



Learn at Home

Chemistry



**Department of
Education**

Chancellor Richard A. Carranza Updated 2020

Unit Overview

This computer-based packet of resources is designed for students and their parents who wish to support in-school learning with activities that can be done independently at home. The packet includes ten days of assignments that support the scientific work of Chemistry with a particular focus on Regents preparation. These activities should each take 40-60 minutes and are best done in the order written.

How to use this guide

Before doing any of this work, please try to contact your teacher to see if he or she has something else for you to do that fits better with what your classmates are doing.

Make sure your chemistry reference tables are readily available. If you do not have them, you can get them here: <http://www.p12.nysed.gov/assessment/reftable/chemistry-rt/chemrt-2011.pdf>

For each activity, you will find:

- A note-writing section
- A study section
- A practice section
- A final review section

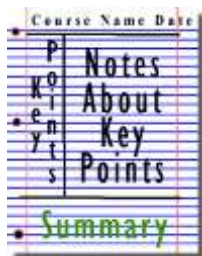
For some activities this work extends across two days and for other activities all of the sections are done in one day.

An alternative learning option

Simulations You Can Do at Home - <https://phet.colorado.edu/>

Enjoy a variety of explorations – from making a building an atom to balancing chemical equations. The activities found here are both entertaining and educational. Children and adults can learn chemistry together.

Day 1 Cornell Notes



Notes

One way of taking notes is called the Cornell note-taking system. You are going to be taking Cornell notes throughout this packet, so it is important to learn how to do it correctly. You may already know how to do this. If so, use the method you were already taught. If not, here are some instructions:

<http://coe.jmu.edu/learningtoolbox/cornellnotes.html>

Here is a sheet you may find useful:

<http://lsc.cornell.edu/wp-content/uploads/2015/10/Cornell-Note-Taking-System.pdf>

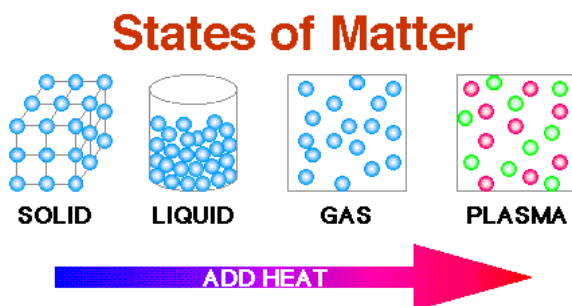
Basically, you write your notes on the right-hand side of a piece of notebook paper and the key points on the left-hand side. You can also put questions on the left. Try to line the key points and questions up with the corresponding information written on the right. At the bottom of the paper, you write a summary of the whole thing.

- ☐ Get out a piece of paper and go to <http://wayback.archive-it.org/3635/20130725065919/http://library.thinkquest.org/C0110275/case1.htm>
- ☐ Write Cornell notes on the information on the basics of chemistry.
- ☐ Go to <https://www.siyavula.com/read/science/grade-10/the-atom/04-the-atom-04>
- ☐ Write Cornell notes on the information on the structure of the atom. Also, please do the practice at the end. Don't forget to write the key points/questions on the left and summary at the bottom.

Study

- ☐ Cover up the right-hand side of the paper and quiz yourself on the questions and key points you wrote on the left to see if you can remember the details that you wrote on the right-hand side.

Day 2 Matter and Atomic Structure



Notes

You are going to use the notes you took during Day 1.

- ☐ Get the notes from Day 1.

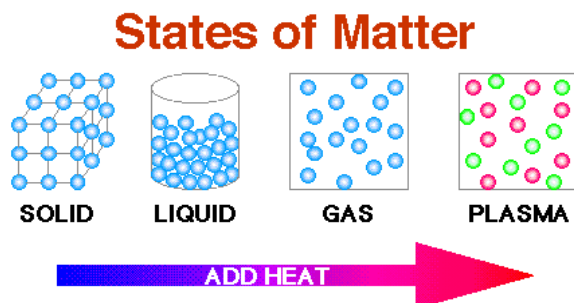
Study

- ☐ Review your notes. Cover up the right-hand side of the paper and quiz yourself on the questions and key points you wrote on the left to see if you can remember the details that you wrote on the right-hand side.

Practice

- ☐ Go to <http://wayback.archive-it.org/3635/20130731045803/http://library.thinkquest.org/C0110275/case1game.htm> and answer questions to become an Xe files agent. The secret number for this level is ____.
- ☐ Go to <https://www.quia.com/fc/2319330.html> and practice until you can get all of the answers correct.

Day 3 Matter and Atomic Structure Review



Notes

You are going to use the notes you took during Day 1.

- ☐ Get the notes from Day 1.

Study

- ☐ Review your notes. Cover up the right-hand side of the paper and quiz yourself on the questions and key points you wrote on the left to see if you can remember the details that you wrote on the right-hand side.

Final Review

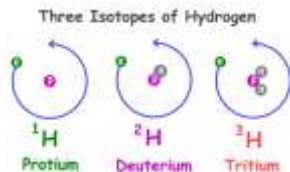
- ☐ Go to <http://education.jlab.org/elementmath/>
- ☐ Choose at least 10 questions.
- ☐ Choose protons, neutrons, and electrons.
- ☐ Do not round the atomic weight.
- ☐ On the chart on the next page in this document, write the problem number, the answer you chose (before you looked at the correct answer) and the correct answer on your paper. If you got the question wrong, write down anything you need to remember to answer correctly next time.

The chart is on the next page in this document.

Final Review (continued)

Topic	Problem #	Your Answer	Correct Answer	I need to remember . . .
Element Math Game				

Day 4 Atomic Structure Notes I



Notes

You are going to take Cornell notes again. Here are the instructions from Day 1:

One way of taking notes is called the Cornell note-taking system. You are going to be taking Cornell notes throughout this packet, so it is important to learn how to do it correctly. You may already know how to do this. If so, use the method you were already taught. If not, here are some instructions:

<http://coe.jmu.edu/learningtoolbox/cornellnotes.html>

Here is a sheet you may find useful:

http://lsc.cornell.edu/wp-content/uploads/2015/10/Cornell-Note_Taking-System.pdf

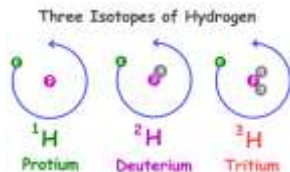
Basically, you write your notes on the right-hand side of a piece of notebook paper and the key points on the left-hand side. You can also put questions on the left. Try to line the key points and questions up with the corresponding information written on the right. At the bottom of the paper, you write a summary of the whole thing.

- ☐ Get out a piece of paper and go to <https://www.siyavula.com/read/science/grade-10/the-atom/04-the-atom-02>
- ☐ Write Cornell notes on the information on the models of the atom. Also, please do the practice at the end.

Study

- ☐ Cover up the right-hand side of the paper and quiz yourself on the questions and key points you wrote on the left to see if you can remember the details that you wrote on the right-hand side.

Day 5 Atomic Structure Notes II



Notes

You are going to take Cornell notes again. Here are the instructions from Day 1:

One way of taking notes is called the Cornell note-taking system. You are going to be taking Cornell notes throughout this packet, so it is important to learn how to do it correctly. You may already know how to do this. If so, use the method you were already taught. If not, here are some instructions:

<http://coe.jmu.edu/learningtoolbox/cornellnotes.html>

Here is a sheet you may find useful:

http://lsc.cornell.edu/wp-content/uploads/2015/10/Cornell-Note_Taking-System.pdf

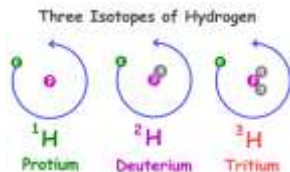
Basically, you write your notes on the right-hand side of a piece of notebook paper and the key points on the left-hand side. You can also put questions on the left. Try to line the key points and questions up with the corresponding information written on the right. At the bottom of the paper, you write a summary of the whole thing.

- ☐ Go to <https://www.siyavula.com/read/science/grade-10/the-atom/04-the-atom-05>
- ☐ Write Cornell notes on the information on isotopes. Also, please do the practice at the end.
- ☐ Go to <http://www.personal.psu.edu/staff/m/b/mbt102/bisci4online/chemistry/chemistry1.htm>
- ☐ Scroll down to the section on ions. Just write Cornell notes on the information ions. Don't forget to write the key points/questions on the left and summary at the bottom.

Study

- ☐ Cover up the right-hand side of the paper and quiz yourself on the questions and key points you wrote on the left to see if you can remember the details that you wrote on the right-hand side.

Day 6 Atomic Structure Practice



Notes

You are going to use the notes you took during Days 4 and 5.

- ☐ Get the notes from Days 4 and 5.

Study

- ☐ Cover up the right-hand side of the paper and quiz yourself on the questions and key points you wrote on the left to see if you can remember the details that you wrote on the right-hand side.

Practice

- ☐ Go to <http://www.quia.com/cb/36842.html> and earn as at least 6,000 points. In your best game you earned: _____ points.
- ☐ Go to <http://www.quia.com/cb/147081.html> and earn at least 8,000 points. In your best game you earned: _____ points.

Final Review

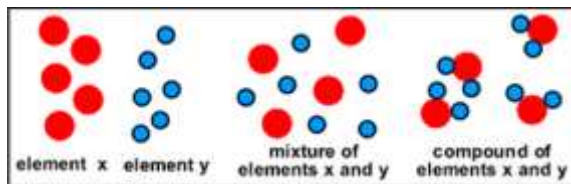
- ☐ Go to http://www.kentchemistry.com/RegentsExams/regents_jun_2018.htm
- ☐ Answer questions 1-5 in the chart on the next page in this document by writing the question number, the answer you chose (Before you looked at the correct answer) and the correct answer on your paper. If you got the question wrong, write down anything you need to remember to answer correctly next time.

The chart is on the next page in this document.

Final Review (continued)

Topic	Question #	Your Answer	Correct Answer	I need to remember . . .
Atomic Concepts				

Day 7 Elements, Compounds, and Mixtures I



Notes

You are going to take Cornell notes again. Here are the instructions from Day 1:

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<http://coe.jmu.edu/learningtoolbox/cornellnotes.html>

Here is a sheet you may find useful:

http://lsc.cornell.edu/wp-content/uploads/2015/10/Cornell-Note_Taking-System.pdf

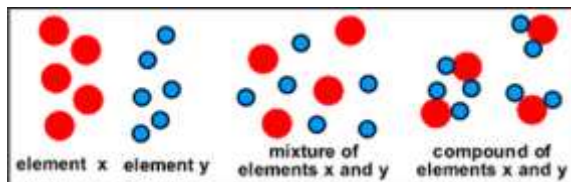
Basically, you write your notes on the right-hand side of a piece of notebook paper and the key points on the left-hand side. You can also put questions on the left. Try to line the key points and questions up with the corresponding information written on the right. At the bottom of the paper, you write a summary of the whole thing.

- ☐ Get out a piece of paper and go to <https://www.siyavula.com/read/science/grade-10/classification-of-matter/02-classification-of-matter-02>
- ☐ Write Cornell notes on the information on mixtures. Also, please do the practice at the end.

Study

- ☐ Cover up the right-hand side of the paper and quiz yourself on the questions and key points you wrote on the left to see if you can remember the details that you wrote on the right-hand side.

Day 8 Elements, Compounds, and Mixtures II



Notes

You are going to take Cornell notes again. Here are the instructions from Day 1:

One way of taking notes is called the Cornell note-taking system. You are going to be taking Cornell notes throughout this packet, so it is important to learn how to do it correctly. You may already know how to do this. If so, use the method you were already taught. If not, here are some instructions:

<http://coe.jmu.edu/learningtoolbox/cornellnotes.html>

Here is a sheet you may find useful:

http://lsc.cornell.edu/wp-content/uploads/2015/10/Cornell-Note_Taking-System.pdf

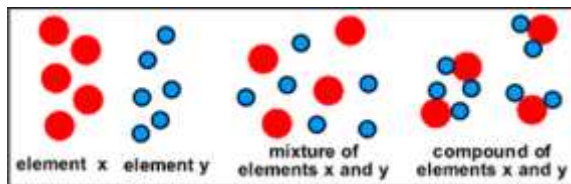
Basically, you write your notes on the right-hand side of a piece of notebook paper and the key points on the left-hand side. You can also put questions on the left. Try to line the key points and questions up with the corresponding information written on the right. At the bottom of the paper, you write a summary of the whole thing.

- ☐ Go to <https://www.siyavula.com/read/science/grade-10/classification-of-matter/02-classification-of-matter-03>
- ☐ Write Cornell notes on the information on pure substances. Also, please do the practice at the end. (You do not need to do the parts labeled “activity” unless you want to.) Don’t forget to write the key points/questions on the left and summary at the bottom.

Study

- ☐ Cover up the right-hand side of the paper and quiz yourself on the questions and key points you wrote on the left to see if you can remember the details that you wrote on the right-hand side.

Day 9 Elements, Compounds, and Mixtures Practice



Notes

You are going to use the notes you took during Days 7 and 8.

- ☐ Get the notes from Days 7 and 8.

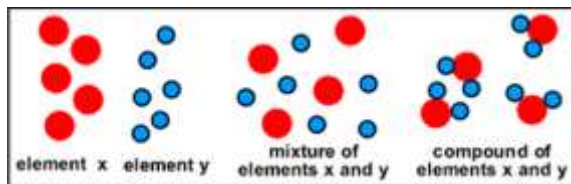
Study

- ☐ Cover up the right-hand side of the paper and quiz yourself on the questions and key points you wrote on the left to see if you can remember the details that you wrote on the right-hand side.

Practice

- ☐ Go to <http://www.quia.com/jg/262498.html> and choose whichever game you wish. Play one game twice or two games once each.
- ☐ Go to <http://www.quia.com/cb/36842.html> and earn at least 6,000 points. In your best game you earned: _____ points.

Day 10 Elements, Compounds, and Mixtures Review



Notes

You are going to use the notes you took during Days 7 and 8.

- ☐ Get the notes from Days 7 and 8.

Study

- ☐ Cover up the right-hand side of the paper and quiz yourself on the questions and key points you wrote on the left to see if you can remember the details that you wrote on the right-hand side.

Final Review

- ☐ Go to <http://www.quia.com/quiz/2073021.html>
- ☐ Click on "Start Now."
- ☐ Write the question number, the answer you chose and the correct answer on your paper. If you got the question wrong, write down anything you need to remember to answer correctly next time. For the first two questions you can just record how many you got correct and what you need to remember. (After the quiz, you can click on "Question 1" to see all of your answers and the correct answers.)

The chart is on the next page in this document.

Topic	Question Number	Your Answer	Correct Answer	I need to remember . . .
ECM Practice				

("ECM" stands for "elements, compounds, and mixtures.")

