



BREWING UP SOME STEAM

CD BUTTON WHIRLIGIG

Materials You Will Need:

- an old CD or DVD
- 1 flat, larger sized button (at least an inch in diameter)
- about 24 inches of string- like yo-yo string or even yarn can be used
- glue
- heavier weight paper (like cardstock or oaktag)
- scissors (not included)
- crayons or markers

DIRECTIONS

Instructional video:
York Public Library YouTube Channel



1. Decorate your CD! Trace the CD on the paper. Cut it out and color it. Don't forget to cut out the little hole in the center. Make a cool design!



2. Glue the design onto your CD. This will need time to dry. While you are waiting, start in on your CD Spinning Top!



3. Once the paper design has dried, glue the button over the hole on the CD on the same side that you attached your design. Make sure to put the glue around the outside of the button and not in the holes Position it so it is centered over the CD hole. Let this dry thoroughly.

CD Button Whirligig (cont.)



4) Thread your string through the holes in the button. If your button has 4 holes, string it through holes that are diagonal from each other. Tie the ends of the string together.



5) "Wind up" your whirligig! Do this by putting a thumb through each end of the string with the button in the middle. Twirl until you feel some tension and pull outward with your thumbs. It should wind and unwind with a "whirling" sound.

What's happening?:

There is actually a lot of physics happening here! When the string is pulled, the Potential Energy begins to convert to Kinetic Energy (energy in motion) as the button begins spinning. The Kinetic Energy is converted back to Potential Energy as the button winds the string again by itself.