Shiny Pennies

Materials:

Old, dirty pennies White vinegar (1/4 cup) Salt (1 tsp) Non-metal bowl Paper towels

Procedure:

Pour vinegar into bowl. Add salt, stir until fully dissolve. Add pennies, stir around for 10 seconds. Take pennies out and dry with paper towel

Why does it work?

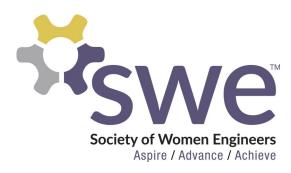
Pennies get dull because oxygen reacts with the copper surface and creates copper oxide:

$$2 \text{ Cu} + \text{O}_2 \rightarrow 2 \text{ CuO}$$

The vinegar reacts with salt to form an acidic solution that removes and dissolves this copper oxide from pennies:

$$3CH_3COOH + H_2O + NaCl + CuO \rightarrow$$

 $3CH_3COO^- + Na^+ + Cl^- + Cu^{2+} + 3H^+ + OH^-$



Balancing Magic

Materials:

Aluminum foil Corks Skewers Toothpicks Clothespins Tape

Procedure:

Be creative with the materials provided. Form a body and insert arms into the sides, so that the end of the arm is below the body. Add weights to the ends of the arms and make a smaller resting point by adding a toothpick into the body

Why does it work?

Adding weight to different places of the sculpture changes the center of gravity. Thus center of gravity lowers even more when weight is added below the resting point, so it is easily balanced.

