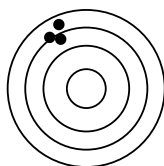


CONCEPT: PRECISION & ACCURACY

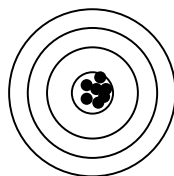
Even though we try to be as correct as possible every measurement or calculation we do in chemistry has some level of uncertainty called _____.

When we investigate the quality of an experimental decision or calculation we take into account two major principles:

The first principle, which deals with the reproducibility of our calculations, is called _____.



The second principle called _____ deals with how close our measured calculation is to the “actual” value.



EXAMPLE 1: A student must measure the weight of a sodium bicarbonate compound and obtains the following measurements: 23.12 g, 23.26 g, 23.08 g and 23.17g. If the true weight of the compound is 18.01 g what can be said about the student's results?

- a) They are accurate and precise.
- b) They are accurate, but not precise.
- c) They are not accurate, but precise.
- d) They are neither accurate or precise.

In the above equation it may seem to determine if the results are close to the “true” value by merely looking, but sometimes the determining if your results are precise or not may require more work.