④ RULERS

Purpose:

The purpose of this activity is to demonstrate an example of random error and an example of systematic error. By the end of this activity, students should have a clear understanding of random and systematic error and the difference between the two.

Instructions:

Use the rulers on either side of the page to take a measurement of the length (front to back) of your desk to the nearest $1/16^{th}$ of an inch. Do so three separate times with each ruler (six total separate measurements). Record your measurements:

Left ruler measurements: _____ _____ _____

Right ruler measurements: _____ _____ _____

Compute the mean of the left ruler measurements: _____

Compute the mean of the right ruler measurements: _____

Use the terms "random error" and "systematic error" to describe the differences among individual measures for one ruler and average measures between rulers: