University of Pittsburgh

How To Construct an SVV Bucket

About this HowTo

This document describes how to construct an apparatus that will allow you to perform a subjective visual vertical (SVV) test using a bucket and other common and inexpensive items. Research has shown that there is no difference between the results collected using the bucket test and more expensive testing apparatus[1].

Requirements

Raw Materials

- Bucket[2,3]
- Cardboard (enough to make two 10-inch diameter circles)
- String
- Tape
- Weights (such as 1/4-20 nuts or fishing sinkers)
- Adhesive-backed paper (i.e. label paper)
- Glow-in-the-dark tape[4]

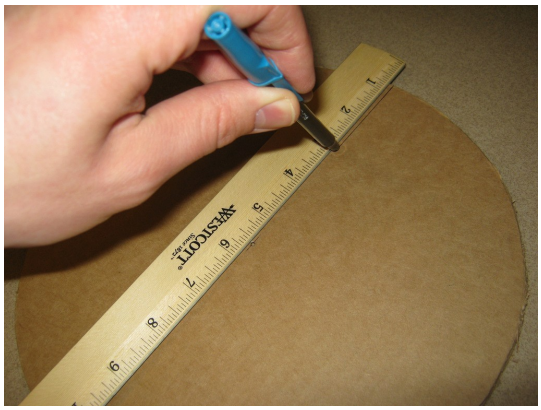
Tools

- Drill
- Compass
- Scissors
- Straightedge
- Pen or pencil
- Spray glue

Instructions

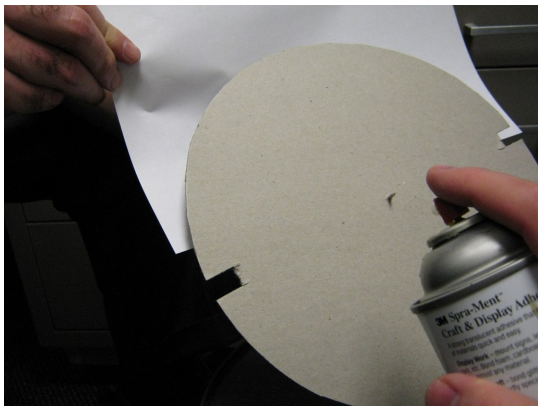
1. Drill a hole through the center of the bottom of the bucket. Make it just big enough for the string to pass through.

2. Use a compass to draw two 10-inch diameter circles onto the cardboard. Then use scissors to cut the circles out. These will cover the inside and outside of the bottom of the bucket.

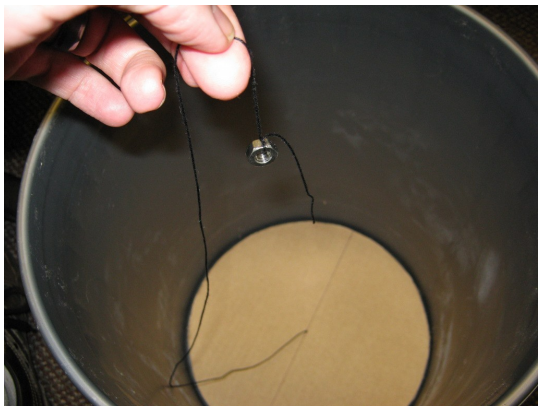


3. Use a straight-edge to draw a straight line through the center of one of the circles. You can line up the straight edge with the hole from the compass to make sure it is centered.

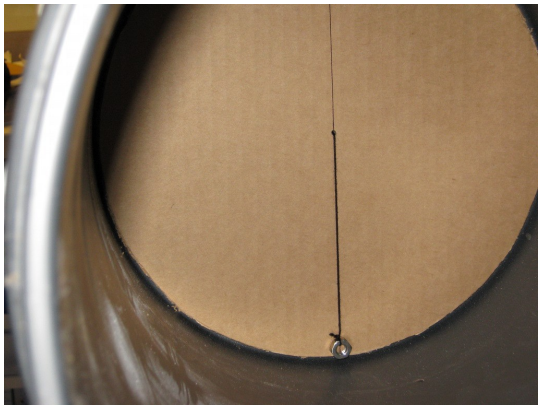
4. Glue the cardboard circle with the line-side showing to the inside of the bottom of the bucket. You can poke the tip of a pen through the center of the cardboard circle and into the hole in the base of the bucket to line the cardboard up. Follow the manufacturer's instructions for gluing cardboard to plastic.



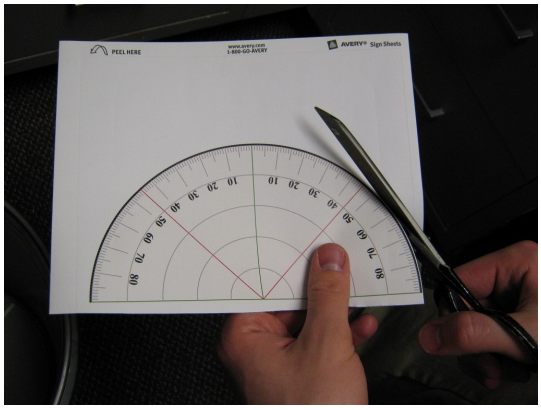
5. Repeat the process for gluing the other cardboard circle to the outside of the bottom of the bucket.



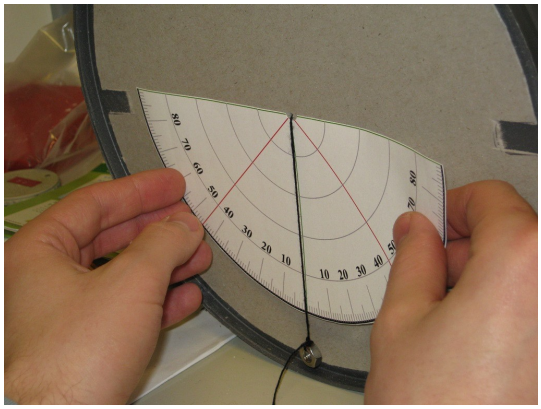
6. Insert a string through the hole in the bucket and tie weights on both ends.



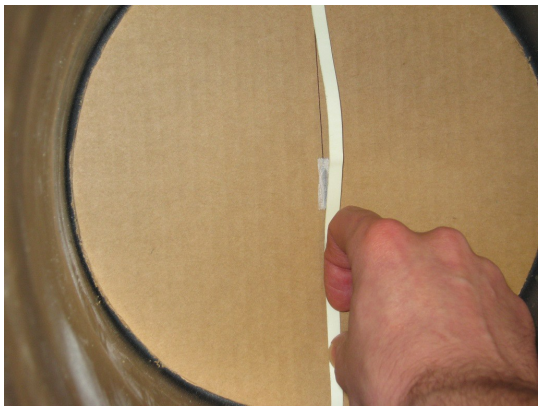
7. Line up the string with the line on the inside of the bucket, and stabilize the bucket.



8. Print the protractor onto adhesive-backed paper (i.e. label paper), and cut it out. Use a hole punch or scissors to make a hole through the protractor's origin.



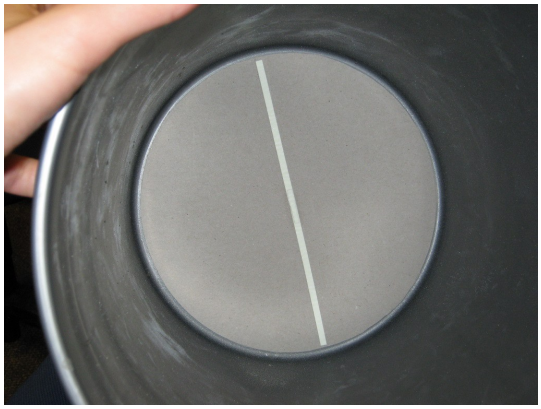
9. Slide the protractor under the string on the outside of the bucket. Line up the origin of the protractor with the hole in the bucket, and line up the zero-degree line with the string. Apply pressure to adhere the protractor to the cardboard circle.



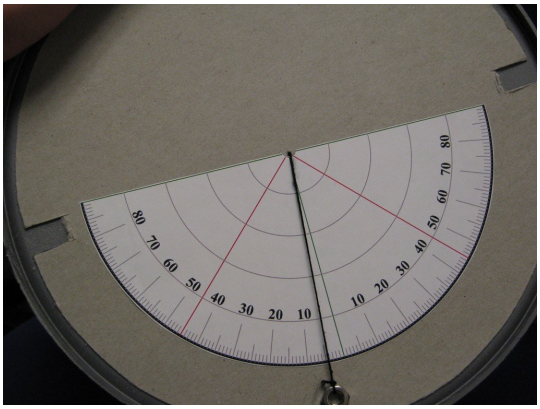
10. Cut off the weight from the inside. Line up the glow-in-the-dark tape over the line on the inside of the bucket and apply pressure to adhere it to the cardboard. This also keeps the string from being pulled out through the hole.

Final Product

The final product should look like this.



View from inside.



View from back.

Notes

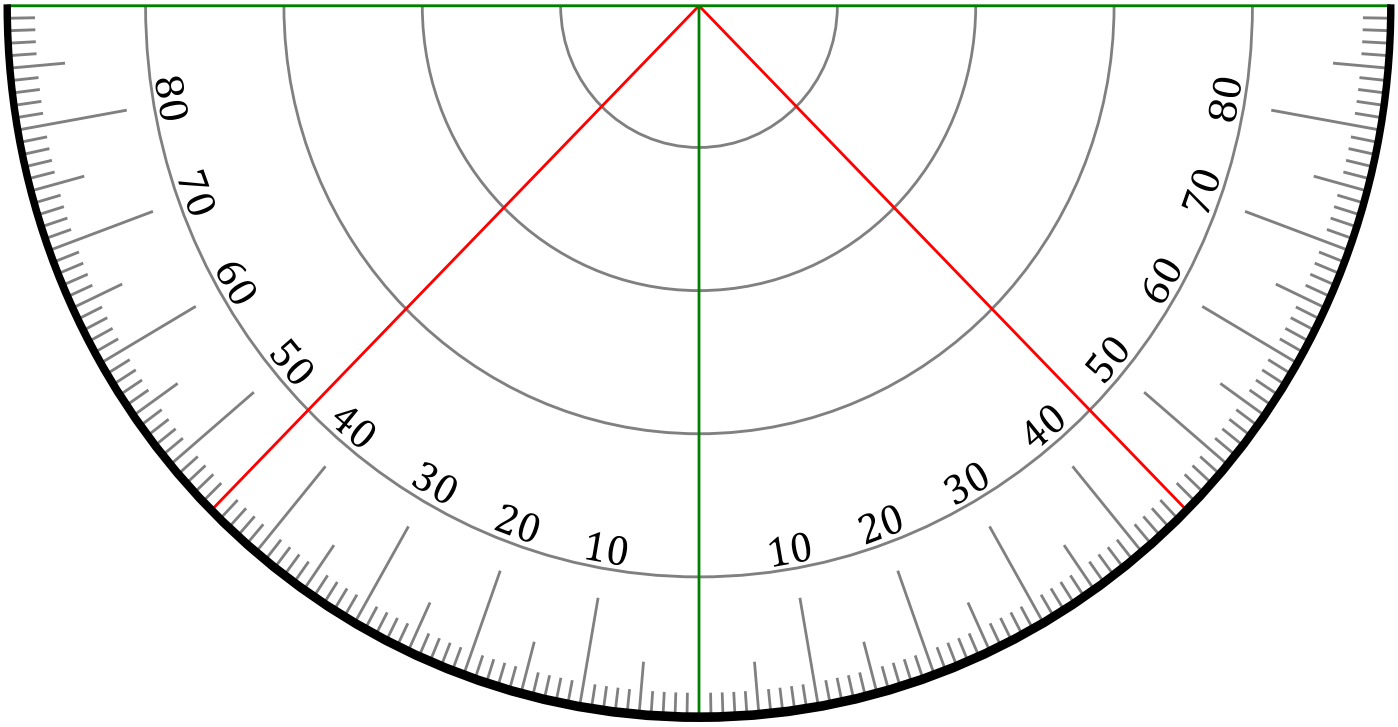
1. Zwergal, A., Rettinger, N., Frenzel, C., Dieterich, M., Brandt, T., & Strupp, M. (May 2009). A bucket of static vestibular function. *Neurology*, 72, 1689 - 1692. (1)

2. Any opaque bucket that has an opening bigger than 10 inches (see note 3) will work. The bucket used in this how-to is from Lowes (model number: 57640; item number: 4853; web address: www.lowes.com/pd_null_0_?productId=3083565). (2)

3. 99th percentile of men measure from the chin to the top of the head 10.02 inches. Source: Gordon, C.C., Churchill, T., Clauser, C.E., Bradtmiller, B., McConville, J.T., Tebbetts, I., & Walker, R.A. (1989). 1988 Anthropometric survey of U.S. Army Personnel: Summary statistics interim report (Tech. Rep. No. NATICK/TR-89/027, AD-A209 600). Natick, MA: U.S. Army Natick Research, Development and Engineering Center. (3)

4. Glow-in-the-dark tape can be ordered from McMaster-Carr (www.mcmaster.com). Item number 6082T7 (4)

SVV Bucket Construction (last edited 2010-05-05 09:14:00 by JamesCook)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