



XPogo athlete Michael Mena shows off his extreme pogo skills!

# Extreme Pogo!

Pogo used to be child's play. But now high-tech pogo sticks are taking the toy to extremes.

A traditional toy pogo stick is a tube with footrests on the bottom and handlebars on the top. There's a metal spring inside the tube. This spring is used to store energy. When the rider bounces down on the pogo stick, the force squeezes the spring, making it shorter. In this compressed state, the spring holds **potential energy**, or stored energy. The spring then starts to lengthen back to its original shape. At this point, the potential energy is released as **kinetic energy**, or moving energy, which boosts the rider upward.

With traditional pogo technology, you'd need a big spring (and a lot of energy) to send a 200-pound adult high into the air. But big springs are heavy. It would take a 25-pound spring to lift an adult.

All that weight would limit how high the rider could bounce.

To go from toy to extreme-sports equipment, the pogo stick needed a new design. And it got

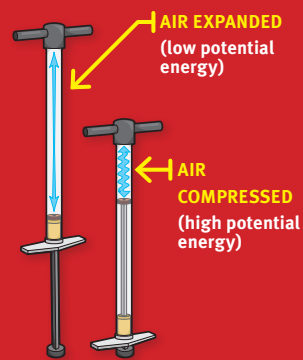
not one, but three. Below, check out three things inventors have used to replace heavy metal springs: rubber, fiberglass (a kind of plastic), and even air!

## High Fliers

To turn pogo sticks from toys into extreme-sports equipment, inventors took advantage of the laws of physics. They developed springs that are powerful enough to bounce an adult and light enough to get airborne.

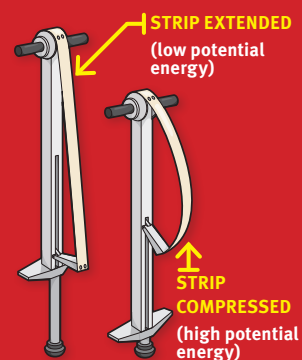
### VURTEGO

Vurtego's inventors turned the lightest substance they could think of—air—into a spring.



### BOWGO

The BowGo uses a flexible fiberglass strip to store and release potential energy.



### FLYBAR

Thick rubber cables function like giant rubber bands inside the Flybar.

