Making *[type context here]* Measurements

Today, you will measure *[insert samples and property (i.e., mass, length, fluid volume) of those samples to be measured]*. The safety procedures for this activity are

* + Stay at your own laboratory station for the entire activity.
  + Do not do anything that might hurt you, another student, or the laboratory equipment.

**Materials**

* + *[Insert measurement device to be used.]*
  + *[Insert samples to be measured.]*
  + blank paper
  + pen or pencil

You will use a *[insert measurement device to be used]* to make your *[insert property to be measured]* measurements. Then, you will record your measurements in a data table. Follow the instructions below:

1. Create a data table on a blank sheet of paper. Your data table should include two columns, one labeled “*[insert appropriate label for the samples to be measured]*” and the other labeled “*[insert property to be measured (i.e., mass, length, fluid volume)]*.”
2. Place one of the *[insert samples to be measured]* in your *[insert measurement device to be used]*. Use the *[insert measurement device to be used]* to measure the *[insert property to be measured]* of the *[insert samples to be measured]*. Record the *[insert property to be measured]* in your data table in the units indicated on the scale to the proper precision. **Do not convert units.**
3. Repeat *Step 2* for each of the other two *[insert samples to be measured]*.

When you are finished, sit quietly until your teacher collects your materials.

Scoring Plan

**Presentation of Data**

|  |  |
| --- | --- |
| Data are recorded in a table (with or without gridlines).  *The point is not awarded for a list. Example:“Sample A, 12 mm; Sample B, 65 mm; Sample C, 44 mm”* | 1 pt. |
| Response includes label for *[insert samples to be measured]* (e.g., as a column heading in a data table). | 1 pt. |
| All *[insert samples to be measured]* are identified in the response. | 1 pt. |
| Response includes label for *[insert property to be measured]* (e.g., as a column heading in a data table). | 1 pt. |
| Three measured values are included in the response. | 1 pt. |
| Each of the three measured values is labeled with “*[insert appropriate unit]*” or “*[insert appropriate unit abbreviation]*” or response specifically indicates that all values are reported in these units (e.g., within a column heading). | 1 pt. |

**Precision of Measurements**

|  |  |
| --- | --- |
| All three measurements are reported to the same precision (i.e., same decimal place). | 1 pt. |
| Each measured value is reported to the *[insert 1/10th of smallest scale division* *(i.e., exactly one decimal place beyond the scale’s smallest division)]* place. | 1 pt. |

**Accuracy of Measurements**

|  |  |
| --- | --- |
| For each of the three measurements, one point is awarded if reported value is within *[insert 4 times the value of smallest scale division]* of accepted value. | 3 pts. max. |
| For each of the three measurements, one point is awarded if reported value is within *[insert 2 times the value of smallest scale division]* of accepted value.   * A student is awarded an additional point for each measurement to this higher degree of accuracy. | 3 pts. max. |