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PVC SLINGSHOT RIFLE



This high-powered slingshot is incredibly accurate and reliable, yet it's very simple to build and to modify. Unlike typical slingshots, this one comes with a satisfying triggered release, allowing you to effortlessly line up your shot before letting loose. This is what rubber bands were made for!

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CRAFT CUBES

Cubes with holes and dowels of many varieties can be purchased at www.CraftParts.com.

CRAFT STICKS

Find crafting sticks at craft or dollar stores.

HOT GLUE

Available at crafting, hardware, or department stores. I recommend buying the glue sticks online or at dollar stores to save money.

LEDS AND 3 VOLT COIN CELL BATTERIES

Purchase these at electronics supply stores or through online vendors.

LONG RUBBER BANDS

These are available by the box through office supply stores.

PAINT STIRRERS

Paint stirrers are available at hardware stores, sometimes for free if you ask nicely. You can also purchase them online. I bought boxes of 100 for this book for about \$20 USD.

PLASTIC SYRINGES

Pharmacists may give a few to you for free if you're a regular customer, or if you ask for some for a "science project." Otherwise you can buy them online. Search for "10 ml luer slip plastic syringe."

PROPELLERS

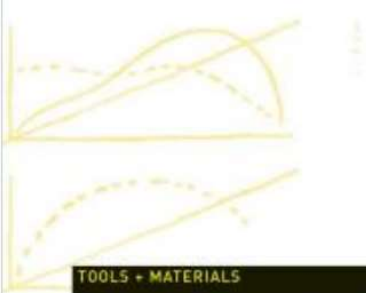
Propellers for rubber-band helicopters and propeller-powered cars can be purchased at www.Kelvin.com. Search for "nose hook propeller."

VINYL TUBING WITH 1/4" (3 MM) INNER DIAMETER

This tubing is available at aquarium supply stores, hardware stores, or online.

MATERIAL SOURCES

The materials used in this book are inexpensive and easy to come by. Materials not listed here can most likely be found at hardware and department stores or in your kitchen junk drawer. Note: Online vendors may not ship to all countries.



TOOLS + MATERIALS	
PVC PIPE CUTTER OR HACKSAW	PVC PRIMER
42" (1 M 6.5 CM) OF 1/2" (1.3 CM) SCHEDULE 40 PVC PIPE	PVC CEMENT
TWO 1/2" (1.3 CM) PVC ELBOW CONNECTORS	BLACK SPRAY PAINT (OPTIONAL)
TWO 1/2" (1.3 CM) PVC TEE CONNECTORS	4 CABLE TIES
TWO 1/2" (1.3 CM) PVC END CAPS (OPTIONAL)	TWO 7" (18 CM) RUBBER BANDS
	CARDBOARD TUBE
	DUCT TAPE
	LARGE BINDER CLIP
	2 LARGE CRAFT STICKS
	SAFETY GLASSES

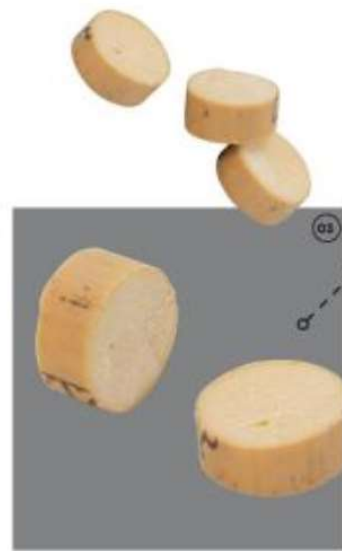
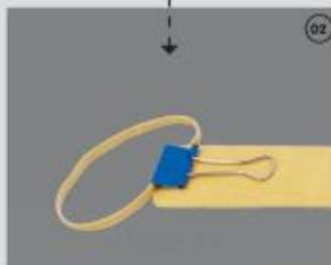
MATERIAL SUBSTITUTIONS	
PVC PIPE CUTTER	Hacksaw or another type of saw
7" (18 cm) RUBBER BANDS	A chain of shorter rubber bands
CARDBOARD TUBE	Any scrap of cardboard
LARGE CRAFT STICKS	Any rigid piece of wood or plastic of a similar size



01 > Make the trigger. Cut a 6" [15 cm] piece of duct tape and split it lengthwise. Use the two pieces of tape to attach the clothespin to one end of the paint stirrer, making sure the pinching tip of the clothespin faces the middle of the stick.

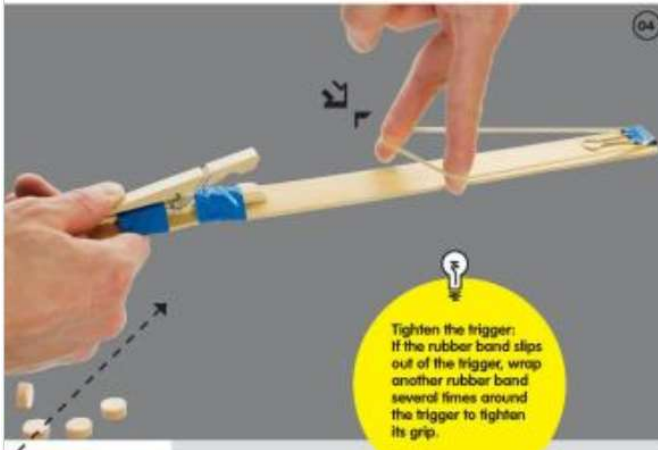


02 > Use the binder clip to clamp the rubber band to the other end of the stick. Fold the binder clip handles down. Using a binder clip allows you to quickly swap out rubber bands with different shooting power or replace broken ones.



03 > Choose your projectile. For indoor shooting, try disks made by cutting a synthetic cork into quarter slices approximately $\frac{1}{4}$ " to $\frac{1}{2}$ " (6 mm to 1.3 cm) thick. These corks are dense enough to shoot a good distance and maintain a fairly accurate trajectory but not so dense that you'll break a window. Ideally, the projectile should be slightly wider than the trigger so the rubber band can hold it in place.

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04

04 > You're ready to shoot! Squeeze the trigger open with one hand. Use two fingers from your other hand to stretch the rubber band into the open trigger. The rubber band should remain stretched taut when you clamp the trigger onto it.



Tighten the trigger: If the rubber band slips out of the trigger, wrap another rubber band several times around the trigger to tighten its grip.



05

05 > Wedge the projectile between the two sides of the rubber band directly in front of the trigger. This will prevent the projectile from falling out as you prepare your shot and ensures that the projectile receives the full force of the rubber band's elastic energy.

06 > Scan your surroundings for something fun to shoot at. Things that fall over, make noise, or shatter (so long as they're not of value to anyone!) are great choices. Avoid shooting point blank at hard surfaces—your projectile might ricochet back at you.



DESIGN VARIABLE

The shooter can be modified to fire *unsharpened* pencils. To prevent the pencil from veering to the side when



NOW GET TINKERING

The Many-Thing Shooter can be attached to almost any flat and rigid surface. Try turning boring objects, like a binder or instruction manual, into an improvised firearm.

