

# A Guide for Students

Mathematics 30–1  
Mathematics 30–2  
Chemistry 30

Biology 30  
Physics 30  
Science 30

Preparing to Write a Mathematics or Science Diploma Examination 2015



*Alberta* Government

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This guide has been prepared by staff in Provincial Assessment at Alberta Education. We develop the diploma examinations and are involved in the assessment of thousands of high school students each year. The purpose of this guide is to provide students with information that will increase their likelihood of success on the diploma examinations in mathematics and science.

Guides for Students for diploma-examination subjects other than mathematics and science, as well as additional materials on how to prepare for diploma examinations, can be found on the Alberta Education website at [education.alberta.ca](http://education.alberta.ca).

## *Design of Diploma Examinations*

Your school-awarded mark is worth 70% of your final mark in any course that offers a diploma examination. Your diploma examination mark is worth the remaining 30% of your final mark. More information about the weighting of diploma examinations can be found at <http://education.alberta.ca/admin/testing/diplomaexams/>.

If you are taking a diploma examination course through an accredited Alberta high school, then your school will register you to write the examination for the course in which you are enrolled.

Mature students may write diploma examinations without taking diploma examination courses and may write these examinations in any writing session. If you are a mature student and intend to write a diploma examination without taking the course, you must submit a completed Diploma Examination Registration/Rewrite Fee Payment Form to Alberta Education by the dates specified on the form. You also need to make arrangements with the principal of the high school or the designated writing centre where you intend to write so that a space and an examination will be available for you.

Diploma examinations in mathematics and science are machine scored and contain both multiple-choice and numerical-response questions. Multiple-choice questions are worth one mark each and require you to select the best answer.

Numerical-response questions are worth one mark each and require you to fill in a sequence of numbers or record a calculated value on your answer sheet.

The number and types of questions on each mathematics and science diploma examination are shown in the table below.

| Subject          | Number of Multiple-choice Questions | Number of Numerical-response Questions | Total Number of Machine-scored Questions |
|------------------|-------------------------------------|--|--|
| Mathematics 30-1 | 28                                  | 12                                     | 40                                       |
| Mathematics 30-2 | 28                                  | 12                                     | 40                                       |
| Biology 30       | 48                                  | 12                                     | 60                                       |
| Chemistry 30     | 44                                  | 16                                     | 60                                       |
| Physics 30       | 36                                  | 14                                     | 50                                       |
| Science 30       | 39                                  | 16                                     | 55                                       |

Students have 3 hours in which to complete their mathematics and science diploma examinations. Special accommodations are available to some students. For more information, contact your school administration or counselling department.

## *Preparing for Diploma Examinations*

The best way to prepare to write diploma examinations is to start with a positive attitude and establish good study habits. Set yourself up for success at the beginning of the course. Attend class regularly, actively participate in classroom and laboratory activities, and complete all assignments. The skills and knowledge that you gain in the course are essential to your success on the diploma examination.

Preparation for diploma examinations goes beyond memorization of facts. Be prepared to analyze information, interpret data, and apply your knowledge and skills to new contexts.

Subject-specific sample questions and previous diploma examination questions are available online at <https://questaplus.alberta.ca>.

## *Examination Day*

On examination day, arrive early and get organized. You are responsible for providing your own HB pencil, eraser, and calculator for writing diploma examinations. No print or electronic dictionaries or texts are allowed. A straight edge and protractor may be used. Remember to relax and do your best. Mark questions that you cannot immediately answer and come back to them later. Pace yourself and answer every question.

For each question, read the instructions, then carefully read the context and the question or questions you will be answering. For multiple-choice questions, read the stem of the question and formulate an answer to the question in your mind before looking at the four alternatives given. Then look at the four alternatives and find the answer among them. Some questions are more difficult than others and will require you to choose the best answer among several alternatives that seem plausible. For numerical-response questions, pay close attention to the instructions below the question so that your answers are expressed or rounded appropriately with the correct number of digits.

## ***Using Calculators***

Mathematics and science diploma examinations require the use of a prescribed calculator. The calculator policy, calculator criteria, and keystrokes required for clearing approved calculators can be found in the General Information Bulletin on the Alberta Education website at [education.alberta.ca](http://education.alberta.ca).

## ***Rescores and Rewrites***

You can request that your examination be rescored. Keep in mind that if you do request a rescore, the mark resulting from the rescore will be your final examination mark, even if it is lower than the original mark.

You may also choose to rewrite a diploma examination during regularly scheduled writing sessions. If you rewrite a diploma examination, the highest mark you achieve will be counted.

Mathematics and science diploma examinations are offered during the following writing sessions:

| <b>Subject</b>   | <b>Writing Sessions</b>                    |
|------------------|--|
| Mathematics 30-1 | November, January, April, June, August     |
| Mathematics 30-2 | January, April (online only), June, August |
| Biology 30       | November, January, April, June, August     |
| Chemistry 30     | November, January, April, June, August     |
| Physics 30       | November, January, April, June, August     |
| Science 30       | January, April (online only), June, August |

Information, including deadlines, on rewrites and rescores, forms, and fees is available on the Alberta Education website at [education.alberta.ca/admin/testing/diplomaexaminations/diplomabulletin.aspx](http://education.alberta.ca/admin/testing/diplomaexaminations/diplomabulletin.aspx).

## ***Frequently Asked Questions (FAQ)***

**Do all diploma examinations in one subject have the same difficulty?**

*All examinations in a given subject are built to the same blueprint specifications and standards, regardless of when they might be administered.*

**Will all of the curriculum be covered on the diploma examination?**

*Although it is impossible to cover every single outcome in a program of studies on one test, every effort is made to cover as much of it as possible, with the focus on applying your knowledge and skills to contexts you might never have seen before.*

**Does the diploma examination have more difficult or different content than what is learned in class?**

*The diploma examination is based on the program of studies for the course. You will have learned the knowledge and skills outlined in the program of studies, so you should be well prepared for your diploma examination. Sometimes, students will see unfamiliar contexts on the diploma examination, but the understanding you gained in class will have prepared you to integrate your knowledge and skills with the new context so that you can answer the question.*

**Are all of the questions on the diploma examinations new each year?**

*Approximately 20% of the questions on a diploma examination have already been administered. These questions serve as anchor items, which allow examinations administered at different writing sessions to be compared to each other. The remaining (approximately 80% of) questions are completely new each time.*

**Where can I find copies of previously administered diploma examinations?**

*Some questions that have appeared on previous diploma examinations are available both on Quest A+, Alberta Education's online testing site, and on the Alberta Education website in a section called "Released Materials."*

**Could there be a mistake on the diploma examination?**

*Diploma examinations are developed and reviewed thoroughly and meticulously to very high standards. Should an error occur on a diploma examination, various steps can be taken to mitigate the error. In such rare cases, every effort is made to ensure fairness to students.*

**Do I even need the context box to answer the question?**

*Yes, you should read each context box carefully, because the information is necessary to address the question fully.*

**Should the number of A, B, C, and D answers be equal?**

*On most diploma examinations, the distribution of As, Bs, Cs, and Ds is relatively equal.*

**Are there trick questions?**

*There are no questions on diploma examinations that are designed to trick students.*

**If I do not erase an answer completely, could it skew my score?**

*Although the scanning machines are generally able to differentiate between erased marks and intended marks, it is always in students' best interests to erase completely. If you feel that incompletely erased marks may have skewed your results, you can apply for a rescore.*

**If I calculate an answer that is not one of the alternatives, should I pick the closest one?**

*Choosing the closest answer is one strategy, but this situation might indicate that you have made a mistake. If you have time, read the context and question over again and try to analyze where you might have made an error.*

**Is the longest answer usually the correct one?**

*The longest answer is not necessarily the correct answer. A good strategy is to read the question and determine the answer for yourself before you look for that answer among the multiple-choice alternatives.*

**If I round an answer incorrectly am I automatically wrong?**

*You should always follow the rounding rules appropriate to your subject area, and read and follow the instructions below each numerical-response question carefully. In certain cases, multiple correct answers are accepted to account for differences in rounding.*

**What happens if I get a negative answer for a numerical-response question?**

*The negative sign will precede the response blank if the correct answer is a negative number.*

**Could there really be more than one right answer?**

*Multiple-choice questions have only one correct answer. Sometimes, students will need to choose the best answer among several that seem plausible. Some, but not all, numerical-response questions have several correct answers.*

**Can I just walk in and write a diploma examination without pre-registering?**

*Some diploma examination sessions require students to pre-register and do not allow students to just walk in and write the examination. For specific rules regarding which sessions and examination-writing centers allow unregistered writing, see the Diploma Examinations General Information Bulletin at [education.alberta.ca](http://education.alberta.ca).*

**What am I allowed to bring into the examination room?**

*In addition to a pencil and pen, you may bring an approved calculator, a ruler, and a protractor into the examination room. You are not allowed to bring in print materials, including papers, notes, or books, and you are not allowed to bring in electronic devices, including audio players, cellphones, headphones, or other devices.*

**If I look at a cellphone during a diploma examination, will my examination results be disqualified?**

*Cellphones are not permitted in the examination room. If you are in possession of a cellphone, even if it is turned off, or any other unauthorized materials, your diploma examination results could be invalidated.*

**How can I receive accommodations?**

*Accommodations for diploma examinations are available and need to be arranged well in advance of your diploma examination. Consult your school counsellor or principal for more information.*

**Am I still allowed to bubble in my answers after time is up?**

*No, you are not allowed to fill in bubbles after time is up. Make sure that you have filled in the bubbles on the score sheet before the end of the administration time.*

**Who marks the examinations?**

*Mathematics and science diploma examinations are machine scored. Rescores are hand scored by staff in the Provincial Assessment Sector of Alberta Education.*

**Will I be penalized if I rewrite a diploma exam?**

*There is no penalty for rewriting a diploma examination. Regardless of the number of times you write a diploma exam, your highest mark will be the one that is counted.*

## ***Additional Information***

More-detailed information about diploma examinations is available in the subject-specific information bulletins, which are available on the Alberta Education website at [education.alberta.ca](http://education.alberta.ca).