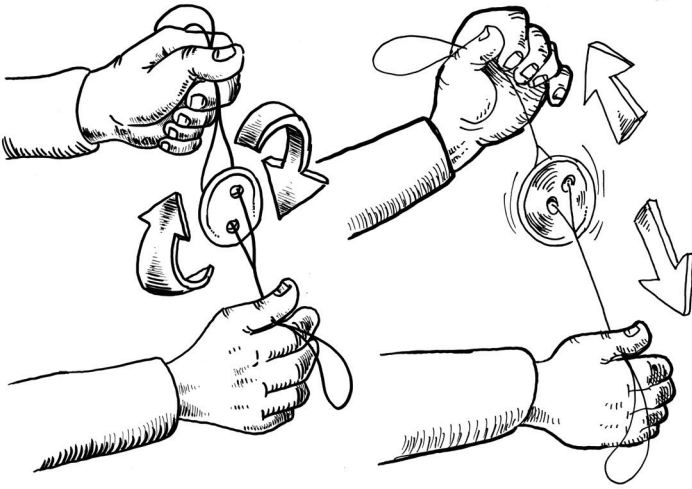


Are you looking for something to do to keep your brain active and engaged? We're here to help with Science at Home! You can do these fun science activities using commonly found items. You can also visit us at the Museum's [Science at Home](#) page for additional resources.

DIY Whirligig Toy



Whirligig Toy or Centrifuge?

It's both, actually! On January 10, 2017, researchers from Stanford University published an article¹ describing their research into whether a hand-powered centrifuge could be powerful enough to replace the standard electricity-powered centrifuge used by health care providers to process blood samples to detect illness or infections in their patients. The researchers' conclusion? When built to certain specifications, an ancient toy called a whirligig can process blood samples as well as the traditional lab centrifuge. Their project is an inspiring example of people thinking outside the box and coming up with ways for old technology to do new tricks.

¹ www.nature.com/articles/s41551-016-0009 by M. Saad Bhamla, Brandon Benson, Chew Chai, Aanchal Johri and Manu Prakash from the Department of Bioengineering and Georgios Katsikis from the Department of Mechanical Engineering at Stanford University, Stanford, CA.

Materials:

One 1½ – 2-inch button with at least two holes and a symmetrical shape (e.g. circle, square, oval, triangle, star, etc.)
One 32-inch piece of string or yarn

Having fun?

We want to see! Tag [@naturalsciences](#) on social media, so we can see you and your loved ones enjoying our Science at Home experiments.

Instructions:

1. Pull the string through the button's two holes. If you have a four-hole button, use two holes that are diagonal to each other.
2. Tie the string's ends together to make a loop.
3. Take one end of the loop in each hand, slide the button to the middle of the string and then hold your hands apart.
4. By rotating your wrists, twirl the button around until the string gets tightly twisted.
5. Pull your hands away from each other. Watch as the string unwinds and the button spins.
6. Before the string unwinds completely, move your hands slightly closer together and allow the string get tightly twisted in the opposite direction.
7. To keep the button spinning, continue the pattern of moving your hands together and apart.