

Honors Chemistry Summer Assignment

This assignment is comprised of 3 Parts:

1. Significant Figures
2. Significant Figures with Scientific Notation and Measurement
3. Dimensional Analysis

It is recommended that you progress beginning with Part 1, then go on to Part 2, then finish with Part 3.

Each Part has instructional mini-videos containing content. It is recommended that you study the content presented in the instructional mini-videos first. Then to check your understanding, complete each of the Adaptive Learning Programs.

Gaining proficiency in these skills is important to your success throughout the course. These concepts will be reviewed during the first several days of the semester, based on the results of a pre-assessment given on the first day of class. Students will be given time in class to practice and ask questions. Lastly, a short assessment on this content will be given the day after the review and practice. The expectation for the video assignments is that you improve your level of understanding in these fundamental skills. The expectation for the "Concept Builder" Adaptive Learning is that you earn a trophy for each section. The expectation for the CK-12 Adaptive Learning is that you correctly answer 10 questions.

Part 1: Significant Digits

- A. **Watch the following mini- videos** (approximate time to complete is 35 min.):

Significant Figures Made Easy (Tyler DeWitt)

<https://www.youtube.com/watch?v=5UjwJ9PIUvE>

Significant Figures Made Easy! (1.2) (Tyler Dewitt):

https://www.youtube.com/watch?v=PNH7_nDE6SQ

Significant Figures and Zero (Tyler Dewitt):

<https://www.youtube.com/watch?v=7b60RZqut0U>

Significant Zero Practice Problems (Tyler Dewitt):

<https://www.youtube.com/watch?v=ExETL3liRSw>

Multiplication and Division with Significant Zeros (1.5) (Tyler Dewitt):

<https://www.youtube.com/watch?v=o5BmoMDJLRY>

Add and Subtract with Significant Figures (1.6) (Tyler Dewitt):

<https://www.youtube.com/watch?v=2eXC6s9X6Wc&t=4s>

- B. [Work through the Adaptive Learning Program below](#) (approximate time to complete is 30 min.):

Go to this website:

<https://www.physicsclassroom.com/Concept-Builders/Chemistry>

Scroll down, take the link titled: “Significant Digits and Measurement”.

Click on the “Launch Concept Builder” button (orange button).

Scroll down, click the orange “Start” button.

Complete all three sections: “What is Significant”, “Measurement”, and “Math Operations”. Click the orange “Get Started” button to enter each Section. The expectation is that you earn a trophy for each section.

Part 2: Significant Figures with Scientific Notation and Measurement

- A. [Watch the following mini- videos](#) (approximate time to complete is 35 min.):

Scientific Notation and Significant Figures (1.7) (Tyler DeWitt):

<https://www.youtube.com/watch?v=IIQPHC5gZT8&t=1s>

Scientific Notation and Significant Zeros (1.8) (Tyler Dewitt):

<https://www.youtube.com/watch?v=EKJSiM5guyA>

Using Significant Figures Practice Problems (1.9) (Tyler Dewitt):

<https://www.youtube.com/watch?v=-xDGNP4pPKw>

- B. [Work through the Adaptive Learning Program below](#) (approximate time to complete is 18 min.):

Go to this website:

<https://www.physicsclassroom.com/Concept-Builders/Chemistry>

Scroll down, take the link titled: “Measurement and Numbers”.

Click on the “Launch Concept Builder” button (orange button).

Scroll down, click the orange “Start” button.

Complete all three sections: “Matching Pairs”, “Scientific Notation”, and “Measurement”. Click the orange “Get Started” button to enter each Section. The expectation is that you earn a trophy for each section.

Part 3: Dimensional Analysis

- A. [Watch the following mini- video](#) (approximate time to complete is 13 min.):

Converting Units with Conversion Factors (Tyler Dewitt):

<https://www.youtube.com/watch?v=7N0IRJLwpPI&t=15s>

B. [Work through the Adaptive Learning Program below](#) (approximate time to complete is 30 min.):

Go to this website:

<https://www.ck12.org/c/chemistry/dimensional-analysis/>

You will see several large icon-links. Find the “Practice” option.

Click the orange “Practice” button. Click on the green button: “Start

Tour”. Progress through the tour. The expectation is for you to get

10 correct. NOTE: You will need to use a calculator and this

[Conversions Reference Sheet](#).