

Here is a list of topics/concepts covered on October 4th's quiz – understand them, be able to explain them, and be able to give examples (and non-examples) of each.

significant figures

rounding

uncertain digit

how to make a zero significant

Lab #2: Accuracy and Precision

Practice questions:

1. Write how many significant figures each measurement has AND underline the uncertain digit!

(a) 35 Gg _____ (j) 20.04080 mol _____

(b) 3.57 m _____ (k) 730 000 ns _____

(c) 3.507 km _____ (l) 9.832 pg _____

(d) 0.035 kg _____ (m) 1.057 kg _____

(e) 0.246 cd _____ (n) 82.00 μ L _____

(f) 0.004 A _____ (o) 0.0400 mmol _____

(g) 24.606 Pa _____ (p) 840 min _____

(h) 20 K _____ (q) 2.690 $^{\circ}$ C _____

(i) 5.06×10^{10} K _____ (r) 3.00×10^{-23} L _____

2. What are significant figures? _____

3. How do you decide if a zero in a measurement is considered significant? _____

4. Round each of the following measurements to three significant figures:

(a) 777 777 mL _____

(b) 0.000556677 nN _____

- (c) 606.59 g _____
- (d) 1.008 kA _____
- (e) 400.3 Mmol _____
5. (a) How many significant figures are in the measurement 1300 nL? _____
- (b) Write the same measurement with 3 significant figures: _____
6. Describe how a scientist reads a ruler (focus on how many numbers to write down): _____
- _____
- _____
7. How is a certain digit in a measurement different from an uncertain digit? _____
- _____
- _____
8. How did you mass the magnesium during Lab #2? _____
- _____
- _____
9. How did you use the law of conservation of mass in Lab #2 to mass the hydrogen gas? _____
- _____
- _____
10. Name at least three safety precautions that were practiced during Lab #2 that are NOT mentioned on the Student Safety Contract:
- (a) _____
- (b) _____
- (c) _____
11. Draw and label the set-up for Lab #2:
(NOTE: On the quiz, be ready to explain the purpose of each item in your drawing)