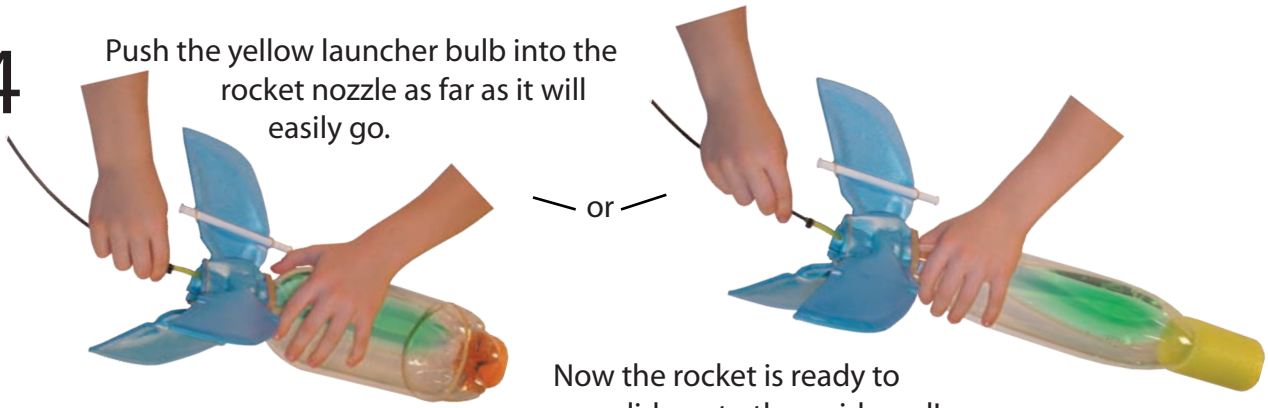
2 Screw on the nozzle firmly.

3



Push the tripod fin assembly onto the nozzle end of the rocket until it clicks.

4 Push the yellow launcher bulb into the rocket nozzle as far as it will easily go.



Now the rocket is ready to slide onto the guide rod!

The Guide Rod

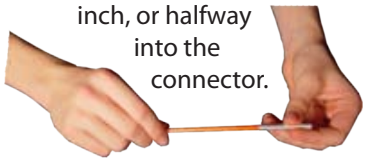
The guide rod keeps the rocket pointed straight up until it is going fast enough to be stable. The longer the guide rod, the more vertical the flight. The rocket should have water in it and be connected to the filling hose already. If your guide rod is a 12-inch single stick, go directly to step 4. For a 3-foot rod or 6-foot rod, start at step 1.

Bag of connectors.

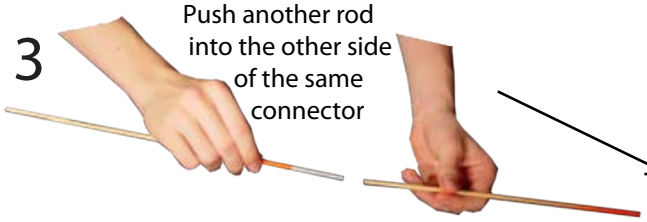
Connector. Push a rod into each end of the connector.

The safety marker prevents you from tripping over the guide rod by making it easy to see.

1 Push a metal connector onto a rod.

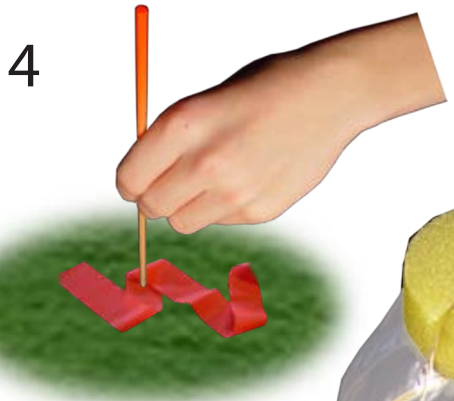


2 Push the rod into the connector about one inch, or halfway into the connector.



3 Push another rod into the other side of the same connector

Repeat steps 1, 2 and 3 until the rod is as long as you need. Don't make it longer than 6 sections or it's too high to reach over the rocket the top of it.

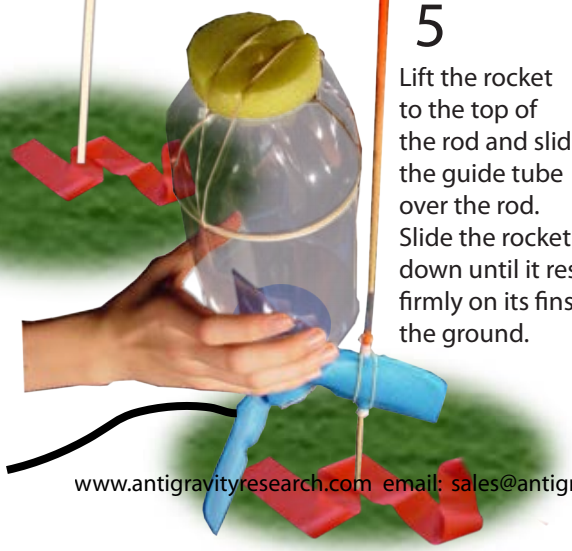


4

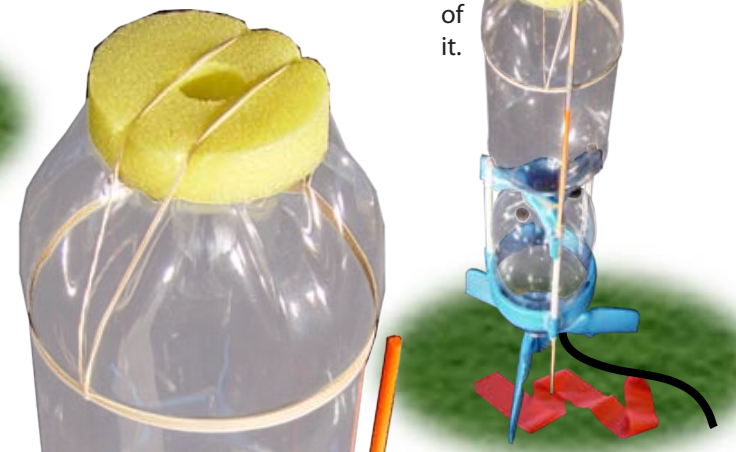
Making sure the rod points straight up, push it through the red safety marker into the ground about 2 inches, or until it is firmly planted.

6-foot rod

3-foot rod



5 Lift the rocket to the top of the rod and slide the guide tube over the rod. Slide the rocket down until it rests firmly on its fins on the ground.



6

Ready to fill with air! The rocket's fins rest firmly on the ground and the guide tube is ready to slide up the rod when the rocket takes off.

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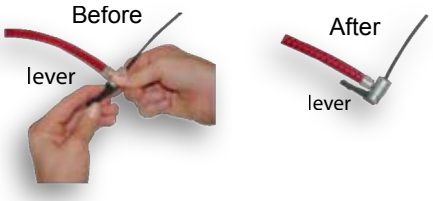
Launching your Rocket

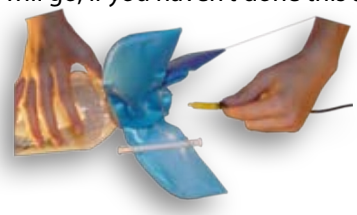
Though you can use any similar air pump, AntiGravity's Rocket Pump is specially designed to easily handle the rigorous conditions involved in water rocket launching. The secret is the pressure reservoir canister, which dissipates heat and absorbs pressure peaks. Always use a hand powered pump to pressurize your rockets, never a compressed air tank or electric or automatic pump. With a hand-powered pump, you stop pumping when the rocket launches, so the little yellow bulb at the end of the launcher doesn't stretch and burst. You also stop pumping if your cell phone rings or if someone interrupts you but an automatic pump keeps on pumping. Plus it's great exercise to pump up a rocket! Always stay at least 20 feet away from the pressurized rocket, and keep everyone else 20 feet away from it, just in case it explodes.

1 Push the launcher hose connector into the rocket pump connector.

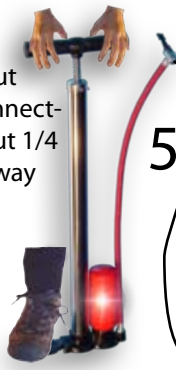
2 Push the lever down by holding the metal rocket pump connector, not the hose.



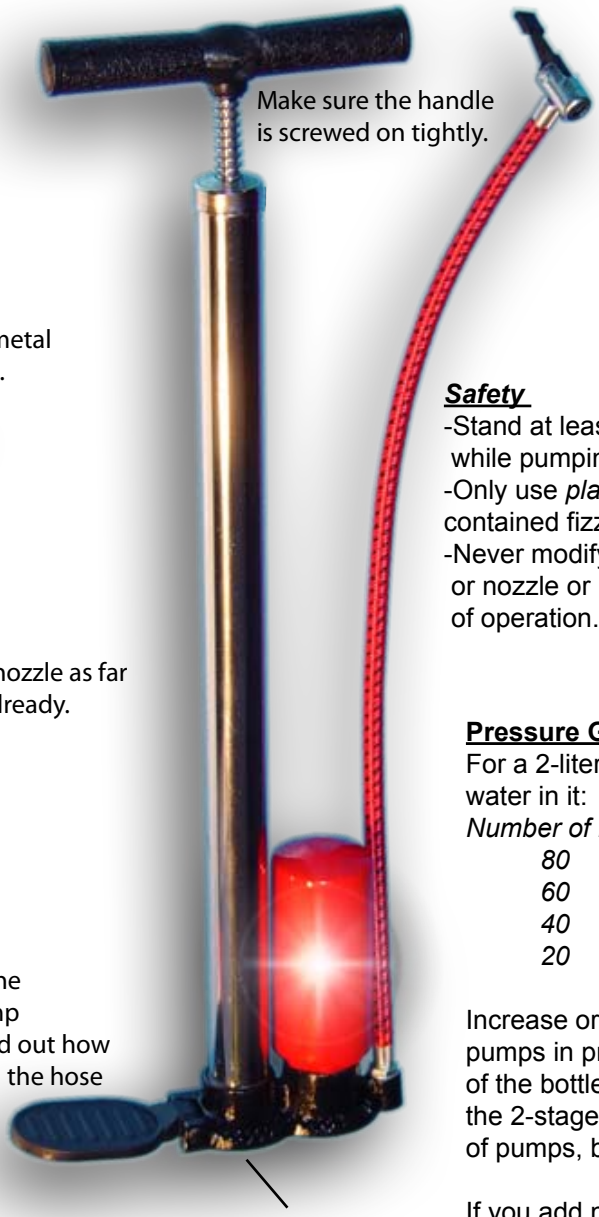
3 Push the yellow bulb into the rocket nozzle as far as it will go, if you haven't done this already.



4 Place both hands on the handle and one foot on the foot rest, and begin to pump (See pressure guide on this page to find out how much to pump). If no air goes through the hose to the rocket, back out the connector about 1/4 of the way and try again.



5 If rocket doesn't launch on it's own, just stop pumping. If it still doesn't launch (usually at lower pressure) disconnect the pump from the launcher hose.



Make sure the handle is screwed on tightly.

When not in use, keep the pump indoors, away from sunshine and water.

When you pump, the base gets very hot. Make sure to let it cool down after each launch or the pump may overheat.

Safety

-Stand at least 20 feet away from the rocket while pumping.
-Only use *plastic* bottles that previously contained fizzy pop.
-Never modify an AntiGravity launcher hose or nozzle or it may adversely affect safety of operation.

Pressure Guide

For a 2-liter plastic bottle with 100 ml water in it:

Number of Pumps	*Air Pressure (psi)*
80	*80*
60	*60*
40	*40*
20	*20*

Increase or decrease the number of pumps in proportion to the volume of the bottle you are pressurizing. For the 2-stage rocket, double the number of pumps, because it has 2 bottles to fill.

If you add more water, use fewer pumps.

Pumping faster allows the rocket to hold on longer and fill to a higher pressure.

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