

Provided here is a set of resources on the three topics covered in the assessment you took in lab: scientific notation, algebra, and proportional reasoning. Each topic has videos, written descriptions, and practice problems to help you review the material. The resources are numbered in a way to help you start with the basic concepts and progress to more advanced ones. There is also a quizlet problem set for each topic.

[Please let us know what you thought of these resources by filling out this very short survey](#)

Use these links to skip to the topic you are interested in:

[Topic: Scientific Notation](#)

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[LYNDA ACCESS DOCUMENT](#)

https://docs.google.com/document/d/1NIsiRRgigYCuyla1BEtAB0ANMTsqU-o41suz_3Z1Mbc/edit#

Topic: Scientific Notation

- 1. Would you like to start with a general review of the basics?**
 - a. Need a quick written review? Read this web page:
<https://www.mathsisfun.com/numbers/scientific-notation.html>
- 2. After review, try the practice problems 1 and 2 at the bottom of the page and check your answers:**
 - a. <https://www.chem.tamu.edu/class/fyp/mathrev/mr-scnof.html>
 - b. Do you understand how to convert scientific notation to standard notation and vice versa? If so, move to step 4.
- 3. Check out for more instruction on meaning and interpretation of scientific notation**
 - a. Watch this for another way to think of scientific notation:
 - i. (Positive Exponents: <https://youtu.be/Xq4ySuqaf-A>)
 - ii. (Negative Exponents: <https://youtu.be/6LG3aDd4WJY>)
 - b. Watch this for a video explaining conversion from standard to scientific notation:
<https://www.youtube.com/watch?v=PN93dlrSt7o>
 - c. Watch this for a video explaining conversion from scientific to standard notation:
https://www.youtube.com/watch?v=ктаD_Qq2f0l
- 4. Do you need review on rules with exponents (How to multiply/divide in scientific notation)?**
 - a. For Product rules with exponents, watch this:
<https://www.youtube.com/watch?v=11F9kKZK9BI&feature=youtu.be>
 - b. For Quotient rules with Exponents watch this:
<https://www.youtube.com/watch?v=mQqof2AD82k>
- 5. Check to see if you have a solid understanding.**
 - a. Try practice problems 3,4,and 5 and check your answers
(<https://www.chem.tamu.edu/class/fyp/mathrev/mr-scnof.html>)
 - b. Prefer a more elaborate video review? Watch this:
<https://www.lynda.com/Higher-Education-tutorials/Scientific-notation/461916/478118-4.html> **
see Lynda Link above (page 1)
 - c. <https://www.ixl.com/math/grade-8/multiply-numbers-written-in-scientific-notation>
 - d. <https://www.ixl.com/math/grade-8/divide-numbers-written-in-scientific-notation>
- 6. After that, do you need a deeper explanation? (If not, move to step 7)**
 - a. Watch this for one more practice problem Video: <https://youtu.be/ciFOlirz4Js>
 - b. If needed, rewatch the first video listed.
- 7. Confirm your understanding**
 - a. Try practice problems 1-3, and check your answers
(<https://www.chem.tamu.edu/class/fyp/mathrev/mr-expnt.html>)
 - b. If you still have questions after this, please contact your professor and/or a Q&SC tutor.

Topic: Algebraic Processes

- 1. Need a review of the order of operations (PEMDAS)?**
 - a. Read this: <https://www.gcflearnfree.org/algebra-topics/order-of-operations/1/>
 - b. For another textual explanation: <https://www.mathsisfun.com/operation-order-pemdas.html>
- 2. Need a review of the basics when solving 2-step equations for a variable?**
 - a. Watch this video: <https://www.youtube.com/watch?v=XwhTAKfDDIM>
 - i. Skip to :40 seconds
- 3. Need a review of distributing when solving for a variable?**
 - a. Watch this: <https://youtu.be/ai0xnby3GpI>
- 4. Check your understanding of solving equations for a single variable**
 - a. On Pearson: Mastering Chemistry, go to Assignment 79: Solving Equations, and do questions 1 and 2
- 5. Need a review of solving literal equations?**
 - a. Watch this:
<https://www.lynda.com/K-12-Education-tutorials/Solving-more-advanced-literal-equations/369903/443126-4.html> ** see Lynda Link above (page 1)
- 6. Check your understanding of solving literal equations**
 - a. On Pearson: Mastering Chemistry, go to Assignment 79: Solving Equations, and do questions 5-8
- 7. Do you still need more review?**
 - a. Watch this for a video practice problem: <https://www.youtube.com/watch?v=uzaW72cyfBY>
- 8. Check your overall understanding**
 - a. <https://www.ixl.com/math/algebra-2/solve-linear-equations>
 - b. If you still have questions after this, please contact a tutor or your professor

Topic: Proportional Reasoning

1. **Do you know what a proportion is and what it looks like?**
 - a. If not, check out
 - i. Intro to Ratios:
<https://www.algebra.com/algebra/homework/proportions/lessons/ratios.lesson>
 - ii. Intro to Proportions:
<https://www.algebra.com/algebra/homework/proportions/lessons/-Proprtions.lesson>
 - b. For more:
https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-write-and-solve-proportions/e/proportions_1
2. **Practice writing proportions from this video:**
<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-write-and-solve-proportions/v/writing-proportions>
3. **Once you understand the set up, do you know how to solve one for a single variable?**
 - a. For practice, look at <https://www.ixl.com/math/grade-8/solve-proportions>
 - b. Still struggling? <http://www.purplemath.com/modules/ratio4.htm> will help with understanding cross-multiplication
4. **Think you are ready for some word problems?**
 - a. Check out <https://www.youtube.com/watch?v=Rbdef8U-j7s>
 - b. Not really making sense? Look at these for some direction with solving some:
 - i. <https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-write-and-solve-proportions/v/find-an-unknown-in-a-proportion-2>
 - ii. <https://www.ixl.com/math/grade-8/multi-step-word-problems>
5. **Review with some more word problems here:**
<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-write-and-solve-proportions/e/constructing-proportions-to-solve-application-problems>
6. **Understand a recipe-type problem?**
 - a. If not, watch
<https://www.lynda.com/Business-Skills-tutorials/Scaling-recipe/195859/372423-4.html> ** see Lynda Link above (page 1)
7. **Systems of equations come into play with a proportion-type problem?**
 - a. Make sure you understand this page:
<https://www.lynda.com/Higher-Education-tutorials/System-equations/461916/478147-4.html>
8. **Now move onto proportion problems with multiple steps for the fullest understanding here:**
<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-write-and-solve-proportions/e/units>

Quizlet problems

Password: math

Proportional reasoning-https://quizlet.com/_4xpup9

Scientific notation-https://quizlet.com/_4xls9

Algebraic processes-https://quizlet.com/_4xptn5