

Screaming Balloon

A tiny hex nut makes a balloon scream like a banshee.

WHAT TO DO

Place a hex nut inside an empty balloon, inflate it using a balloon pump (don't over-inflate), then use a twist-tie to close. Hold the balloon in your palm and shake it back and forth until the hex nut begins to roll around inside.

WHAT'S HAPPENING?

Certain shapes roll very easily, even if they aren't perfectly round. As the hex nut bounces around inside the balloon it will eventually land on its edge and begin to roll or spin like a wheel. Spinning objects are very stable and tend to continue spinning in the same direction, so once the hex nut starts rolling it continues to roll, and in fact, with some practice it's surprisingly easy to make it roll very fast. The 6 sharp corners cause the hex nut to bounce as it rolls, which in turn causes the stretched rubber balloon to vibrate and produce the screaming sounds. Notice that as the hex nut rolls faster, not only do the vibrations become louder, but the frequency or pitch increases as well.