Amazing straw tricks!

kid speak

BEFORE YOU GRAB a paper-wrapped drinking straw and start one of these projects, stop and thank Marvin Stone. He came up with the first manufactured drinking straw, back in 1888.

How did folks sip drinks before that? They used straws, too – real straws. The hollow stems of tall rye grass, that is. The all-natural straws tended to add an odd taste to what you were drinking, though.

Mr. Stone, a paper-products manufacturer, had an idea. He wrapped pieces of paper around a pencil and secured them with dabs of glue. The 8-1/2-inch-long tubes were designed to be just wide enough to keep lemon seeds from getting stuck in them. Later, paraffin-coated paper was used, to avoid soggy straws. Later still, plastic straws were introduced, and a clever "elbow" was added to let you bend the straw without cutting off the flow.

But enough history. Did you know how many things you could do with drinking straws?

(One more thank you: to Paul Doherty of the Exploratorium in San Francisco, who explained the physics behind some of these amazing straw tricks.)

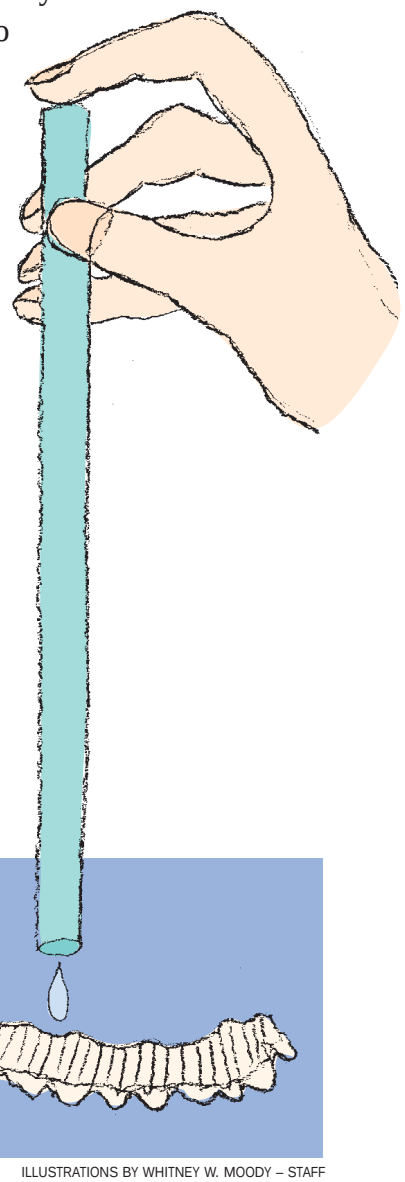
Go online to hear what the straw instruments sound like.
www.csmonitor.com/straws

CRAWLING CATERPILLAR

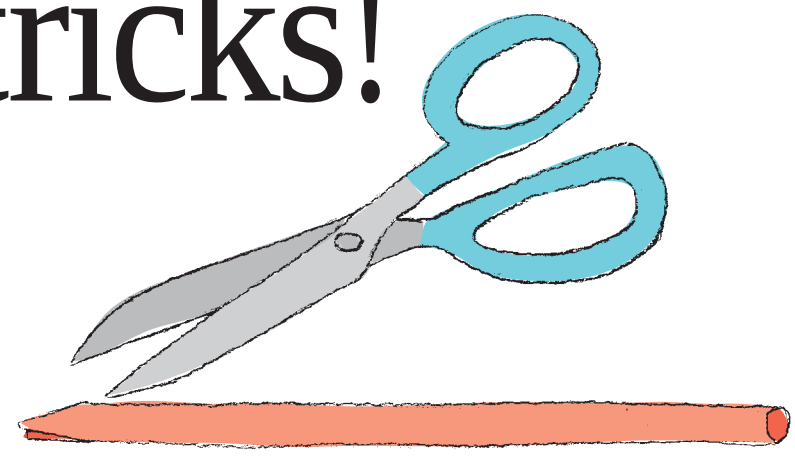
We know for a fact that kids have been doing this since at least the 1920s. (But for how much longer? Plastic-wrapped straws may be taking over soon.) Push the paper wrapping down the straw so that it bunches up to form a wormy creature. This is hard to do with a straw that is tightly wrapped. You need a loosely wrapped straw for this.

Take the bunched-up wrapping and put it on a counter or tray where it can get wet. Pick up a few drops of watter by dipping the straw in your drink, holding your finger over the top of the straw, and lifting it out.

Put a drop of water on the straw wrapper. See how the water makes it "grow"? Water wets the fibers in the paper. The wet region moves from fiber to fiber along the length of the wrapper. The wet fibers swell and straighten out, causing the crinkled paper to straighten out, too – and to wiggle a bit, like a caterpillar.



ILLUSTRATIONS BY WHITNEY W. MOODY – STAFF



STRAW CLARINET

Flatten one end of a plastic straw. Cut a little triangle off each side of the flattened tip, as shown in the drawing above. (It's OK if the two cuts create a point, but it's a little better if they don't.)

Put the cut end of the straw in your mouth (careful!). Close your lips around the straw just below the cut part, and blow – hard. If you don't get a noise, try moving your lips farther up or down the straw. The cuts you made create two little flaps of plastic that vibrate when you blow into the straw. The buzzing noise you hear is the result. (The same principle is at work in a woodwind instrument, in which a vibrating reed creates the sound.)

What will happen if you make the straw shorter? Try it. Can you figure out a way to lengthen your "clarinet" by inserting another straw at the end? Or, try to find another straw with a slightly wider diameter. Slide the thinner straw inside the wider one, and blow. Slide the larger straw up and down to change the pitch.

FLUTTER-BUZZER

A colleague and her brother on a cross-country trip as children saw kids doing this at a restaurant. They had to find out how they were doing it! Here's how:

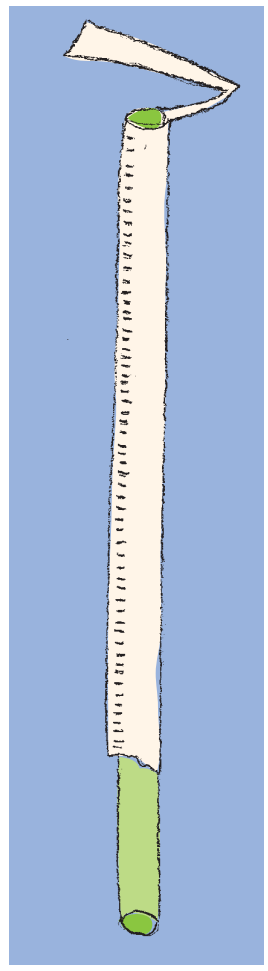
Tear about two inches of the paper off one end of a paper-wrapped straw.

You'll also remove part of the wrapping from the other end of the straw, but in a different way. Create a 1-1/2-inch-long flap of paper by carefully tearing off one side of the wrapping, lengthwise. You can use the flat seam of the paper wrapping as a guide. Be sure the flap is flat.

Bend the flap and position it as shown in the illustration at right. (Slide the wrapper down the straw a bit to do this.)

Put the other end of the straw in your mouth, and suck gently. As you do this, the paper flap is pushed against the end of the straw. That stops the airflow. When the airflow stops, the force on the paper created by the airflow stops, too. Now the natural springiness of the paper forces it away from the end of the straw – and the flow of air begins again. This cycle happens quickly. As the paper hits the straw rapidly, it produces a buzzing noise.

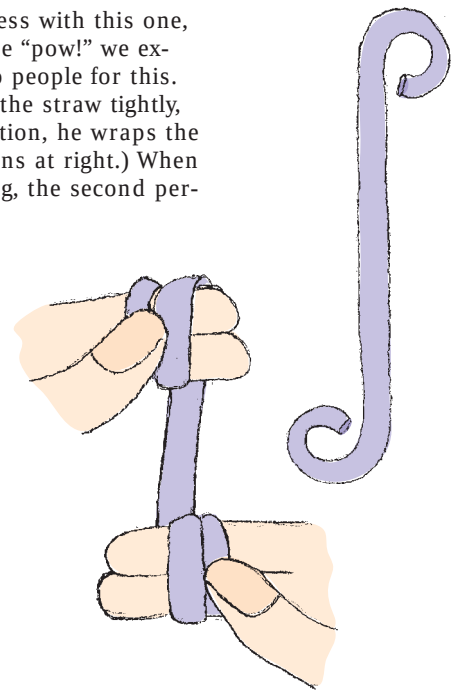
Note: This instrument may need careful adjustment in order to work. You'll probably have to slide the paper covering up or down the straw a little. You may have to fiddle with the flap, too. It's worth it.



POPPER

We admit that we've had limited success with this one, but we did get it to make a noise. Not the "pow!" we expected – more like a "pfft!" You need two people for this.

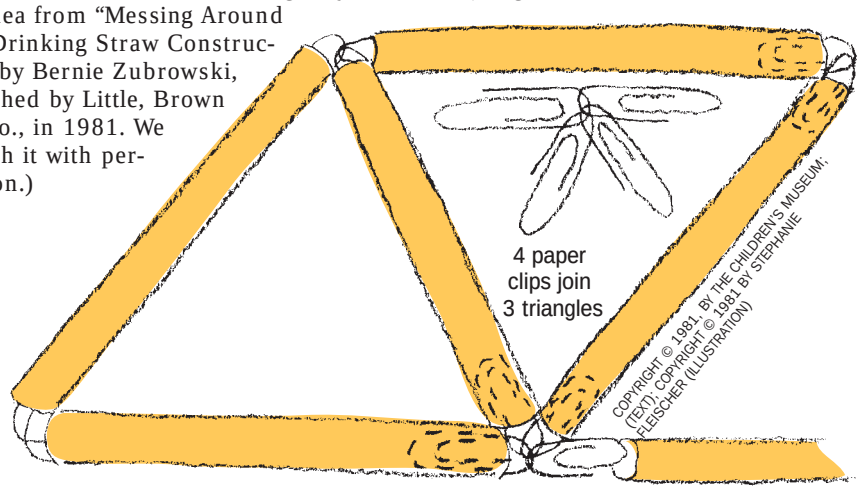
The first person pinches each end of the straw tightly, one hand at each end. With a rolling motion, he wraps the straw around his fingers. (See illustrations at right.) When just an inch or so of the straw is showing, the second person quickly flicks his finger sharply at the straw, hitting it with his fingernail. If everything is done correctly, the straw bursts with a "pow!"



As you wrap the straw around your fingers, you compress the air in the straw into a smaller volume. When you strike the straw with your nail, rupturing the straw, the compressed air escapes with a bang. (Sometimes, anyway.)

HOUSE OF STRAWS

This is simple and clever: Use paper clips as connectors to construct things out of straws. By linking the paper clips, you can join more than two straws together at one point. (See illustration.) Triangles make the strongest units with which to build. Use scissors to cut the straws to the lengths you desire. (We got this idea from "Messing Around With Drinking Straw Construction," by Bernie Zubrowski, published by Little, Brown and Co., in 1981. We publish it with permission.)



WITH SOME RELUCTANCE, we present two more things you can do with straws. We're reluctant because we know from experience that these two things are nearly irresistible to kids and nearly always annoying to grownups. If you do either of these activities, you must be considerate of anyone who asks you to stop. You also have to promise to clean up the paper rockets afterward.

PAPER ROCKET

This works only with plastic straws that are loosely wrapped. Most paper-wrapped straws we see today are too tightly packaged for this. (We suspect, in fact, that tightly wrapped straws were developed specifically to thwart this particular activity.)

Take a paper-wrapped straw. Tear the wrapping off half of the straw, so that one end is exposed. Put the exposed end in your mouth, take aim, and blow! The wrapper shoots off the other end, like a dart from a blowgun. (Do not do this at close range, and do not aim at anyone's face, please.)

ARMPIT TUBA

This was a crowd-pleasing "Stupid Human Trick" on "Late Night With David Letterman" a while ago. The two kids on the show played a duet that was a recognizable tune.

All you need is a plastic straw with an elbow in it. Bend the elbow so it makes a 90-degree angle. Put the short end of the straw in your mouth. Put the long end of the straw in your armpit. Clench your arm to your side to form a loose but airtight seal around the end of the straw. (You can't be wearing an undershirt to do this.)

Now blow – gently at first. Amazing! Yes, it makes a predictable noise, but with practice (away from grownups, remember), you can figure out ways to vary the pitch produced and play a tune. If you can stop laughing.

Owen Thomas and Ross Atkin

TODAY'S ARTICLE ON CHRISTIAN SCIENCE

Bringing a spiritual perspective to daily life

No repository for disasters

AS IF DECADES OF WAR, internal strife, invasion by foreign nations, Taliban tyranny, and a long drought weren't enough, the devastating earthquakes in Afghanistan, with casualties numbering in the thousands, underscore even more vividly the need for massive outside help.

Within hours of the temblor, the interim government of Afghanistan – clearly incapable of providing the disaster relief the quake's aftereffects call for – appealed to the international community for aid. And aid is pouring in. Financial contributions to the International Red Cross will provide blankets, food, temporary shelter, and other basic necessities. These contributions to the International Red Cross can be made directly to them (**www.ifrc.org**).

Another call, to the Almighty, is also in order. Since so many tragedies have piled on this ravaged region, it might seem almost as though Afghanistan were a sort of repository for disasters. Nothing could be further from the truth. Nothing could be more foreign to the divine design. No assessment could more completely overlook the truth that the Giver of all good doesn't overlook any of us, or any locale we inhabit.

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The Psalmist seems to have anticipated this wrong assessment. He describes a scene of mountains shaking, of war raging, of desolation pervading the whole landscape. And then he shifts his focus and describes what must be a healing promise. "There is a river, the streams whereof shall make glad the city of God, the holy place of the tabernacles of the most High. God is in the midst of her; she shall not be moved: God shall help her, and that right early" (Ps. 46:4, 5).

Can we find this city of God? Could we, through prayer and a firmer grasp of what is spiritually at work, begin to perceive this city right where a ravaged scene makes the headlines? Would that perception make a healing difference?

What the Psalmist calls the city of God is spiritual, not physical, in essence. So it is bigger than Kabul, bigger than Manhattan. For that matter, it's bigger than the planet. And it includes no repository for disasters. It includes no accommodation for evils of any kind. In a sense, it resolves the whole question of tragic happenings by crowding them out with the knowledge of God's all-pervading goodness.

The spiritual radicalism of the Psalmist – and of the other Old Testament prophets, and most of all of Christ Jesus – flies in the face of common reason and assessment. But it also paves the way for healing today, even in some of the globe's saddest settings. Because even the slightest glimpse of God's all-presence begins to unleash the transforming power of Spirit. Then it's not just a case of the blues receding in one's thought. The human condition as a whole gets better. Locations where too many bad things have happened begin to get the help they need. Recovery begins.

Yes, relief agencies play an indispensable role. And that role unfolds more effectively as we each perceive that no space is divinely given to disasters; all space is given to the city of God – the state of consciousness that the Psalmist and others have found to be so healing: the consciousness of God's all-encompassing goodness.

Mary Baker Eddy, the founder of the Monitor, shared the same spiritual conviction that the Psalmist had. She glimpsed the power of Spirit to displace every phase of evil and disaster. She wrote in her main work, "Where the spirit of God is, and there is no place where God is not, evil becomes nothing, – the opposite of the something of Spirit" ("Science and Health with Key to the Scriptures," pg. 480).

This spiritual insight is already true. As we ground our prayers in its truth, those prayers will make a healing difference.

For the mountains shall depart, and the hills be removed; but my kindness shall not depart from thee, neither shall the covenant of my peace be removed, saith the Lord that hath mercy on thee.

Isaiah 54:10