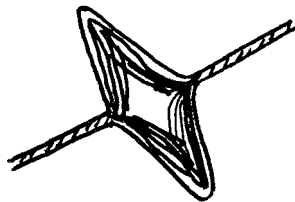


Balanced Forces

This effect uses string to demonstrate how you “the super-strong teacher of Science” can keep two students from pulling two separate pieces of string from your closed hand. In fact, you can demonstrate it holding the two ends of two different pieces of string between your thumb and index finger.

To do the trick:

Split string – 24 ply cotton string is needed for the effect. (I use kitchen string) Prior to the performance, the string is split in the center by pulling the strands apart in the opposite direction, about half of the strands in each hand as shown below.



After the strands have been pulled out about two inches, they are re-twisted into separate “ends.” The string should now look like the picture below.



The fingers cover the point where the strands are joined back together. The string is held in your right hand and displayed as two separate pieces. Two students are invited to come up and hold the two outside (long) ends. The performer (you) places the two fake ends into his/her hand. The helpers are instructed to pull with a steady force on their respective ends as you apply a force that will perfectly balance their efforts thus keeping your “ends” in your hand.

As the helpers pull on their ends the string slides enough in your hand to restore it back to its original shape. After letting the students unsuccessfully pull the string from your hand, re-grip the string “strings” with just your thumb and index finger to demonstrate your “super strength”

You can end the effect there without ever showing the restored piece of string or you can show them that sometimes you don’t know your own strength and can fuse the string into one long piece.

This can be used to introduce the idea of balanced forces.