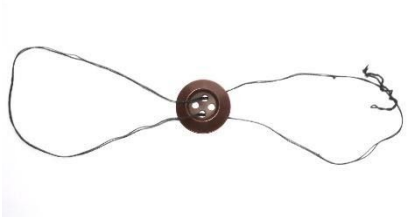
WYCKOFF HOUSE MUSEUM
WHIRLIGIGS & BUZZSAWS
Colonial Life, Toys & Games

A whirligig can be anything that spins such as a weathervane or pinwheel. A whirligig makes a fun toy and have been played with in ancient cultures around the world as early as 500BC. This kit demonstrates how to make a "button whirligig" toy out of a button and string.

Materials



- Button with a minimum of 2 holes through it
- Piece of string, cut at least 18" in length

How to construct a button whirligig

1. **Pass out** one button and string to each student.
2. **Thread** one end of the string through one hole of the button and loop it back through the opposing hole (if there are 4 holes, stringing through diagonal holes works best).
3. **Tie** the two ends to create a large looped string

How to use your whirligig

1. Slip a finger into each end of the string which each hand so that the button slides to the center of the looped string. (I find it easiest to use my middle or pointer fingers).
2. With the button centered in the looped string, spin it round and round so that the string on either side winds up tightly towards your fingers.
3. Once the string is wound tightly on both sides and you feel like you can't spin it anymore, briskly pull your fingers away from one another so that it unwinds. Just as it is unwound, release the tension and the string will spin and wind up in the opposite direction.
4. Continue to spin the whirligig in and out by pulling your fingers apart and then together, like you are playing a mini accordion. It takes time to find the right momentum and rhythm, but once you get going you could keep the whirligig spinning back and forth indefinitely.

Watch this one-minute how-to video for an easy demonstration
https://youtu.be/-QMmfDhrZxg

Historical Background:

Archaeological evidence in North American shows that native children would have played with whirligigs as early as 500BCE. Early Native American whirligigs were made from a thin strip of hide wrapped around a clay or bone piece. Coin whirligigs (buzzers) with two holes drilled through a coin, have been found in early American military camps, towns, and plantations.

Science:

Whirligigs demonstrate conversion of energy from **potential energy** (stored energy) to **kinetic energy** (energy of an object in motion). By alternating the tension of the wound string, the potential energy is turned into kinetic energy.

Questions to Consider:

- How is a whirligig different from toys you play with?
- What else could you make a whirligig out of? Where would colonists find these materials?
- What additions could you add to your whirligig to make it easier to use? How else might you construct the toy?
- Whirligigs like these are sometimes called buzz-saws or buzzers. Why might they be called that?
- At what point does the whirligig have potential energy? And when does it show kinetic energy?
- A weathervane or a pinwheel are also considered whirligigs because they spin. What provides the energy to make these kinds of whirligigs? How is that different from the button whirligig?
- Farmers, like the Wyckoff family, would have had another kind of whirligig called a weather vane to help track the wind. What could farmers learn from observing the wind?