Course Agreement
High School Chemistry 1 & 2
(2024-25)

Welcome! To ensure that students and their parents/guardians have all the information they need to feel ready to start the course, I have created a course agreement form. Above all, this is meant to ensure we are all on the same page and ready for a fantastic school year!

This course is best suited for homeschool students as Discovery Institute Academy is not a degree-granting institution and does not offer courses for academic credit. Thus, it is the parent/guardian rather than the Discovery Institute Academy instructor who is considered the final authority on a student's learning. Practically, this means that while the instructor is responsible for all course instruction, assessment, grading, feedback, and formulating of an overall student letter grade at the end of the course, it is the parent/guardian who is considered the final authority on their student's overall learning and can assign an overall "grade" for their student as they see appropriate.

This course agreement consists of 6 sections: [1] General Course Information, [2] Plan of Action for Learning, [3] Additional Parent/Guardian Expectations, [4] Academic Honesty Policy, [5] Audio-Video Recording Agreement, and [6] Chemistry Standards.

[1] General Course Information

Course Documents

I have read, understood, and agree to the contents of each of the following course documents listed below:

- Syllabus (separate)
- Academic Honesty (see "Academic Honesty" section [4] later in this agreement)
- Audio-Video Recording Agreement (see "Audio-Video Recording Agreement" section [5] later in this agreement)
- Chemistry Standards (see "Chemistry Standards" section [6] later in this agreement)

Tuition

I have read, understood, and agree to the tuition costs and deadlines below:

Tuition for each semester of the two-semester course is $350. Tuition for each semester includes: (1) the instructor's fee ($300), (2) Discovery Institute's media access / tech support fee ($25), and (3) a subscription to Labster simulations selected for class ($25). (Early bird registrants may be given a discount code for $25 off of tuition each semester.)

Please note: Tuition does NOT include textbook cost, the cost of materials for labs / activities, or the cost of other materials needed for the course.

Tuition for **semester 1** is due *before* **Monday, August 19, 2024.** Tuition for **semester 2** is due *before* **Monday, Dec 16, 2024**. Tuition for both semesters needs to be paid online at DiscoveryU.org.

Refund and Expulsion Policies

I have read, understood, and agree to the refund policy below:

- 1st semester: Parents/guardians must email the course instructor Kristin Marais @ **kmarais@discovery.org** by **Friday, Sep. 13, 2024** to formally request that their student be dropped from the class in order to receive a 75% refund of the semester 1 tuition paid. No refunds will be offered after this date.
- 2nd semester: Parents/guardians must email the course instructor Kristin Marais @ **kmarais@discovery.org** by **Friday, Jan. 17, 2025**. No refunds offered second semester.

- If Discovery Institute is unable to continue the course for any reason, parents/guardians will be refunded for the portion of the semester course not yet completed.
- If a parent/guardian or student violates this agreement and/or is deemed disruptive to the course, Discovery Institute Academy reserves the right to remove them from the course. In such cases, Discovery Institute Academy is not required to issue any refund.

Orientation Week and Semester Start/End Dates

I have read, understood, and agree to the information below about orientation week:

- **Monday, Aug. 26, 2024** - 1st semester starts. This first week of class will be an orientation week where students will need to complete some prerequisite assignments meant to allow them to introduce themselves to the class and to familiarize themselves with the course structure / technology, etc. Class sessions will not begin until the following week. This orientation module must be completed successfully by all students before they are allowed to progress in the class.
- **Thursday, Sep. 5, 2024 @ 5:30 pm PST** - All parents/guardians and their students are warmly invited to attend the "Welcome Orientation + Q&A" Zoom session to kick off the year. Zoom link will be provided closer to the date.
- **Friday, Dec. 20, 2024** – 1st semester ends.
- **Monday, Jan. 6, 2025** – 2nd semester starts.
- **Friday, May 30, 2025** – 2nd semester ends.

[2] Plan of Action for Learning

I know that learning doesn't happen by accident! It requires a plan of action. This section is meant to HELP you!
I have read, understood, and agree to the plan of action below:

Learning Environment	Establish a clean, quiet, and undisturbed space for class sessions and independent work.
Technology	Make sure that you have the required technology for the course - see the "*Syllabus*" for more information.
Materials	Make sure that you have the textbook and have reviewed the suggested materials - see the "*Syllabus*" for more information. Again, the materials list for labs/activities will be provided closer to the start date of the course and the instructor will likely add/delete/modify materials as the course progresses for best student experience.
Check the "Weekly Planner."	Weekly take a look at the *"Weekly Planner"* page in Canvas to see the topics, assessments, deadlines, and calendar notices that are coming up.
Read the "Weekly Check-in" emails.	Weekly review the instructor's check-in email, sent out Thursday / Friday to both students and their parents/guardians with the following week's topics, assessments, deadlines, and calendar notices. These are meant as FYI emails and you don't need to respond to the email unless I request you do so or you have a specific question / issue.
Attend class sessions.	Weekly attend each scheduled virtual class session. Participate through conversation, chat boxes, and discussion boards.
Don't procrastinate!	Weekly submit assignments by their deadline(s), review instructor feedback, and promptly make revisions.
Respond quickly when your instructor emails you.	Daily check your Canvas email and respond to instructor emails as soon as possible or within 1 school day. Parents/guardians, I will email you through my kmarais@discovery.org email.
Make sure your emails are clear and concise.	Students, you should email me through your Canvas inbox. When you do… ● Add a clear subject heading. You can leave off your name, the instructor's name, and course name as these will automatically be clear. ● If you need help on a specific assignment / question, put the word "help" in the subject header and note the assignment w/ problem # (e.g., Help on 1.4.1 #4).

	● Try to write clearly, concisely, and with correct grammar, punctuation, and spelling. All of us (myself included) will make typos from time to time - that's okay! Let's just do our best! ● Avoid using formats similar to informal texts or abbreviations. ● I get lots of emails so adding a little positive or friendly tone with a "please" or "thank you" is SO appreciated! 😳
Regularly check your grades!	Weekly check your Canvas gradebook for assignment scores, feedback, and overall grade. Because your gradebook is online, you can check your grades from anywhere 24/7!
Review mid-semester progress reports.	Review the instructor's emailed mid-semester progress reports.
Ask for help!	It's SO important for students to feel safe enough to raise their questions or concerns. I remember the fears I had as a student of "looking stupid." I worried that the teacher might say "This should be easy for you!" or "You should know this by now." These kinds of comments discourage students and often lead them to hide their confusion from their teacher. I am determined to be approachable, patient, compassionate, and encouraging with my students. I deeply care about my students and welcome your questions and concerns. Don't allow yourself to spend hours feeling frustrated and discouraged! Share your question over email/text and/or drop in for homework help with me if you are struggling with a concept or problem, are confused about directions, want to raise a concern, or have <u>any</u> other issue. I am genuinely here to help you – **that's WHY we have homework help**!
Slow down and read the directions.	Yes, I know it's obvious! However, reading the directions for an assignment or specific question can usually save you time and headache.
Always show your work! ALWAYS!	Whether the question asks explicitly for this or whether it doesn't, <u>always be ready to show how you arrived at your answer.</u> Frequently, I will have students select the correct answer in one question and then upload an image of their work in the next question to support their answer selection.
Always submit your OWN, original work!	I want to assess <u>your</u> understanding - not the understanding of someone else in a URL, article, or book. I also do not want to assess the understanding of one of your classmates, friends, or family members. I want to assess YOUR understanding only. Review the "*Academic Honesty Policy*" section in this *"Course Agreement"* to avoid this problem! Don't miss the plagiarism section where I clearly outline what is / isn't considered plagiarism so that every student knows this up front.
Save your Canvas storage space quota! Here's how and why…	Canvas will be the portal where you submit assignments. Each student has their own account with their own user quota of 50 MB / course. Don't panic! While that is a tiny amount of storage space, if you keep the info below in mind, this quota should not be a problem for you. This is just an FYI - we will go over this during orientation week. **These types of uploads "count" towards your user quota:** ● Uploading a profile picture. *(Workaround? Shrink the image size.)* ● Uploading ANY other type of file directly to your "My Files." *(Work around? Avoid this! You don't need to store random documents in* Canvas *- use your own computer or Google Drive.)* ● Attaching a file to an email you composed through Canvas inbox. *(Workaround? Try to share files through submission comments for an assignment whenever possible OR share a file via a Google Drive link.)* **These types of uploads do NOT count towards your user quota:** ● Uploading a file to a "file upload" question.

	● Uploading a file to a “graded discussion” board. ● Uploading a file to “submission comments.” These are comments at the end of an assessment where you and the instructor can dialogue about the assessment and add attachments such as grading feedback, rubrics, revised work, etc., etc. **Final take-away points:** 1. With the exception of your profile picture, do NOT randomly upload files (e.g., documents, images, video, or audio) to your Canvas files. Anything uploaded directly to your Canvas files counts towards your 50 MB / student quota. 2. As a general rule - anything that I ask you to upload will NOT count towards your user quota. 3. Any files uploaded to “file upload” questions or to “graded discussion boards” will still appear in your “My Files,” but within a subfolder called “Submissions.” This subfolder will have a padlock icon associated with it, meaning you can view files you have submitted but you cannot delete / edit them. Any files within this “Submissions” folder will NOT count towards your user quota. 4. Regularly check your storage use by logging into Canvas, then clicking the “account” icon on the top left, and then selecting “files”. Your total used storage will be denoted in the lower left as a percentage such as “10% of 50 MB used.” 5. **Please be aware that LARGE files take an instructor a long time to download! So even if an uploaded file doesn’t count towards your quota, be considerate and shrink large files, particularly images.**

[3] Additional Parent / Guardian Expectations

In addition to the above information, I understand that as the parent/guardian of my student, I play a unique and integral role in my student’s learning experience. I know that my student’s instructor has great regard for the role of parents/guardians in the lives of students and that I am invited to be a valuable team player in my student’s learning experience in this course. This means that:

- **I will make my student’s punctual and regular attendance at weekly class sessions a priority**. I know that my student needs to attend the weekly scheduled class sessions where they will review concepts/skills and where they will experience a sense of community with their peers and instructor. Accordingly, I will make every effort to ensure my student is present at these class sessions and has a quiet and undisturbed work area from which to join these sessions.
- **If my student asks me to help them or is struggling with a skill/concept/assignment, I know I can work with my student to support them (reading with, working with, doing labs with, etc.), provided the final product reflects my student’s knowledge and understanding and not my own.** I know that my student will have weekly assigned work. I will make every effort to encourage my student to complete their work and to turn in authentic, original work that demonstrates their understanding.
- **I will use my parent/guardian observer account to review my student’s course content, progress through course, and overall grade.** I know that my student has their own Canvas course login, but I will refrain from using this.
- **I will make every effort to review my student’s progress in the course using the Canvas gradebook which is accessible 24/7 with my parent/guardian observer account**. If I or my student have any questions / concerns, I know that I and my student can and should email the instructor.
- I know that the instructor will provide their best professional evaluation of my student’s learning and academic growth in the form of a letter grade (A, B, C, D, or F). However, as the parent/guardian, **I know that I am considered the final authority on my student’s learning and academic growth and I will be the one to ultimately assign a “grade” to my student.** I know I am welcome to use the instructor’s professional assessment in my own final assessment of my student’s learning.

[4] Academic Honesty Policy

There are three primary goals for each student in this course: (1) **acquire** new knowledge, (2) **showcase** your new knowledge on an assessment (e.g., on a quiz, test, or lab), and (3) **assess** your understanding through instructor scoring and feedback. The key to achieving these three goals lies in student integrity. That means that YOU are the one acquiring

new knowledge and YOU are the one showcasing YOUR new knowledge on that quiz, test, lab, etc., etc. Not someone else. You! This is also called “academic honesty.”

What constitutes academic dishonesty or “cheating?” In general, academic dishonesty or “cheating” occurs any time you submit work that is not your own, original work. This can happen in many ways but here are just a few:

- Plagiarism (See the plagiarism section further below - don’t miss it!)
- Submitting an answer for a quiz that you copied from someone else.
- Using a peer’s lab data in lieu of doing the experiment yourself without permission.
- Allowing someone else to take the test for you.
- Etc., etc.

The obvious question becomes: “How can we establish academic honesty in an online class where you are working remotely?” Technically, you could share answers with a classmate, have your older sister in college come over and take the test for you, copy/paste an answer from the web, or you fill in the blank (but please don’t actually do it!). The truth of the matter is, there is no bullet proof way for me as your instructor to ensure these types of scenarios never happen. Yes, there are definitely ways that I can and do discourage, prevent, and detect cheating among my students. And yes, there are serious consequences for academic dishonesty. Yet, some students still persist in cheating.

I am hoping what I share next discourages you from engaging in academic dishonesty both in this course and in your future academic / professional lives.

- First up, you don’t need to cheat to succeed:
    - **This class allows and encourages multiple submissions.** There are 3 attempts available for each assessment in this class and only your highest score of these 3 submissions will appear as your final score. Why do I do this? Whether you are learning to ride a bike, baking a cake, or balancing a chemical equation, each of these skills takes practice, involves some trial and error along the way, and ultimately requires that you make changes or revisions to perfect your skill. When you have your first bicycle crash, bake a lopsided cake, or improperly balance an equation, you are still learning, perhaps learning even more. By offering my students multiple submissions, I am ensuring my students have the opportunity to explore, practice, and revise like they would with any other concept or skill.
    - **This class includes weighted and non-weighted assessments.** Formative assessments (labeled “FA” in the title) are “informal assessments” for practice and exploration and are NOT weighted in your overall grade. You can do as much or as little of a formative assessment that you feel you need to do in order to prepare you for summative assessments. If you truly feel you understand a concept, you could potentially choose to skip a formative assessment (but be very careful in doing so as those same skills/concepts will appear on your summative assessments and will count at that point). Summative assessments (labeled “SA” in the title) are “formal assessments” you do after you have practiced and explored in your formative assessments to show your overall understanding of a concept or skill. Weighted labs are worth 20% of your grade (labeled LAB in the title). Accordingly, only summative assessments and weighted labs factor into your grade. Again, do not panic. All assessment types offer 3 submissions and only your highest score will appear as your final grade for that assessment.
    - **This class regularly offers a variety of ways to get help.** Weekly drop-in sessions offer a no-pressure environment where you, your peers, and instructor can “hang out” online to work out problems, raise questions, collaborate, and ask for help.
- Second, there are serious consequences for cheating:
    - **1st offense:** The instructor will email you and your parent/guardian. You (the student) will be asked to complete an academic honesty form. Once received, the student will be permitted to complete the assessment in question and do so without resorting to academic dishonesty. This assessment could be the original assessment, a modified assessment, or an alternative assessment.
    - **2nd offense:** The instructor will email you and your parent/guardian to set up a *Zoom* meeting. The student will receive a zero for the assessment. Discovery Institute Academy administration will be notified.
    - **3rd offense:** Discovery Institute Academy administration will be notified. The student may be removed from the course.

I genuinely do NOT want to see students receive zero’s or be removed from the course. While you likely already know that you can’t have someone else take the test for you or use someone else’s answers on a quiz, you may not be as clear on what constitutes plagiarism. Please do yourself a BIG favor and review the plagiarism section next. You may be surprised by what you find…

What is Plagiarism and How Can I Avoid It?

Three Rules For Referencing Properly and Avoiding Plagiarism

Part 1: What Is Plagiarism?

Essentially, plagiarism is a form of theft. However, with plagiarism you are not stealing somebody's material possessions, like their money or TV. With plagiarism you are stealing something intellectual—their ideas and/or their words.

Plagiarism is a big deal. Plagiarizing just a single sentence or paragraph in an entire essay, paper, or book could cause your entire work to be rejected—i.e., you could get a zero, or perhaps even worse. **In fact, plagiarism is such a serious issue that in the professional and academic worlds, the smallest amount of plagiarism could cost you your job, and even destroy your entire career. It has happened before!**

Does This Mean I Can't Use Other Sources When Writing?

No! In fact, in academic writing, it is not only acceptable to cite other academic sources, it is expected that you will do so!

At first glance, this creates a bit of an apparent dilemma for the scholar: The rules of academic writing require that you use other sources, but those same rules also prohibit you from stealing the ideas or words of other people. What's the way out? Follow the rules.

There are very particular rules that must be followed in order to acceptably use the ideas and words of other writers, and avoid plagiarism. This then leads to the question…

Part 2: How Do I Avoid Plagiarism?

It's easy—plagiarism can be avoided by following the rules of academic referencing. Academic referencing is when you use the words or ideas of another source, but you do so in a manner that recognizes the sources from where you borrowed those ideas or words. You are allowed to borrow the words and ideas of other sources so long as you properly reference to your sources.

As long as you properly reference your sources—i.e., you properly indicate when you are borrowing their words or ideas—you are **not** committing plagiarism. Quite the contrary, when you follow the rules of academic referencing, using the ideas and words of other sources is considered a very high form of scholarship.

At the end of these guidelines, I'll provide three basic rules that describe plagiarism, and three rules to follow to avoid plagiarism. **To go directly to the rules, scroll down and look for the blue text.**

For now, here are examples of plagiarism of both words and ideas—and examples that show how to avoid doing either.

Example 1: Plagiarism of Words.

Plagiarism of words is when you directly copy someone's words, whether "word for word" or with only slight changes. For example:

- In January, a dancer named Janie writes a book with the following original sentence:

  The most important part of life is dancing—I'm going to dance until the day I die.

- In February, Freddie reads Janie's book and copies her sentence directly into his book, writing:

  The most important part of life is dancing—I'm going to dance until the day I die.

- Freddie does not cite Janie nor does he put her words in quotes. He just copies her words directly. This is plagiarism.

- In March, Manny also reads Janie's book and then copies her sentence into his own book with only slight changes, writing:

  The most important thing in life is dancing—I'm going to dance until the day I die.

- Manny does not put Janie's words in quotes nor does he cite her. Even though Manny changed the words "part of" to "thing in" (in red) —the changes are so trivial that this is still plagiarism.

- In April, Annette also reads Janie's book and then copies Janie's sentence into her own book, this time re-ordering the words. Annette writes:

    > Dancing is the most important part of life—until the day I die, I'm going to dance.

- Annette does not put Janie's words in quotes nor does she cite her. Even though Annette changed the order of the words in the sentence, the phrases are basically identical and this is plagiarism.

- In May, Mary also reads Janie's book and decides that she wants to use Janie's words about dancing. Mary thus writes the following in her book:

    > A dancer named Janie wrote, "The most important part of life is dancing—I'm going to dance until the day I die." (Janie, 2016)

- Mary DOES put Janie's words in quotes, indicating that these are Janie's words and not her own. Mary also properly cites Janie's book. This is NOT plagiarism because Mary has not tried to steal Janie's words and make them look like they are her own. Rather, she has properly quoted to and cited to Janie. Again, this is CORRECT referencing practice—and NOT plagiarism.

Thus, we come to Plagiarism Rule #1: You have committed plagiarism if you quote something word for word but (a) DO NOT put it in quotes and/or (b) DO NOT cite it properly.

Important note: merely changing a couple words in a sentence or rearranging a few words STILL constitutes plagiarism. We see that in the examples of Manny and Annette above. Unless you want to quote someone word-for-word and put their words in quotes (and properly cite them), the only way to avoid plagiarism is to put someone's ideas entirely in your own words, and then properly cite them. We will see how to do this in the next example—plagiarism of ideas.

Example 2: Plagiarism of Ideas.

Plagiarism of ideas occurs when you directly use someone else's ideas, though not necessarily their exact words, but you do not properly cite to their work.

Obviously for some "ideas" you don't need to cite someone. For example, if you want to write "The sky is blue" or "Nelson Mandela was a great leader," you don't need to cite anyone else because everyone knows that the sky is blue, and many people have agreed that Mandela was a great leader. But if you are using some source that is promoting a new or novel idea, like research findings, then you definitely need to cite that source if you want to use their ideas or conclusions.

Here are some examples of what is, and is not, plagiarism of ideas:

- In January, a dancing researcher named Jimbo writes a book saying the following:

    > Through my extensive research on dancing, I have discovered people who dance at least twice per month tend to live on average 10 years longer than everyone else.

- In February, Francine reads Jimbo's book and then writes the following:

    > People who want to have a longer lifespan should consider dancing—in fact if you dance often, you might increase your lifespan by 10 years.

- Francine has not directly copied the words of Jimbo—she put Jimbo's research findings in her own words—which is good. Yet she has still committed intellectual theft—plagiarism. Why? Francine does not cite Jimbo to credit him for his idea (in this case, a research finding) that dancing helps you live longer. This is plagiarism.

- In March, Mary also reads Jimbo's book and writes the following in her own book:

    > According to the research of Jimbo, dancing regularly could add an additional 10 years to your life. (Jimbo, 2016)

- Mary also did not steal Jimbo's words—she paraphrased his ideas in her own words. She also clearly indicates that the idea that frequent dancers live longer came not from herself, but from Jimbo. In this way, she also did not steal his ideas. Rather, she borrowed Jimbo's ideas and clearly indicated that they were his, not hers. This is NOT plagiarism.

- In April, Andrew also reads Jimbo's book and then writes the following:

  > People who dance at least twice per month tend to live on average 10 years longer than everyone else. (Jimbo, 2016)

- If you're thinking this is plagiarism, you're correct. This is plagiarism. But why? In this case, Andrew properly credited Jimbo for the idea that dancers tend to live longer. But he plagiarized Jimbo's words. Here's why: The words "People who dance at least twice per month tend to live on average 10 years longer than everyone else" were taken directly from Jimbo's book. Andrew's mistake is that he did not put those words in quotes. So even though Andrew cited Jimbo, he's guilty of plagiarism of words (though not plagiarism of ideas). How could Andrew have used Jimbo's words and yet avoided plagiarism? See the next example…

- In May, Monique reads Jimbo's book then writes the following in her book:

  > Jimbo's research on dancing has found that, "People who dance at least twice per month tend to live on average 10 years longer than everyone else." (Jimbo, 2016)

- Here, Monique has borrowed BOTH Jimbo's ideas and his words. But she properly cited both. She properly cited his words by putting them in quote-marks and citing to (Jimbo, 2016). She also properly cited his ideas by citing to Jimbo's book. So this is NOT plagiarism—rather it is GOOD academic citation practice.

Thus, we come to Plagiarism Rule #2: You have committed plagiarism if you use someone's unique or special ideas but don't cite them properly.

Important Note: You usually don't need to cite someone if you're making a point that is widely known. But if you're citing some unique or novel idea, like research findings, you must cite the original source.

There's also a third rule of plagiarism that I'll summarize in the next section.

Part 3: Summary - The three rules of what DOES constitute plagiarism

1. **Plagiarism of words: You quote something word for word but (a) DO NOT put it in quotes and/or (b) DO NOT cite it properly.**

Important Note 1: If you quote something word for word, it is NOT enough to simply cite the source. You MUST put their words in quote marks (or use an indented block quote) AND cite the source to avoid plagiarizing.

Important Note 2: It is still considered plagiarism if you copy a sentence but just change a few words so it's not exactly the same. This is a key point: You are **NOT** avoiding plagiarism if you take a sentence from another source and simply change 1 or 2 words. To safely avoid plagiarism, you need to (a) read the original source, (b) understand the idea it is trying to convey, and then (c) SET THAT ORIGINAL SOURCE ASIDE while you put their ideas entirely into your own words. Then, (d) after you put their ideas in your own words, double-check to make sure your summary doesn't sound just like the original source. Admittedly, sometimes there's only one good way to say something, so this can be hard to do. That's OK, don't worry—there's still a good option that avoids plagiarism. If you cannot do (a) – (d), then you should simply quote the original source exactly—i.e., you put their exact words in quotation marks and cite the source properly.

2. **Plagiarism of ideas: You use someone else's ideas but don't cite them properly.**

3. **Quoting Too Many Words: You follow rules (1) and (2) BUT YOU QUOTE TOO MUCH from the original source.**

Important Note: This rule was not explored in the examples above. But basically, here, you quote far too much material. This can be bad academic form *even if you use quotation-marks (or indent the quotation as a block-quote) and properly cite the original source*. How much is too much? This is a fuzzy, gray area that can sometimes be hard to define. Generally a quote that is under 200 words is acceptable, and 500 total quoted words often means you're pushing the limit. The bottom line is this: You can't quote huge volumes of words from a source, even if you cite it properly, etc. If you are afraid you're quoting too much material, you probably are.

Part 4: Summary - The three rules of what constitutes good citation practice (i.e., three rules to avoid plagiarism)

By taking the reverse of the rules of what constitute plagiarism, we can deduce three rules of what constitutes good citation practice:

1. **You may quote another source word-for-word ONLY if you (a) put their words in quote marks, and (b) cite the source properly.**

Important Note 1: When quoting word-for-word, citing the source is not enough. Good citation practice requires that you MUST BOTH put the words in quote marks (or use an indented block quote) AND cite the source.

Important Note 2: You may NOT change just a few words from the original source and pass them off as your own words, even if you cite the original source. You MUST put either (a) the words in quote marks (or use an indented block quote) AND cite the source to use proper academic referencing, or (b) put everything in your own words.

Example of How to Follow This Rule: If the original source (by Jerry, 2010) says: "Predominant sources of nutrition among the Torwetta People include fish, fruits, and vegetables (both roots and leaves)." Then you can legitimately write the following, and not plagiarize:

> According to one expert, "Predominant sources of nutrition among the Torwetta People include fish, fruits, and vegetables (both roots and leaves)." (Jerry, 2010)

2. **You may borrow another source's ideas ONLY if you (a) put their ideas IN YOUR OWN WORDS, AND (b) cite them properly.**

Example of How to Follow This Rule: If the original source (by Jerry, 2010) says: "Predominant sources of nutrition among the Torwetta People include fish, fruits, and vegetables (both roots and leaves)." Then you can legitimately write the following, and not plagiarize:

> According to one expert, fish, fruits, as well as vegetables such as roots and leaves, are the most common foods eaten by the Torwetta People. (Jerry, 2010)

3. **You may quote another source (provided that you use quote-marks and it's properly attributed), IF you don't quote too many words!**

Important Note: Generally a quote that is under 200 words is acceptable, and 500 total quoted words often means you're pushing the limit. The bottom line is: Quote when necessary but don't over quote or quote excessively. If you are afraid you're quoting too much material, you probably are.

Part 5: Still feeling shaky about plagiarism? Here's what I tell MY students to do! Check this!

Students in my online classes usually use URL links for their sources so here's what I am looking for 😊

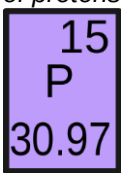
For quick fact-checking on my part, I actually ask students to place the source you used directly beside each quote / idea / image. I realize that's quite different from putting together a reference list or bibliography at the end of your work. Why would I ask you to do this? I prefer to link each of your quotes / ideas / images directly to your source as I am reading your answer so that I can quickly and efficiently fact-check your work as I go along versus doing that at the very end.

Let's assume that an assignment in chemistry asked a student to explain what the "atomic number" of an element meant.

Check the sample answer below. As you do, notice that the student answers the question in their own words and provides the URL(s) for ideas, quotes, and images *directly in the answer* as I suggested above.

An atom is composed of three primary subatomic particles (DOA 4/3/2023) which include protons, neutrons, and electrons. It is the proton that defines the atom, "Atoms of each element contain a characteristic number of protons. In fact, the number of protons determines what atom we are looking at (e.g., all atoms with six protons are carbon atoms); the number of protons in an atom is called the atomic number" (DOA 4/4/2023). The number of protons in an atom is called its "atomic number." Each element on the periodic table is distinguished by a unique atomic number in the same

way that each person has a unique fingerprint. For example, if an atom has 15 protons, this element has an atomic number of 15 and is phosphorus or "P" (see image of the element phosphorus below this answer). Likewise, if an atom has 37 protons, this element has an atomic number of 37 and is rubidium "Rb." Practically, this means that if the number of protons is changed, a new element is formed.



(DOA 4/3/2023)

Again, notice that this student…

- *DOA = date of access
- Paraphrased information in their own words.
- Included DOAs hyperlinked to the specific URL source with each idea they paraphrased or quote they used.
- Included DOAs hyperlinked to the specific URL source beside each image they used.
- Note, if you find an image from Google images, try to provide the URL of the website using the image, not just the Google image URL.

What if you are not good at paraphrasing information? Try this…

- First, write bullet points to outline your research (this could be direct quotes).
- Second, convert those bullet points into paragraphs that are in your own words (and include your DOA hyperlinked to your source URL beside your quotes AND ideas).

Part 6: So Is Plagiarism Worth It?

We've all been there. It's late at night, you're tired, and you have a big assignment due the next day. You just want to get the project done and go to bed. You have 2 choices: You could simply plagiarize the answer from a source you found on the Internet OR you could spend an extra 30 minutes working hard and getting the project done right. So is it worth it to give into the temptation to plagiarize, thereby jeopardizing your entire academic career? Of course not!

The best conclusion? **Avoid plagiarism like you would avoid the plague!**

[5] Audio-Video Recording Agreement

Discovery Institute Academy understands that because of illness or other unavoidable circumstances, an enrolled student may need to miss one or more live class sessions. To help students who miss one or more live sessions, Discovery Institute Academy may audio or video record these live sessions and make them available to enrolled students at the course's password-protected website at DiscoveryU. By signing this agreement, you (the student) and you (the parent/guardian) grant permission to Discovery Institute to audio or video record these live sessions, including audio and video of you/your child, and make these recordings available privately to other students in the course.

[6] Chemistry Standards

1st Semester

Unit 1: Doing Science

Big Picture Questions:

1. What is the scientific method? What is a controlled investigation?
2. What attitudes and practices are integral to science?
3. How can I measure using uncertainty?
4. How can I convert between different units of measurement?
5. How can I analyze data for accuracy and precision?

Course Standards:

- I can describe the scientific method and use the scientific method to analyze scientific experiments.
- I can distinguish between hypotheses, theories, and natural laws.

- I can describe the criteria of a controlled experiment and use these criteria to analyze scientific experiments.
- I can design, conduct, and analyze my own scientific experiments using the scientific method and the criteria of a controlled experiment.
- I can analyze the nature of science in terms of open-mindedness, inherent uncertainty, peer review, societal impact, etc., etc.
- I can measure using uncertainty and report measurements with appropriate units, uncertainty, significant figures, and scientific notation.
- I can convert between units of measurement using dimensional analysis. I can report measurements with appropriate units, significant figures, and scientific notation.
- I can analyze data for accuracy and precision.

Unit 2: Matter and the Atom

Big Picture Questions:

1. How did evidence collected from historical experiments lead to new models of the atom?
2. How can I distinguish between atoms, isotopes, and ions?
3. How can I use the periodic table to organize atoms by their chemical and physical properties?

Course Standards:

- I can identify matter as anything that has mass and volume.
- I can distinguish between physical and chemical properties.
- I can describe the evidence and inferences of early chemistry experiments and the corresponding atomic theories and models that evolved over time.
- I can describe the basic components, organization, and forces within the atom.
- I can distinguish between the terms element, atom, isotope, and ion and can determine their number of subatomic particles (protons, neutrons, and electrons), atomic number, mass number, charge, and notation.
- I can determine the average atomic mass of an element given the mass and relative abundance of each of its isotopes.
- I can describe the basic organization of the periodic table in terms of periods, groups, and composition (metal, nonmetal, metalloid).
- I can construct Bohr models for main group elements in periods 1-3 and interpret Bohr models for any atom.
- I can use the octet rule to predict the number of valence electrons an atom will gain/lose to become stable, identify the corresponding ion formed, and describe the trend in valence electrons and ions as you move left to right across main group elements.
- I can describe the chemical and physical properties of specific groups/regions in the periodic table (alkali metals, alkaline earth metals, transition metals, halogens, and noble gases).

Unit 3: Electrons in Atoms

Big Picture Questions:

- What is the electromagnetic spectrum and how do wavelength and frequency change as you move from one end of the EMS to the other?
- What evidence supported Bohr's model of the atom? What is the quantum mechanical model of the atom and what evidence led to this current model?
- How can we describe an electron's "address" in the atom using the quantum mechanical model?

Course Standards:

- I can create and interpret wave models which denote the rest position, peak, trough, amplitude, wavelength, and frequency of a wave and can calculate the wavelength, frequency, and velocity of a wave from those models or from descriptions.
- I can describe the relationships between velocity (c or speed of light), wavelength, frequency, and energy of light as you move across the electromagnetic spectrum.
- I can analyze the evidence for quantization of electromagnetic radiation and the dual-nature of light from Planck and Einstein's work.
- I can calculate the wavelength, frequency, and energy of a light wave.
- I can analyze and distinguish between the evidence for the Bohr model and the quantum mechanical model of the atom.
- I can describe the "address" of an electron in terms of its principal energy level, sublevel, orbital, and spin.
- I can write and interpret orbital diagrams, electron configurations, and noble gas configurations for an element.

Unit 4: Bonding - Forces within and between Compounds

Big Picture Questions:

- How can I use trends in the periodic table to predict and model how atoms connect to other atoms through chemical bonds to form compounds (i.e., intramolecular forces)?

- How can I predict and model the 3D shape and polarity of molecules, and how can I predict and model the attractions between those molecules (i.e., intermolecular forces)?
- How can I refer to covalent compounds (i.e., molecules), ionic compounds, and acids and bases by their appropriate names and formulas?

Course Standards:

- I can write and interpret an atom's valence electron configuration, predict the ion it will form per the octet rule, and write the electron configuration for the resulting ion.
- I can describe periodic trends and provide an underlying rationale for these trends.
- I can distinguish between various types of intramolecular forces (ionic, covalent, metallic bonds) and contrast the physical properties of metallic, ionic, and covalent compounds.
- I can distinguish between intramolecular forces and intermolecular forces.
- I can distinguish between various types of intermolecular forces (hydrogen bonding, dipole-dipole, London dispersion).
- I can model ionic compounds using Bohr models, Lewis dot diagrams, and bracket structures.
- I can model covalent compounds using Bohr models, Lewis dot diagrams, and Lewis structures.
- I can use the valence shell electron repulsion theory (VSEPR) to predict the shape of a molecule and determine its polarity and type of intermolecular force(s).
- I can describe a molecule's bonding in terms of orbital hybridization.
- I can use correct names and formulas for ionic compounds, covalent compounds, and acids and bases.

Unit 5: Chemical Reactions Part 1 - Recognize and Model Chemical Reactions

Big Picture Questions:

- How can I quantify the amount of a chemical substance using units of moles, mass, number of particles, or volume? How can I convert between these units?
- How can I describe a compound by its percent composition, empirical formula, and molecular formula?
- How can I distinguish between chemical and physical changes?
- How can I model chemical reactions using chemical equations, word equations, verbal descriptions, and pictures?

Course Standards:

- I can define and use the concepts of the mole and molar mass.
- I can convert between chemistry units (moles, mass, particles, volume) using dimensional analysis and report my answers with proper units, significant figures, and scientific notation.
- I can determine percent composition.
- I can distinguish between and determine empirical and molecular formulas.
- I can distinguish between pure substances (elements and compounds) and mixtures (homogeneous and heterogeneous mixtures).
- I can distinguish between and apply mixture separation techniques.
- I can distinguish between chemical changes and physical changes.
- I can represent a chemical reaction with a chemical equation, word equation, or picture.
- I can balance chemical equations.

2nd Semester

Unit 6: Chemical Reactions Part 2 - Classify Chemical Reactions

Big Picture Questions:

- How can I classify chemical reactions by their specific reactant(s) and product(s) and use these classifications to predict the outcomes of other chemical reactions?

Course Standards:

- I can classify a chemical reaction from a chemical equation, word equation, or verbal description as synthesis, decomposition, single replacement, double replacement, or combustion.
- I can use word equations or verbal descriptions to write balanced chemical equations.
- I can use chemical questions to write word equations and verbal descriptions.
- I can predict the products for a synthesis, decomposition, single replacement, double replacement, or combustion reaction, and write a balanced chemical equation, word equation, or verbal description of that reaction.
- I can identify redox reactions and identify the oxidized species, reduced species, oxidizing agent, and reducing agent.

Unit 7: Chemical Reactions Part 3 - Applications and Calculations

Big Picture:

- How can I prepare a solution of a known concentration and dilute that solution to a desired concentration?

- How can I use balanced chemical equations and stoichiometry to predict the amount of reactant(s) consumed and product(s) formed?
- How can I evaluate the efficiency of a chemical reaction using percent yield?

Course Standards:
- I can describe how to create a solution of a given molarity.
- I can describe how to create a diluted solution from a stock solution.
- I can use the coefficients in balanced chemical equations to determine the amount of reactant consumed or product produced.
- I can determine the limiting reagent of a reaction and use this to determine the amount of reactant consumed or product produced.
- I can determine the actual yield, theoretical yield, and percent yield of a chemical reaction.

Unit 8: Gases Up Close

Big Picture Questions:
- How do gases create pressure? How is pressure measured and what are the units for pressure?
- How can I model the relationships between pressure, volume, moles, and temperature of gas?
- How can I solve gas law problems?

Course Standards:
- I can (1) explain how gases create pressure, (2) use a barometer and manometer to measure gas pressure and explain how each works, and (3) convert between equivalent units of pressure.
- I can (1) experimentally test relationships between pressure, volume, moles of gas, and temperature, (2) model these relationships mathematically and graphically, and (3) provide an explanation for these relationships.
- I can solve gas law problems involving pressure, volume, temperature, and moles of gas.

Unit 9: States of Matter + Solids, Liquids, and Solutions Up Close

Big Picture Questions:
- How are the phases of matter (solid, liquid, and gas) distinct? What are the different phase changes that can occur?
- How are the types of solids distinguished by their composition, bonding, and physical properties?
- How do intermolecular forces influence the physical properties of solids and liquids?
- What is a solution? What factors influence the rate and formation of solutions?
- What is a colligative property? How does the presence of nonvolatile solute influence certain colligative properties of solutions?

Course Standards:

<u>States of Matter & Phase Changes</u>
- I can distinguish between solid, liquid, and gas phases.
- I can distinguish between specific phase changes.
- I can use a phase diagram.

<u>Solids</u>
- I can distinguish between crystalline solids and amorphous solids by their internal organization and breaking patterns.
- I can distinguish between types of crystalline solids by their composition, bonding, and physical properties.

<u>Liquids</u>
- I can analyze the effects of intermolecular forces on the physical properties of liquids.

<u>Solutions</u>
- I can describe the components of solutions and identify different types of solutions.
- I can analyze factors that affect the rate of solution formation.
- I can analyze the factors that influence solubility.
- I can determine solution concentration using molarity, mole fraction, molality, percent by mass, and percent by volume.
- I can analyze the effect of a nonvolatile solute on the colligative properties of solutions such as vapor pressure, boiling point, and freezing point.

Unit 10: Thermochemistry

Big Picture Questions:
- What causes the energy of a system to change?
- What is heat capacity? What is special about water's heat capacity?
- How can I determine the heat flow in/out of a reaction using calorimetry?
- How can I use heats of reaction, phase changes, or solutions to calculate the enthalpy changes accompanying

these processes?
- How can calculate the enthalpy for a reaction from Hess's Law or from the standard enthalpies of formation?

Course Standards:
- I can explain how a system's energy changes due to the flow of energy, work done, or a combination of heat flow and work and I can record energy using appropriate units.
- I can explain that the energy of the universe remains constant during chemical and physical changes.
- I can (1) explain the concept of heat capacity, (2) analyze how the heat capacity of a substance is related to its mass and chemical composition, (3) consider the implications of differences in specific heat capacity for substances, and (4) calculate the specific heat capacity of a substance.
- I can describe how the enthalpy of a reaction can be determined with a calorimeter and perform calorimetry-related calculations.
- I can model and predict if a reaction is endothermic or exothermic using descriptions of heat flow, thermochemical equations, enthalpy of reaction values, temperature changes to the surroundings, and energy diagrams.
- I can provide an explanation for endothermic and exothermic reactions based upon the relative potential energies of reactants and products.
- I can calculate enthalpy changes using heats of reaction, phase changes, and solution formation.
- I can calculate the enthalpy of reaction using the standard heats of formation or Hess's Law.

Unit 11: Reaction Rates, Equilibrium, and Spontaneity

Big Picture Questions:
- What factors affect the rate of a reaction and how can I measure this rate?
- What does it mean for a reaction to be at equilibrium? What factors shift the equilibrium position of the reaction?
- What does it mean for a reaction to be spontaneous and what factors influence spontaneity?

Course Standards:
- I can explain the requirements for a reaction to occur per the collision theory.
- I can model reactions using energy diagrams.
- I can identify the factors that increase the rate of a chemical reaction and provide an explanation for why/how these factors influence reaction rate.
- I can describe that reaction rates can be determined by the change in concentration or amount of a reactant or product over time and calculate reaction rates from graphs or data.
- I can design and conduct an experiment in which I manipulate a specific factor and measure the impact on reaction rate.
- I can analyze and write a formal report for an experiment in which I manipulate a specific factor and measure the impact on reaction rate.
- I can (1) interpret rate laws for a reaction, (2) distinguish between 1st-order reactions and higher-order reactions, and (3) determine the order of a reaction from experimental data.
- I can distinguish between reaction mechanisms that are one-step or multi-step and relate the rate-determining step in multi-step reactions to the overall reaction rate.
- I can describe the state of equilibrium.
- I can write and interpret Keq expressions.
- I can use Keq expressions to solve for the Keq constant or equilibrium concentrations of reactants or products.
- I can apply my understanding of Keq expressions to write, interpret, and solve Ksp expressions.
- I can predict how changes in temperature, pressure, and concentration affect the equilibrium position of a reaction using Le Châtelier's principle and provide an explanation for why/how these factors influence the equilibrium position.
- I can distinguish between spontaneous reactions and nonspontaneous reactions and analyze how the factors of enthalpy and entropy affect the spontaneity of a reaction.
- I can predict the spontaneity of a reaction using the Gibbs free energy equation.

Unit 12: Acids and Bases

Big Picture Questions:
- How can I characterize acids and bases?
- How can I determine pH and how can I use pH to determine if a solution is acidic, neutral, or basic?
- How can I use Ka/Kb expressions to model acid and base dissociation?
- What is a neutralization reaction?

Course Standards:
- I can describe common properties of acids and bases and be able to identify acids and bases.
- I can distinguish between Arrhenius acids/bases, Brønsted-Lowry acids/bases, and Lewis acids/bases.
- I can identify a conjugate acid-base pair.
- I can (1) analyze the self-ionization of water, (2) consider how water acts as an acid and base, and (3) connect

this to the Kw of water.
- I can use the pH scale to describe how acidic, neutral, or basic a solution is.
- I can calculate pH, pOH, [H+], and [OH-] and describe a solution as acidic, neutral, or basic.
- I can distinguish between pH indicators and pH meters as two methods of measuring pH.
- I can distinguish between strong/weak acids and strong/weak bases by their degree of dissociation and corresponding Ka/Kb value.
- I can write Ka/Kb expressions for acid and base dissociation and use Ka/Kb expressions to solve for the equilibrium constant or concentrations.
- I can predict the products of an acid-base reaction and write a balanced chemical equation for this.
- I can calculate the moles of acid/base needed for neutralization using stoichiometry.
- I can summarize the steps involved in a titration and calculate the concentration of an unknown solution using a titration.
- I can analyze how the salt produced in an acid-base reaction influences the pH at the equivalence point.
- I can describe the components and function of a buffer.

Unit 13: Nuclear Chemistry

Big Picture Questions:

- What factors influence nuclear stability?
- What are the distinctions between fission, fusion, and radioactive decay? What applications are there for these nuclear reactions?
- How is a nuclear reaction distinct from a chemical reaction?

Course Standards:

- I can summarize key observations that led to the discovery of radiation.
- I can discuss the factors that influence nuclear stability.
- I can explain that radioisotopes undergo radioactive decay to become stable isotopes and I can distinguish between different types of radiation emitted.
- I can (1) use the band of stability to predict if an isotope is stable or unstable (radioisotope), (2) predict the type of radioactive decay it might undergo, and (3) provide an explanation for this.
- I can analyze how unstable isotopes (radioisotopes) undergo radioactive decay at a rate called “half-life” and consider half-life applications.
- I can analyze the process of nuclear fission and consider its applications.
- I can analyze the process of nuclear fusion and consider its applications.
- I can consider radiation applications in my daily life.
- I can compare and contrast the three types of nuclear reactions - radioactive decay, fission, and fusion.
- I can compare and contrast nuclear reactions with chemical reactions.