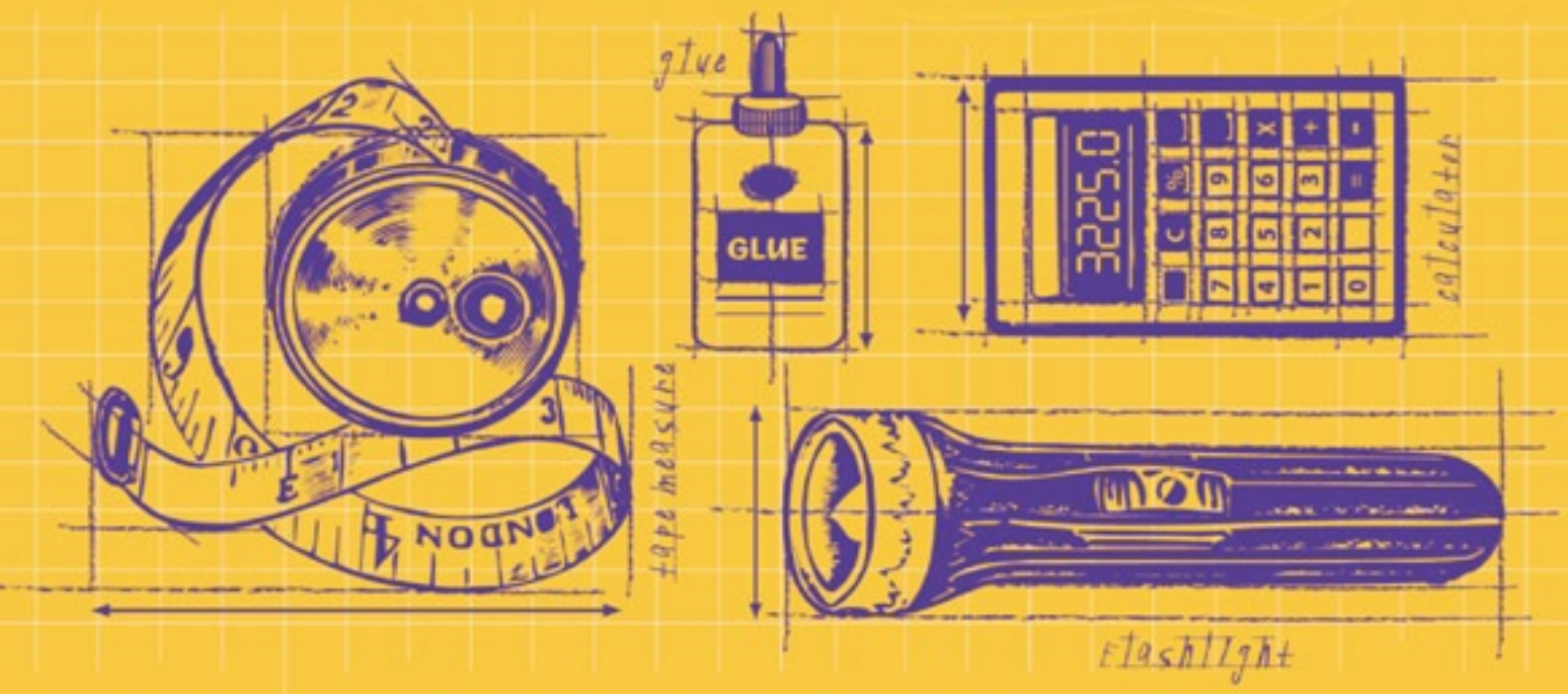
SNEAKIER uses for everyday things



How to turn a calculator into a metal detector, carry a survival kit in a shoestring, make a gas mask with a balloon, turn dishwashing liquid into a copy machine, convert a styrofoam cup into a speaker, and make a James Bond Spy Jacket with everyday things.

Cy Tymony

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How to Turn a Calculator into a Metal Detector, Carry a Survival Kit in a Shoestring, Make a Gas Mask with a Balloon, Turn Dishwashing Liquid into a Copy Machine, Convert a Styrofoam Cup into a Speaker, and Make a Spy Gadget Jacket with Everyday Things

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Introduction

Ever since the first tool was created, people and societies have been making sneaky uses o everyday things. Whether the adaptation is for novelty purposes or stems from a need fo escape and survival, sneaky resourcefulness has produced numerous ingenious innovator World War II, in particular, inspired many fine examples.

British Royal Air Force pilots were equipped by the Military Intelligence division (MI-9 with various concealed items, such as:

- Shoelaces with magnets in the tips and a wire saw sewn in the fabric
- Compasses and silk maps hidden in buttons and chess pieces
- Boot heels with rubber stamps for document forgery
- Cribbage game boards with crystal radios inside them
- Escape pens that hid a compass, map, currency, and dye to tint clothing

Charles Fraser-Smith—the model for Ian Fleming's character Q (for Quartermaster)- supplied equipment and gadgets for secret agents and prisoners-of-war. Some of his speci designs and gadgets included:

- Flashlights with one real battery and a fake with a secret compartment
- Cigarette lighters holding tiny cameras
- Pens containing a paper-thin map, a compass, and a magnetic clip to balance it on a pin
- Buttons containing a tiny compass
- Badges and boot laces containing a Gigli's wire saw (a flexible wire with saw teeth used by surgeons)

Fraser-Smith also developed a used match containing a magnetic needle that could b dropped in water to form a compass, maps printed on handkerchiefs in invisible ink, che pieces and tobacco pipes with hidden compartments, edible rice-paper notepaper, a cigarett holder telescope, and fur-lined pilot boots that could be converted into ordinary shoes (t avoid detection) using a knife hidden in the leather, the removed sheepskin legging section then being converted into a vest).

In Germany's sixteenth-century Colditz Castle, prisoners of war constructed a two-man 1 foot glider with a 33-foot wingspan using cloth from sleeping bags, nails and wood fro floorboards, and other materials from their cells.

The inspiration to do this came on a snowy day in December 1943 when prisoner Bi Goldfinch looked out his window over the town and noticed that the snowflakes outside wer drifting upward. He thought it might be possible to escape from the old castle in a glide using the updraft to get airborne.

With the help of a book from the prison library, Goldfinch drew up his specifications. Th glider wings would have to have enough lift to carry the glider's pilot and one passenger ov the town of Colditz, more than 300 feet below, and across the Mulde River.

In one of the castle's attics, near an adjacent chapel's roof they would use for a runway, th resourceful prisoners created a workshop. With shutters and mud made from attic dust, the constructed a false wall at one end of the attic and went to work, using drills made fro nails, saw handles from bed boards, and saw blades from a wind-up record player's sprin and the frame around their iron window bars. To cover the glider's wooden frame they use bedsheets, which they painted with hot millet (part of their rations) to stiffen the fabric.

Takeoff was finally scheduled for the spring of 1945. The prisoners planned to assemble th glider and catapult it off the chapel's roof, using a metal bathtub filled with concrete a ballast. The tub, secured to the glider with bedsheet ropes, would fall five stories. The glid would then sail out silently over the town of Colditz, giving its occupants a good head sta over the German guards, who would soon discover a bathtub in the yard and two prisone missing. However, the flight never took place, because the prisoners were rescued by th Americans in 1945. For pictures and more details about the Colditz glider, go t www.sneakyuses.com.

Considering these ingenious contraptions, you can perform amazing feats with the materia you find around you without special knowledge or skills. *Sneaky Uses for Everyday Thin* covered such adaptations as how to convert milk into plastic, extract water from air, turn penny into a radio, and control your TV with a ring. *Sneakier Uses for Everyday Things* go further and provides more ways to adapt things around you for novel yet practical purposes.

Did you know that you can turn a calculator into a metal detector or store a survival kit a shoestring? Ever think you could turn a paper cup into a speaker? Adapt liquid deterge into a copy machine? Or make a gas mask out of everyday things? Now you can.

Sneakier Uses for Everyday Things includes science projects, sneaky gadgets, and resourcef survival techniques. No special knowledge or unusual tools are required. Whether you interest is in science or trivia, or you just want to make unique no-cost sneaky gadgetry you'll undoubtedly look at everyday objects differently from now on.

Get started now—utilize what you've got to get what you want!

Part I

Sneaky Science Tricks

Science is sometimes difficult to understand, but with everyday things, you can make clever animated devices to demonstrate its principles. Many household items you use every day can perform other functions. Using nothing but balloons, paper clips, aluminum foil, paper cups, refrigerator magnets, and other common objects, you can quickly make innovative science projects or demonstration gadgets.

If you are curious about the way static electricity, magnetism, and basic chemistry work, you'll find plenty of project examples here, including an electroscope, a hovercraft, a rollback toy, a sneaky metal detector, an image copier, and various light transmitters and sensors.

Review the sneaky science adaptations in this section, and you'll be ready to create easy-to-make demonstrational projects with items found virtually anywhere.

The story of the Colditz glider is a great example of the possibilities available to us all if w can adapt everyday things. The key is to think outside the box—to see things as what the can become and not just what you think they're limited to be.

For example, a magazine is an ordinary everyday thing that provides information in printe form, but is that all it's good for? Take a few minutes and think of a periodical's ever possible practical application, and then consider the following illustrated examples.

- Remove a staple from a magazine, carefully bend it into a loop shape, dip it in water so droplet forms on the staple, and you've got a sneaky magnifier.
- Rub a straightened magazine staple ten times in the same direction across a magnet (or few hundred times against wool cloth or silk material), and it will become magnetized. Then rest it on a floating leaf or piece of wood and one end will point north to create a mini compass.
- If you place a magazine staple across battery terminals, it will heat up enough to ignite tinder material (lint, dried grass, etc.) to start a fire in an emergency. You can also use the magazine as tinder.
- A rolled-up magazine can serve as a funnel to prevent spillage.
- Need a megaphone? Roll a magazine into a cone shape and you can project your voice b speaking into the smaller end.
- A rolled-up magazine pressed against a wall becomes a sneaky sound amplifier.
- With origami folding, a magazine page can become a cup.
- Hide your small flat valuables between pages of a magazine that are glued together.
- Need a defensive weapon? Roll a magazine tightly and jam the end against a person's temple, bridge of the nose, or throat.
- To prevent snow blindness, tear or cut a magazine page into sneaky glasses with slits to look through.
- A magazine can provide insulation when handling hot objects.
- Lost in the cold without sufficient clothing? Tear the pages from a magazine, ball them up, and stuff them in your shirt and pants to provide heat insulation.

• Stand on one end of a rolled-up magazine secured with a rubber band or tape to gain elevation in a pinch.

• Got a flat bicycle tire? Stuff torn magazine pages between the tire and rim to ride home

• With tape, a magazine page can patch holes in an emergency.

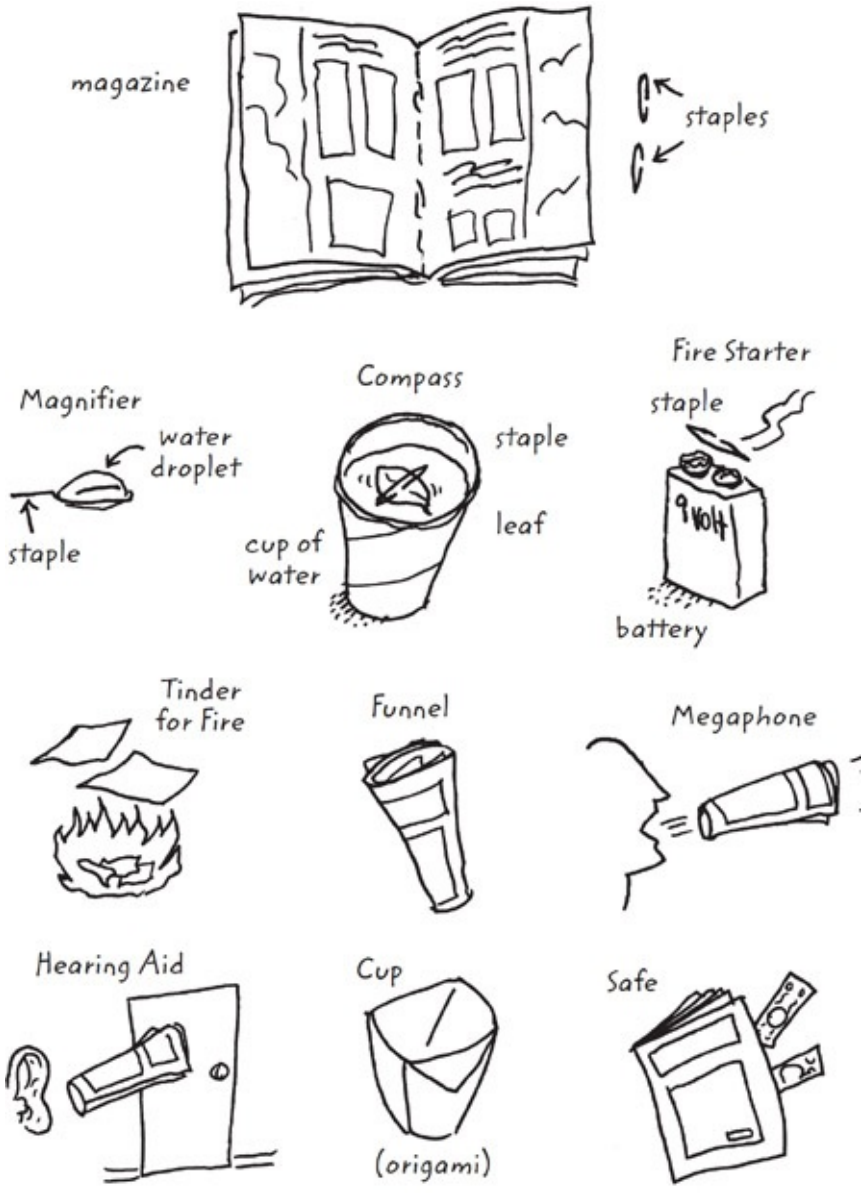
• A very tightly rolled-up magazine can be used as a bottle opener when it is positioned near the neck of a bottle and resting on your thumb (this takes some practice).

• Make a sneaky peashooter barrel with a rolled-up magazine.

• In an extreme emergency, a staple can substitute for a small fuse *(temporarily, not permanently!)*.

• If a disk is stuck in a computer CD drive, push a magazine staple into the eject hole to remove it.

• A rolled-up magazine can prop things up such as a window.



Weapon

Snow Glasses

Insulation
(for heat protection)

Elevator

Insulation
(for cold protection)

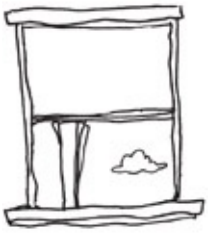
Flat Tire Filler

Bottle Opener

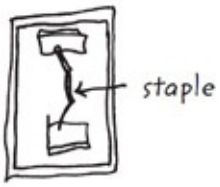
Pea Shooter

Patch (for opening)

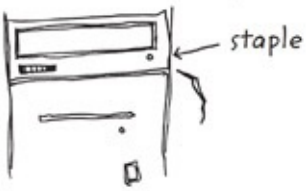
Window Prop



Emergency Fuse



CD-ROM Drive Opener

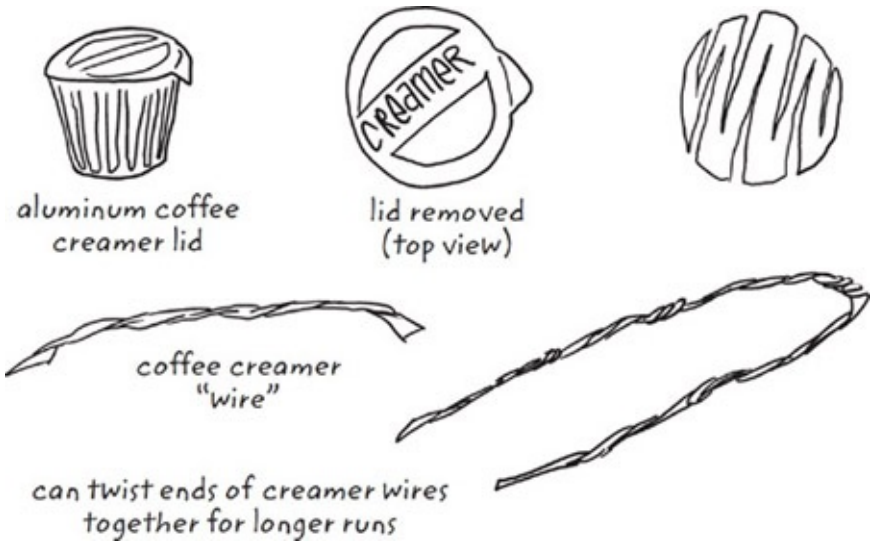


Wire is useful in many sneaky projects. You'll soon learn how it can be used to make a rad transmitter, a speaker, and more.

When wire is required for projects, try whenever possible to use everyday items that yo might have otherwise thrown away and help save our natural resources. Common items lik potatochip bags, fast-food wrappers, collector-card packages, and breathmint labels conta useful aluminum that can be carefully cut to form sneaky wire.

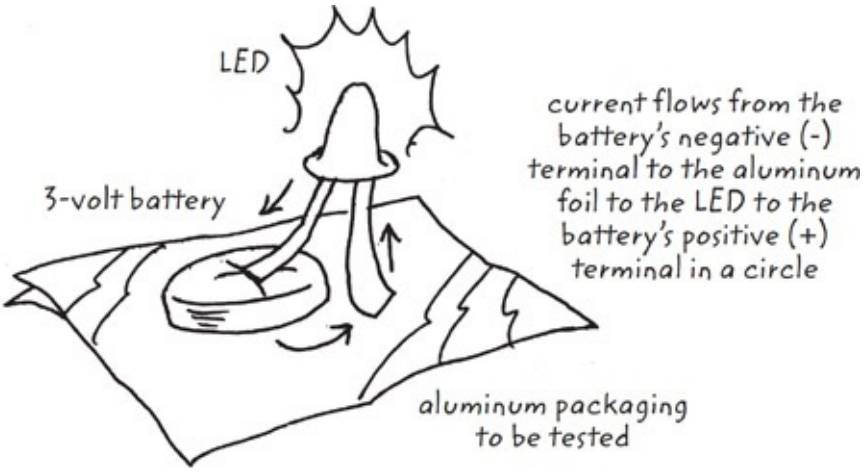
Even a small coffee-creamer container lid, when carefully cut in an up-down-up pattern t utilize its maximum area, can provide a useful connecting wire. See **Figure 1.**

FIGURE 1



You can test your found wire material for electrical conductivity (to determine if it allow electricity to flow through it) with a battery and either a flashlight bulb or a light-emittin diode (LED). First place the LED leads across the battery terminals to be sure it will light. not, reverse the direction of the leads. Then place the sneaky wire material in series (end-t end) with the battery and LED. For example: Press one battery terminal against the "wir and the other terminal against one of the LED leads. The other LED lead also presses again the wire material. If the LED lights, it's good for using in your sneaky projects. See **Figure 2**

Figure 2



To insulate your ersatz wires from each other, slip them through discarded straws or wra paper material around them.

Figure 3 illustrates just a few of the possible items you can use, in case you do not hav connecting wire available.

Figure 4 shows how to use a battery and an LED or flashlight bulb to test for electric conductivity.

Figure 5 shows how to connect wires and LED leads together to insure a good connection.

FIGURE 3

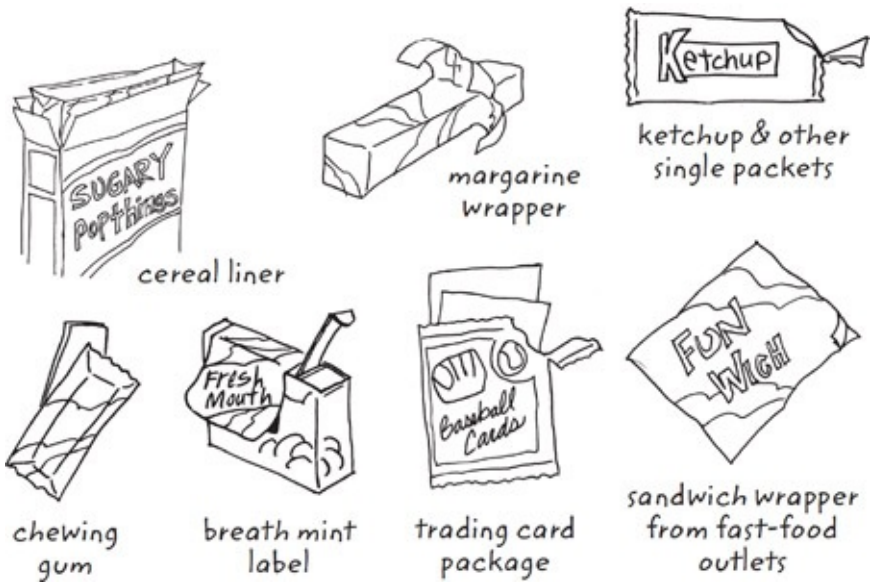


FIGURE 4

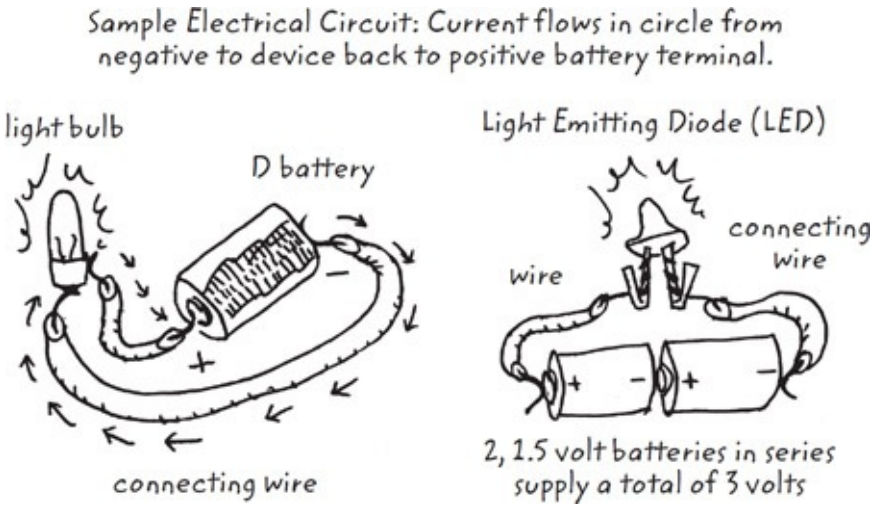
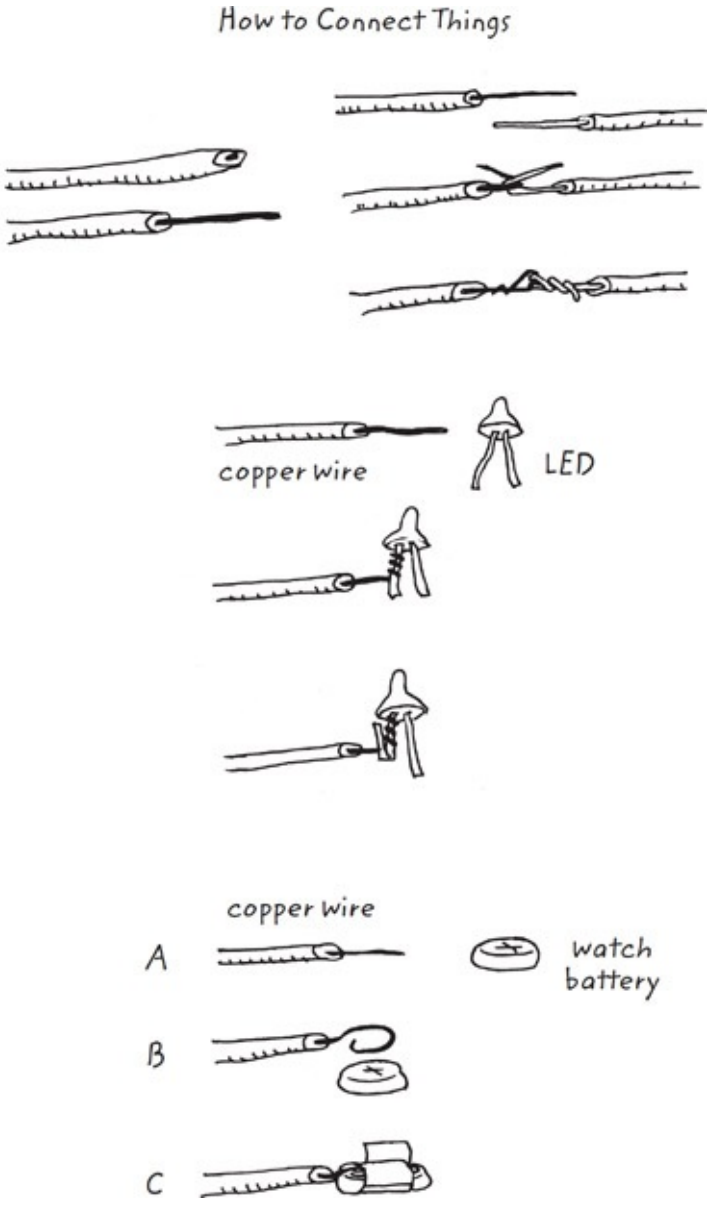


FIGURE 5



Sneaky Work Glove

Work gloves can protect your hands from harm, but they also make it difficult to acce small items in your pocket that you may need. You can keep frequently used items with yo for quick access with an easy-to-make set of sneaky gloves.

Sneaky gloves use Velcro pads affixed to the back of the small items and on the gloves s you can easily grab items and reattach them on the run.

What's Needed

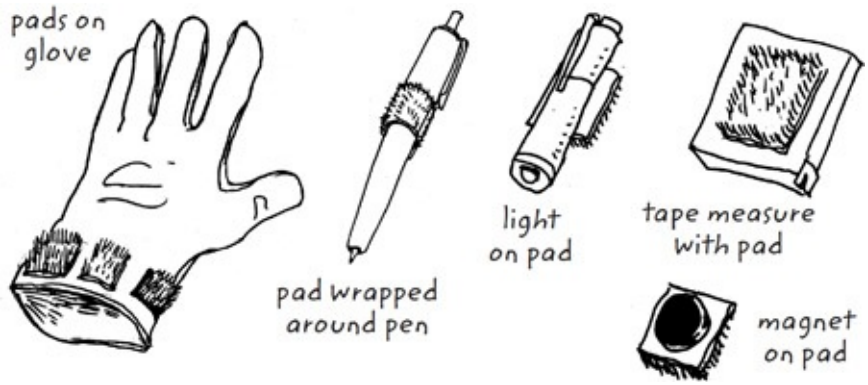
- Work gloves
- Four double-stick Velcro pads
- Nylon thread
- Tape measure
- Pen
- Penlight
- Magnet

What to Do

For this project, four common items will be attached to the gloves: a tape measure, a pen, penlight, and a strong magnet. (The magnet allows you to hold screws, nuts, clips, and oth metallic items in place until needed.)

As shown in **Figure 1**, affix half of each Velcro pad to the back of each glove near the wri area, using its backing tape, or use nylon thread to sew it on. You may want to avoid affixin items near the palm of the glove to avoid scratching surfaces when you lay your hands down

Figure 1



Attach the other half of each Velcro pad to one of the four items using its double-stick tap

After the pads are securely mounted to the items, firmly press the Velcro sides against th pads on the back of the glove, as shown in **Figure 2**.

Now when you work you can take along a light, a pen, a tape measure, and a magnet th will make your next work project easier. If you stick other Velcro pads on a wall workbench or shelf, you can place gloves and tools there for safekeeping.

FIGURE 2

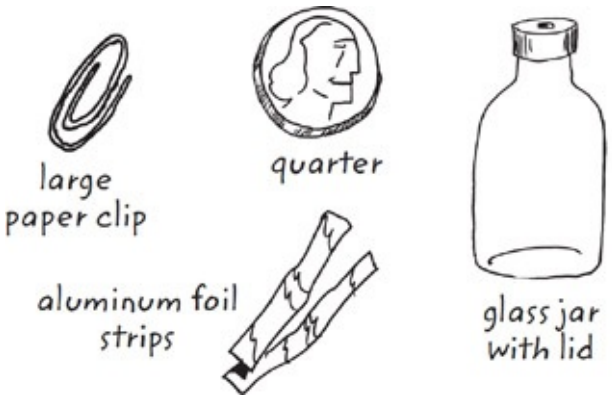
Electroscope

You've felt the presence of static electricity when the weather is dry, after receiving a shoc when you walk across a carpet and touch someone or a metal object. This static discharge ca be powerful enough to damage some electronic items that have sensitive memory chip inside.

You can make a homemade electroscope as a demonstrational device for science projec and for testing for harmful levels of static electricity in your environment.

What's Needed

- Large paper clip
- Two pieces of aluminum foil
- Glass jar with lid
- Quarter (optional)



What to Do

All objects, including your body, are a collection of positive and negative electrical particle Normally there is a neutral state where the positive charges cancel the negative one However, in a dry environment, if a charge imbalance, called static electricity, occurs o your body, you can get shocked when you touch a large metal object (or another person). T prevent getting a static electricity shock, touch a doorknob or car door with a coin or ke before grabbing it so the spark will emit from the metal instead of your fingertip.

You can make an electroscope easily enough with household items to demonstrate ho static electricity charges and discharges objects.

The electroscope consists of two thin pieces of aluminum foil suspended from a metal hoo made from a paper clip. When you move the top of the hook near a source of stat electricity, some of the electrons in the hook are pushed to the foil and causes them to rep or attract each other.

First, cut two strips of aluminum foil, ⅓ by 1½ inches. Then bend the paper clip into th shape shown in **Figure 1**. Push the hook through the middle of the cardboard bottle cap s the **U** shape protrudes through.

Next, lay the two foil strips one on top of the other and hang them on the end of the hoo see **Figure 2**. Lower the cardboard and the paper clip with foil into the jar so the paper clip suspended in the center of the jar.

FIGURE 1

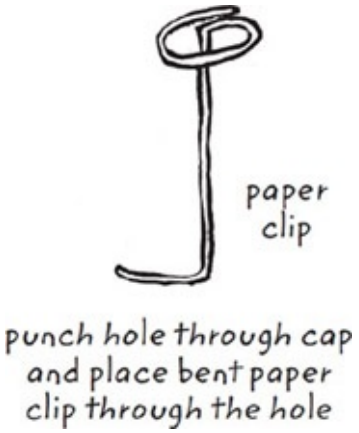


FIGURE 2

Now hold various metallic and nonmetallic objects in your hand as you walk across th

floor (preferably one that's carpeted). Bring the object near the top of the paper clip an observe what happens. You should see the foil strips move apart like little wings. See **Figu 3**.

Then see what happens when the object is moved away from the paper clip. If the strips d not fall back together, gently touch the hook with your finger. *Note:* If you affix a quarter o a large round piece of metal to the top of the paper clip, it can improve the sensitivity of th electroscope.

FIGURE 3