

## Pre-IB Chemistry – Adams/Brown

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Welcome back students and parents! Now more than ever a good science education helps you to think critically and make informed decisions about the world around you. Together as a class we look forward to exploring the world of chemistry together with you and have expectations that every student will grow over the course of the semester in a variety of skills including data processing, analysis, critical thinking and creative problem solving in addition to growing your foundations about the realm of chemistry. It is up to the student to shoulder the responsibility for learning in this class by utilizing the resources provided to them (including us your teachers) and not begin afraid to ask questions or express a lack of comprehension. If you accept this challenge, you will be more than ready for college chemistry. The variety of learning strategies afford for an engaging and exciting but rigorous learning environment.

Parents, thank you for giving us the opportunity to spend the year teaching your child. We hope that we can work **together as a team** to ensure that your son or daughter grows from this experience and leaves our classrooms at the end of the year having been enriched by our class. Not only does chemistry build upon the laws of the universe learned in biology, it develops in students their critical thinking and information processing skills, both important skills in today's 21<sup>st</sup> century environment where information is one Google search away. We want this journey to be a fruitful one for all parties, so feel free to contact us via email or phone if you have questions or concerns (see "Communication" section).

### **IB Chemistry Aims**

Through the study of Group 4 material, students should become aware of how scientists work and communicate with each other. The aims enable students through the overarching theme of the Nature of Science to:

1. Appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
2. Acquire a body of knowledge, methods, and techniques that characterize science and technology
3. Apply and use a body of knowledge, methods, and techniques that characterize science and technology
4. Develop an ability to analyze, evaluate, and synthesize scientific information
5. Develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
6. Develop experimental and investigative scientific skills including the use of current technologies
7. Develop and apply 21st century communication skills in the study of science
8. Become critically aware, as global citizens, of the ethical implication of using science and technology
9. Develop an appreciation of the possibilities and limitations of science and technology

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10. Develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

### Materials

For this class you will need the following materials:

- A pdf of the textbook we will be using (Chemistry Atoms First 2nd Edition from [OpenStax](#)) Note: this is an open source textbook that is used in many places including the general chemistry class at UGA
- A bound composition notebook for taking notes and participating in labs
- A scientific calculator
- Pencils
- Pens (blue or black)
- Several dry erase markers (Expo, for your own use not mine!)
- A ruler with metric units
- Curiosity and an open mind
- A willingness to work

### What We Will Learn

Chemistry is the branch of science that is devoted to investigating and understanding matter, its structure and composition, and how it behaves. This involves a wide scale ranging from the particles observable only under high magnification to enormous objects such as the Sun. The material for this class is grouped into units as presented below:

- Classifying and Measuring Matter
- Atomic Theory
- The Periodic Table, Periodicity, and Periodic Trends
- Bonding/Nomenclature, Intra/Intermolecular Forces
- The Mole, Molar Math, and Compound Analysis
- Reactions & Stoichiometry

### How We Will Learn

We believe in a very hands-on approach to teaching chemistry. This will look a little differently this year due to our hybrid learning and the continually evolving world of living during a pandemic. The key word for this year is **FLUID** since a fluid is something that conforms to the situation it is in. This is slightly better than being flexible since even flexible things can break. This model of instruction will be evolving and updating as our situation changes but no matter how things change we plan on fostering the best learning environment possible. We are willing to change and meet you where you are to enable you to reach your full

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potential in the world of chemistry but it requires you to take some initiative, reach out to us as needed, and to be an **ACTIVE PARTICIPANT** in the learning process.

### Grading System

The grading scale for this class will adhere to the Douglas County Grading Policy: A (90-100), B (80-89), C (71-79), D (70), and F (Below 70). Your grade is based on weighted percentages as displayed below.

Type of Assignment	Category	Weight
Tests	Summative	30%
Projects		
Lab Reports		
Classwork	Formative	50%
Homework		
Quizzes		
Final		20%

It is your responsibility to complete all assignments. We do not believe in “busy work” & everything assigned is necessary for your success in this class. It is essential that you stay on top of your work & realize areas where you need help. **Take advantage of class time, the class Google Chat and tutoring to get help in these areas.** You must ask questions & seek help when needed or I will not know your concerns. **Chemistry is a subject that builds over the entire semester. Getting behind in one unit will leave you trying to catch up for the rest of the curriculum.** Some work for each unit will not be collected until the day of the test so it is your responsibility to be organized and complete all assignments by the day of the test. No late work will be accepted.

We will conduct multiple labs throughout the course of the year with various write-ups that adhere to the PIB Sophomore Lab Report Guidelines.

Grades are also published on the school’s secure website (Infinite Campus) accessible with a combination of individualized codes. We encourage parents to check this frequently and to communicate with me so that we can better work as a team to serve your son or daughter. We will do our best to keep these electronic grades up to date. Expect them to be accurate at the end of each week with the exception of major projects or tests recently turned in.

Students will be allowed to retake each quiz one time within one week of the quiz being graded. Those students exhibiting good attendance (*less than three absences and less than four tardies* - excused or unexcused) will also be allowed to **replace their lowest summative grade**

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based on their performance on the final. There are no final exam exemptions. Any instances of cheating or plagiarism will result in a zero.

**Classroom Protocols:** The motto for our classroom is “Expect Excellence”. This motto is one that we use to emphasize that we expect our students to put forth their best effort in whatever they do in our class. We expect to challenge your son or daughter throughout this semester and help them grow as a learner and as a person. In order for us to help your son or daughter to grow, the classroom needs to have an effective learning environment. To that end, there are several areas where issues may arise. These policies are written below and apply to a digital learning environment.

- 1. Classroom Rules:** Our classroom works under six rules that we have designed to create and maintain the necessary positive, orderly atmosphere during digital learning. These rules are detailed below. Infractions of these rules will result in disciplinary action.
  - a. Be logged in the appropriate Google Meet with video on and audio muted ready to start class when the “bell rings”**
  - b. No inappropriate language or inappropriate content to be shared**
  - c. Raise your “hand” on Google Meets if you have a question or a comment (get this [Chrome Extension](#) if you don’t already have it)**
  - d. Listen and obey all instructions the first time around**
  - e. Technology stays put away unless being used as part of the class**
- 2. Tardies:** Tardies interfere with learning. It is my expectation that all students should be in their assigned seats with needed materials out, ready for instruction, when the bell rings. Restroom needs should be fulfilled before or after class. As the end of class nears, students need to be sure all lab areas are clean and equipment is replaced to the proper positions. Everyone needs to be seated and quiet before dismissal so as not to miss any announcements.
- 3. Absences:** Over the course of the year, there will be times when you will be absent. If an absence occurs, please check with a classmate, the class website, or Google Classroom for missed assignments. Make-up work for an absence will follow Douglas County High School policy so students who miss a class will be allowed 5 days to make up work. If a student is unable to take a test on the appropriate day, they will need a parent email to explain the issue before being allowed access to the test.
- 4. The Lab:** One component of chemistry is investigations in a laboratory setting, something that is very difficult to replicate at home. However, we will be trying our best to integrate it as best as we can since the science laboratory can be a source of unlimited learning that builds conceptual knowledge alongside practical skills. This may take the form of take-

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home labs to be done or through providing video replications of the experiment with data to be processed. We will still be teaching laboratory safety to prepare for the return of in-person learning. Once in-person learning has returned, students unable to employ safe lab conduct will be excluded from lab activities and *receive a zero*. There will be no alternate assignment. Attached to this letter is our science department's **LABORATORY SAFETY CONTRACT**. Please read it carefully, then sign it, and keep it readily accessible until we return to school.

5. **Late Work:** Assignments will be accepted after the due date but require the students to submit a response to the LATE WORK GOOGLE FORM taking ownership by giving two reasons why they did not complete the assignment on time and two strategies they will follow in the future to complete assignments on time. The Google Form response must be SUBMITTED in place of the assignment on the due date to prevent a loss of points on the assignment. However late assignments without a letter or students that have more than 5 late assignments will incur a 10 point penalty per class day and their work will not be accepted after the third late class day.
6. **Tutoring:** As the semester progresses and we learn increasingly difficult material, the need for tutoring may arise. I am available before (7:45-8:10) or after school (3:25-3:45) to help aid in your understanding of the material. The links to the google meets for these tutoring sessions are available on my website.
7. **Extra Credit:** To offer a challenge to some students and to help those who may find that chemistry is not their strong suit, there will be a handful of extra credit opportunities available throughout the year that we would strongly encourage you to take advantage of.

### Communication

There are several ways to get in touch with us or to learn more about the class. The first and foremost method available to you is the class website: [www.adamschemistry.com](http://www.adamschemistry.com) or . This website will include posts about what is happening each day along with some links to good references. This website is critical for those who miss class and want to get a head start on their work. We can be reached by email at [andrew.adams@dcssga.org](mailto:andrew.adams@dcssga.org) or [heather.philips@dcssga.org](mailto:heather.philips@dcssga.org) . Our aim is to respond to all emails within a 24 hour period. Finally, we will use a Google Chat Room that students will be invited to once school begins to send reminders about upcoming tests and related information. This can also be used to ask questions about assignments to their peers as well as us. Lastly, please pay attention to the IB 10<sup>th</sup> Grade Google Calendar that can be accessed through the school's IB website. This should include the due dates for all major assignments.

*Thank you and we are looking forward to an excellent year! – Mr. Adams/Ms. Brown*

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## *Course Syllabus Agreement Form*

Please read and fill out the front and back of this sheet and return it to Mr. Adams/Ms. Brown, take a picture, and submit it to the correct Google Classroom assignment

*We have read and understood the Course Syllabus for Mr. Adams'/Ms. Brown's class detailed above. In addition, we have read and understood the LAB SAFETY CONTRACT on the following page. We agree to abide by the rules and procedures set forth in each.*

*Finally, we agree to work as collaborators with Mr. Adams/Ms. Brown as they seek to instruct our son or daughter. We recognize that they have provided us with appropriate methods of communication for us to use to address concerns or questions should the need arise.*

*Due to digital learning, quizzes and tests will be assigned to take at home. Students are expected to work alone and without a cellphone during these assessments. They will not use notes nor will they use resources to look up the answer to any question. In addition they are not to take a picture, screenshot or any other form of duplication of the assessment. By signing below we are agreeing to these rules and acknowledge that any violation of this policy is a violation of the school's Academic Honesty Policy.*

STUDENT NAME (printed) \_\_\_\_\_

STUDENT SIGNATURE : \_\_\_\_\_

Date: \_\_\_\_\_

PARENT SIGNATURE : \_\_\_\_\_

Date: \_\_\_\_\_

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### *Lab Safety Contract*

*As your teacher, I will provide the best possible environment in which to conduct scientific investigations. In return, I expect the learner to agree to the following conditions:*

1. At all times when working in or visiting a science laboratory, the student will use good safety practices. The student will not engage in horseplay, teasing or other undesirable behavior. S/he will immediately report all physical and chemical injuries to the instructor.
2. The student will know the exact location and operation of all necessary safety equipment, including fire extinguishers, fire blankets, emergency showers, eyewash stations, etc.
3. The student will never work unsupervised in the laboratory. S/he will do only the experiment assigned (or approved) by the laboratory instructor. S/he will be familiar with the laboratory activity before beginning any procedures.
4. The student will 'accessorize' her/himself to provide the maximum protection when working in the lab. This will include wearing safety eyeglasses, a lab apron, closed-toe shoes, rolling back sleeves, pulling back hair and securing loose jewelry. Points are taken off the lab grade if safety measures are not followed. Repeated offenses will result in expulsion from the laboratory and a grade of zero assigned for that lab activity.
5. The student will carry into the lab area only those materials necessary to conduct the activity.
6. The student will NEVER eat, drink, smoke, chew, or apply make-up in the lab. This includes gum.
7. Cell phones may be used as scientific devices during lab, as instructed by teacher. Cell phones may not be used for texting, gaming, or otherwise during laboratory activities.
8. The student will clean up the lab area and wash her/his hands thoroughly before leaving the lab. Waste materials and used chemicals will be disposed of in the proper containers.
9. When applicable, the student will read the labels on all reagent bottles and containers to make certain they contain the right chemicals for the experiment. S/he will not hesitate to ask the instructor if at all uncertain of the procedures.
10. When a student breaks lab equipment due to negligence or while breaking any of these rules, a hold will be placed on their grades until the equipment replacement price is paid.