

# Exam Tips

## Preparing for the Exam

### Get Ready, Get Set.....

You are strongly encouraged to study outside of class. Start to review early in April. Use a study outline (teacher supplied or your own) to focus on the concepts and skills most likely to be tested. If your teacher offers tutorial sessions, make every effort to attend. Consider studying in groups to go over challenging problems and/or concepts, and ask your teacher for help when you have difficulties. The night before the exam, be sure to remember such basics as getting plenty of sleep, eating a healthy breakfast, and dressing comfortably and warm enough for the room environment.

### Take a deep breath

You will be presented with challenging but straightforward questions designed to give you an opportunity to demonstrate what you have learned in the AP Chemistry course. Seize the opportunity and do your best. Be confident! Keep in mind that no one expects perfection from you on this exam.

## Strategies and hints for answering Multiple-Choice Questions (MC)

There are two types of MC questions on the AP Chemistry Exam, discrete items and item sets. The discrete items are the typical stand-alone test question in which four choices, A-D, are given from which the correct answer is to be selected. Item sets will have two or more test questions, each with four choices, A-D, based on a graph, an experiment, a set of data, or some other stimulus given at the beginning of the set.

### Pace Yourself and Achieve

Remember that you will have access to both the AP Periodic Table of the Elements and the AP Chemistry equations and constants sheet for the entire exam.

For even pacing and maximizing your score, try the following strategy:

1. Examine each question for a maximum of forty seconds (on the average, some will take less time allowing more time for others, like item sets).
2. Quickly determine the subject of the question. Remember that there will be some math questions but their solutions will be based on basic calculations, rounding, estimating, and approximation.
3. By the end of the forty seconds either:
  - a. Mark the correct answer from one of the four answer choices.
  - b. Mark a "Y" next to the questions that you know how to work but need more time.
  - c. Mark an "N" next to the questions that you don't have any idea how to work.
4. Force yourself to move through fifteen questions each ten minutes and the full sixty questions in forty minutes.
5. Now make a second pass concentrating on the "Y" questions only. Do not spend any time on the "N" questions. If you don't know the correct answer see if some key piece of knowledge will allow you eliminate two or three of the choices. Complete this pass in forty minutes.
6. Now make your third pass. Focus only on the "N" questions. Attempt to eliminate at least two choices. Make an intelligent guess. Any correct "guesses" on this pass are bonus points. You have only ten minutes, so make it count!
7. You should try to answer ALL questions. Remember that there is NO penalty for guessing.

## Strategies and hints for answering Free-Response Questions (FR)

There are two types of FR questions on the AP Chemistry Exam, 3 are long, multipart questions, and 4 are short, single/multipart questions. The questions cover all six big ideas in the chemistry course and will pertain to experimental design, analysis of lab data and observations for patterns or explanations, analysis or creating atomic or molecular views to explain observations, translating between representations, and following a logical analytical path to solve problems. You should pace yourself to allow for approximately 10 minutes each for the short questions and about 16 minutes each for the long questions.

### Read, Read, Read

Read each free response question all the way through **before** doing any work. Spend more time reading and less

### Next steps

- [Enrolling in the course](#)
- [Understanding exam fees and reductions](#)
- [View Calculators and Commonly Used Equations](#)

Interested in taking AP Chemistry? Talk to your teachers and counselors about finding the right course for you.

## AP & Your Future

AP Chemistry can lead to ...

**84**  
Career  
Areas

**48**  
College  
Majors

### Explore your future

#### Related courses

- [AP Biology](#)
- [AP Environmental Science](#)
- [AP Physics 1: Algebra-Based](#)
- [AP Physics 2: Algebra-Based](#)
- [AP Physics C: Electricity and Magnetism](#)
- [AP Physics C: Mechanics](#)

#### Recommended course preparation

- Successful completion of a first-year high school chemistry course
- Successful completion of a second-year algebra course

**Want to know the AP credit policy of a particular college or university?**

**Search AP credit policies**

**Did you just take**

time writing to make sure you really understand what is being asked. A good approach might be to start reading at the bottom and read back to the beginning to get the global view of the problem or question.

### Be Smart About Multi-part

The short and the long AP Chemistry questions have several parts. Read all the parts before you start answering and think about how they might be related (sometimes they aren't). If any part asks you to answer a question based on your results to the previous parts, be sure to actually use your prior results to answer. If you couldn't do one of the previous parts, make up an answer and explain what you would have done.

### Maximizing Credit

Answer the question that is asked as specifically and concisely as possible. Do not simply restate the question.

When a choice asked requested, such as "increases, decreases, or remains the same", make sure your answer is one of the three choices given. If you are asked to select the best answer, make a single selection and justify the reasoning for making that choice.

"Explain or justify your prediction" usually means that a correct prediction without an explanation will not earn a point. Be sure that an explanation or justification goes beyond a simple restatement of information given in the problem.

If you are asked to make a comparison, mention both possibilities and then make a single choice with accompanying justification.

Remember that you might be getting partial credit. Answer any part of the question, about which you have any knowledge.

### AP Readers Read Your Responses

Communicate clearly and precisely. Vague, unclear, and rambling answers often make it impossible to determine whether students fully understand the chemistry required in the question.

You may encounter questions that sound strange or unfamiliar. Use the knowledge you have to try to determine what a plausible approach might be. Nothing you put down will earn less credit than a blank page.

Remember, AP Readers can best grade your exam if you write legibly and use proper grammar. Write in pencil or blue-ink pens and avoid using pens that smear easily. Write all answers in the lined spaces provided instead of squeezing words in between the question parts.

Avoid vague generalizations when answering questions. Give details as often as possible.

Do not continue writing further explanations after the question is answered. There will be much more space supplied than you need to respond. Certainly, don't panic because you haven't used all the space provided. Students have been known to contradict themselves when their responses go beyond the required answer.

### Be Consistent

Consistency is important. Consider your prior answers: be sure to answer the next related questions based on the prior answers given. If the next answers do not make sense, reconsider your original proposal.

### Words, Words, Words (symbols too)

Use appropriate scientific language when answering questions. It is not acceptable to refer to an atom as a "molecule" or an "ion" or to refer to an intermolecular force as a "bond."

Know proper chemistry symbols and notation (e.g., **mol** versus **m** versus **M**, **k** versus **K**, parentheses notation versus brackets, the appropriate use of superscripts and subscripts, etc.).

### What's Trending?

Understand that referencing a periodic trend or identifying a filled shell or subshell does not constitute an explanation of atomic property differences. You will not receive any credit by referencing a position on the chart, such as in this response: "Na is larger because it is on the left side of the chart" or "is smaller because it is at the top position in its group". Be able to cite the underlying physical principles of charge attractions and repulsions, often described by using effective nuclear charge, or number of shells, that are responsible for these property trends.

### May the (Intermolecular) Force Be With You

The bonds between atoms in molecules must be distinguished from the interactions that keep the molecules attracted to each other. The forces within a molecule (Intramolecular) are different from the forces between the molecules (Intermolecular).

### It Should All Add Up

## the PSAT/NMSQT?

If you did, it can help you find the courses that are the best fit for you.

[Visit My College QuickStart](#)

## Course not offered at your school?

Talk to your counselor about taking the course online through an approved provider.

[Learn how to get started](#)

Since a calculator is allowed for the entire free response section, accurate answers are expected. Be familiar with the functions on your scientific calculator in order to select the appropriate calculator buttons. For example, some calculations might involve the entry of numbers in exponential notation, the conversion into or from common and natural logs, and perhaps percent.

Remember that you will have access to both the AP Periodic Table of the Elements and the AP Chemistry equations and constants sheet.

Watch for careless errors; be sure that numbers used for calculations are the numbers given in the question, paying close attention to exponents, especially the sign of the exponent.

Even for simple calculations, show your work. Don't just give them the numbers. A correct answer with no supporting data often will not earn all possible points.

Check the "reasonableness" of numerical answers. (There are no negative equilibrium constants, Kelvin temperatures or bond energies)

Remember that if you cannot solve an earlier part of a problem, you may still get some credit for a later section by showing how you could use the earlier answer in succeeding parts of the problem, even if you solve a problem by correct substitution of an incorrect or an assumed value.

### **Is it Significant?**

Review and consistently apply rules for significant figures, and avoid rounding off before the final answer. (Round calculations to appropriate significant figures at the end of the problem.)

### **Units, Units, Units**

Include units in your final answers as appropriate. If no units are specified, use the most convenient units.

### **Graphs, Graphs**

Any graph you are asked to draw should have clearly labeled axes with appropriate scales.

Be familiar with the methods used to linearize data, such as using the natural log or the reciprocal of the data.

## **Lab questions**

### **Designing an experiment**

In laboratory-based questions, never indicate that you will measure volumes with a reaction vessel, like a beaker or an Erlenmeyer flask. All volume measurements must take place in a calibrated instrument (graduated cylinder, volumetric flask, volumetric pipet, etc.).

### **Error analysis**

Recognize that a variety of errors implicit in every measurement made in the laboratory will have an effect on final calculated answers—and be able to describe that effect in terms of increasing, decreasing, or having the final result stay the same.

### **Titration Curves**

For complete understanding, recognize the important regions or points in a titration curve. They are the initial pH, the buffer region, the inflection point, the equivalence point, the pH at the equivalence point, and the region where the pH levels off at the end of the titration. Distinguish clearly between endpoint and equivalence point with specific examples from the laboratory (not just by definition). Also be able to compare concentrations of the species at each point and region.

### **Percent error**

Distinguish between the different types of percent: percent error, percent yield, and percent of a component.

**Good Luck! Strive to be better!**