



Grade 6 Subject Bulletin Science

Alberta Provincial Achievement Testing **2026–2027**

This document was written primarily for

Students

Teachers ✓ Grade 6 Science

Administrators ✓

Parents

General Audience

2026–2027 Science 6 Subject Bulletin

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You can find provincial achievement test-related materials and additional topics of interest on the [Provincial Achievement Tests](#) webpage.

Grade 6 Science Provincial Achievement Test

General description

The *Grade 6 Science Provincial Achievement Test* consists of 50 questions of various formats supported by the digital assessment platform, each worth one mark.

The questions are placed in real-life contexts. Frequently, a number of questions will be clustered around a common context. The questions will have contexts drawn from the knowledge, understanding, skills and procedures (KUSPs) from the Science 6 curriculum and from supporting KUSPs from previous grades. The learning outcomes assessed are listed under Reporting Category for the Science 6 Provincial Achievement Test blueprint.

The test is developed to be completed in 60 minutes; however, students have up to 120 minutes to complete the test should they need it.

The use of a calculator is **not** permitted. Rulers and protractors are not required for successful completion of the assessment but are permitted. A ruler, and a protractor are available in the digital assessment platform.

A dictionary, a thesaurus, or other reference materials are **not** permitted for students writing the test. If a word that warrants a definition is used on a test, it will be defined on the page on which it appears.

Any *Written-response bilingual blank paper* needed for rough work must be provided to students by the supervisor and collected by the supervisor at the end of the provincial achievement test administration and securely shredded. This document can be found in the Key educator resources section on the [Provincial Achievement Tests](#) web page.

It is important to remember that one test cannot measure all the components within the learning outcomes in the Science 6 Curriculum.

Description of Grade 6 Science provincial assessment standards

The following statements and examples describe what is expected of Grade 6 students at the acceptable standard and the standard of excellence, based on outcomes in the [Grade 6 Science Curriculum](#). These statements represent examples of the standards against which student achievement is measured. It is important to remember that one test cannot measure all the outcomes in the Grade 6 Science Curriculum.

Acceptable Standard	Standard of Excellence
Students who meet the acceptable standard in Grade 6 Science are able to: • apply knowledge, understanding, skills and procedures to simple and familiar situations, but they may be challenged when applying these concepts and procedures to unfamiliar or complex situations. For example, students can design and carry out a controlled experiment by identifying variables, controlling conditions, and collecting and reporting data. • apply basic skills to show what they know and solve novel, real-life problems that require a single-step solution. For example, students can use evidence from a controlled experiment to show that the mass of a substance remains the same before and after a phase change. • apply sequential skills or follow multi-step procedures to solve familiar real-life problems. For example, students can relate photosynthesis to a given plant situation by explaining how plants use light, water, and carbon dioxide to produce food and release oxygen. • apply the basic procedures of scientific inquiry, technological problem solving, and societal decision making. However, they may have limited ability to make connections between science, technology, and society. For example, students may limit their explanation of environmental stewardship to common personal actions such as using the correct bins for recycling and waste.	Students who meet the standard of excellence in Grade 6 Science are able to: • apply knowledge, understanding, skills and procedures in complex and novel situations. For example, students can design, carry out, and evaluate a controlled experiment by identifying variables, controlling conditions, analyzing data, and using evidence to determine whether the investigation supports a scientific explanation. • apply higher-level thinking skills to novel situations. In addition, they can solve familiar problems that require multi-step solutions. For example, students can identify a testable hypothesis and identify evidence that could be collected relating to particle movement during a phase change of an unknown substance. • solve problems and recognize that some scientific questions may have more than one reasonable approach. For example, students can explain how photosynthesis affects a larger ecosystem by relating plant growth to biotic and abiotic factors. • persistently solve problems and view situations from multiple perspectives. They demonstrate a strong awareness of how science and technology affect individuals, communities, and environments. For example, students can apply this awareness when considering societal issues such as energy resource use and global climate change.

Scoring and reporting

Test scores will be available to teachers after students submit their tests on the digital assessment platform. Teachers are expected to record and report the raw scores achieved on the test by their students to parents.

Blueprint

The blueprint below shows the learning outcomes and reporting categories under which questions are classified. The number of questions in each reporting category is approximate.

Reporting Category	Range of Number of Questions (total out of 50)	Range for Percentage of Test (%)
Matter and Energy resources Learning Outcome: Students investigate how particles of matter behave when heated or cooled and analyze effects on solids, liquids, and gases; and Learning Outcome: Students investigate energy resources and explain factors that influence their use.	11-14	22-28%
Interactions Learning Outcome: Students analyze forces and relate them to interactions between objects.	6-8	12-16%
Climate and Ecosystems Learning Outcome: Students investigate climate, changes in climate, and the impact of climate change on Earth; and Learning Outcome: Students investigate the characteristics and components of and interactions within ecosystems.	13-16	26-32%
Solar systems Learning Outcome: Students analyze and represent celestial bodies of the solar system.	4-6	8-12%
Computational thinking Learning Outcome: Students examine abstraction in relation to design and coding and describe impacts of technologies.	5-7	10-14%
Scientific method Learning Outcome: Students investigate and describe the role of explanation in science.	7-9	14-18%

Preparing Students for the Provincial Achievement Test

Suggestions for preparing students

The best way to prepare students for writing the provincial achievement test is to teach the curriculum well and to ensure that students know what is expected. Many of the skills and attitudes that support test writing are, in fact, good skills and strategies for approaching all kinds of learning tasks.

Note that the questions on the science test are placed in real-life contexts.

[Practice tests](#) are available on the digital assessment platform. These practice tests include accommodations such as text-to-speech, coloured overlays, and a zoom feature for increasing the size of the font.

Special-format practice tests

To give students an opportunity to practice provincial achievement test-style questions and content in Braille, large print, or coloured print versions, Alberta Education and Childcare produces special-format practice tests for all subjects that have a provincial achievement test. Alberta schools with registered Alberta K–12 students may place orders for these tests. Braille versions are available in English and, by request, in French. All tests are provided free of charge, but limits may be placed on order volumes to ensure access for all students.

For the greatest benefit, special-format practice tests should be written under conditions similar to those of the corresponding provincial achievement test. The same rules regarding the use of resources and devices should be followed.

Braille versions must be returned to Alberta Education and Childcare after use.

More information about special format practice tests can be found in the *General Information Bulletin*. To order special format practice tests, complete this [form](#).

Suggestions for answering questions

- Before you begin, find out how much time you have.
- Ask questions if you are unsure of anything.
- Skim through the whole test before beginning. Find out how many questions there are, and plan your time accordingly.
- Answer the easier questions first; then go back to the more difficult ones.
- Do not spend too much time on any one question. Flag any questions you have difficulty with, and go back to them if you have time.
- Read each question carefully, underline or highlight key words, and try to determine an answer before looking at the choices.
- Read all the choices and see which one best fits the answer.
- When you are not sure which answer is correct, eliminate any choices that are wrong and then select the best of the remaining choices.
- If time permits, recheck your answers.
- Double-check to make sure that you have answered all questions before submitting the test.
- Read the information given using the strategy that works best for you. You should either
 - look at all the information and think carefully about it before you try to answer the question**OR**
 - read the questions first and then look at the information, keeping in mind the questions you need to answer
- Make sure that you look at all forms of the information given. Information may be given in words, charts, pictures, graphs, or maps.
- When information is given for more than one question, go back to the information before answering each question.
- Check your work when you calculate an answer, even when your answer is one of the choices.
- When answering “best answer” questions, be sure to carefully read all the choices before selecting the answer that you think is best. These questions will always include a boldfaced qualifier such as **best**, **most strongly**, or **most clearly** in their stems. More than one of the choices may be, to some degree, correct, but one of the choices will be “best” in that it takes more of the information into account or can be supported most strongly by reference to the information.

Opportunities to Participate in Test-development Activities

Field testing

Field testing is a critical process in assessment design with the objective of testing the test items before they appear on a provincial assessment. Field testing ensures that Alberta Education and Childcare provincial assessments are fair, reliable, and valid. Teachers and students can be reassured that the items on provincial assessments have undergone a rigorous process of development, improvement, and validation.

Field tests provide benefits for teachers and students by exposing them to examples of the style and content of items that may appear on provincial assessments. Through the field-testing experience, students experience provincial assessment rules and procedures, as well as a conventional large-scale standardized writing environment. This exposure and familiarization have the potential to reduce test anxiety.

Teachers can sign up for field testing on the [digital assessment platform](#). A [user guide](#) to signing up for field testing on the digital platform has been developed to answer any questions you may have.

All of the rules and procedures that are specified in the [General Information Bulletin](#) apply to the administration of field tests. Prior to participating in field testing, school staff will be required to attest to a declaration related to assessment confidentiality.

Detailed information can be found in the [Field Testing Program: Rules and Guide](#).

Working groups

Teacher involvement in the development of provincial achievement tests is important because it helps to ensure the validity and appropriateness of the assessments.

Teacher working groups are used throughout the test-development process to create raw forms of test questions and to review and revise draft forms of provincial achievement tests. These working groups usually meet for one or two days, two or three times per year. Occasionally, these meetings are held on weekends.

To be eligible to serve on a working group, a teacher must currently be teaching the course in question or must have taught the course within the past three years.

Teachers participating in working groups are selected from the working-group nominees approved by superintendents of school jurisdictions. The call for nominations usually occurs in September. However, we will accept further nominations throughout the year. In some subjects, more teachers may be nominated for working groups than are needed. When teachers are selected, there must be a balance of first-time and experienced working-group members and regional representation by zone, school authority, and school. Unfortunately, not everyone whose name is submitted will be selected.

Appendix 1: Example of Grade 6 Science Instruction Pages

Grade 6 Provincial Achievement Test *Science*

To the Teacher

Read these instructions to your students.

Description

Time: 60 minutes. This test was developed to be completed in 60 minutes. You have up to 120 minutes to complete this test should you need it.

This test consists of 50 questions, each worth 1 mark.

Instructions

- You may **not** use a calculator.
- You may **not** use a dictionary, a thesaurus, or other reference material.
- Read each question carefully, and choose the **correct** or **best** answer.
- If you change an answer, your test will be automatically updated.
- Answer every question.
- To submit your **final** answers, click “Submit” on the left side of the screen and confirm “I want to submit my assessment” when prompted by the pop-up.
- You will **not** be able to return to the test once the test is submitted.

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Duplication of this test in any manner or its use for purposes other than those authorized and scheduled by Alberta Education and Childcare is strictly prohibited.

The personal information collected through the Provincial Achievement Testing Program is for the purpose of administering the program as well as support programs, policy evaluation, and measurement. This collection is authorized by section 4(c) of the *Protection of Privacy Act*. For questions about the collection of personal information, email ECC.PATS@gov.ab.ca or by mail to 6th floor, 44 Capital Boulevard, 10044 108 Street NW, Edmonton, Alberta T5J 5E6.

Appendix 2: Examples of Descriptions for Text to Speech on the Grade 6 Science Provincial Achievement Test

This appendix has been prepared by Provincial Assessment, Alberta Education and Childcare. The purpose of this appendix is to provide school staff with examples of the descriptions of diagrams, illustrations, and visuals used in provincial achievement test text-to-speech versions, which are available to students as an accommodation. These examples are neither exhaustive nor prescriptive. Test content is shown in black text and descriptions in blue text.

For students who are enrolled with a school, and who typically use audio for their coursework, no application is required to receive this accommodation when writing provincial achievement tests. Scripting notes are written to describe sources that contain more than just text. Visual sources are described to maintain fairness for all students. However, some visual sources are not scripted, as students may be required to visually analyze a source to determine trends or extrapolate a conclusion. In these situations, the scripting notes would instruct students to examine the image on the test.

Additional information on how to prepare for science exams can be found on the Alberta Education website under Support documents, Science – General, *Examples of Descriptions Used in Audio Versions of Science Diploma Exams*, at [Writing diploma exams](#).

Units

Unit	Read as
s	seconds
min	minutes
m	metres
m ²	square metres
L	litres
m/s	metres per second
km/h	kilometres per hour
m/s ²	metres per second squared
g	grams
°C	degrees Celsius

Note: This table includes SI units and non-SI units. Names of SI base units and SI-derived units are from National Institute of Standards and Technology, 2020.

Unit prefixes

Unit Prefix	Read as
k	kilo
m	milli
c	centi

Symbols

Symbols	Read as
+	plus
–	minus
±	plus or minus
÷	divided by
×	times
<	is less than
>	is greater than
=	is equal to
\$	dollars
%	percent

Numerical values

Numerical Value	Read as
183.48	one hundred eighty-three decimal four eight
2 321	two thousand three hundred twenty-one
$\frac{3}{5}$	three over five
–5	negative five
+5	positive five

Note: Common fractions, such as $\frac{1}{2}$, may be read as “one over two” or “one half.”

Tables

Introduce the table starting with the title, and then identify the number of columns and rows. Tables can be read in different ways. One way is to list the column headings and any corresponding units first. Next, read across each row from left to right, stating the column heading before reading the data in each cell. Read empty spaces in tables as “blank.”

Comparison of Two Planets

	Earth	Mars
Distance from the Sun	150 000 000 km	225 000 000 km
Time required for radio waves to travel from the Sun	8.3 min	?

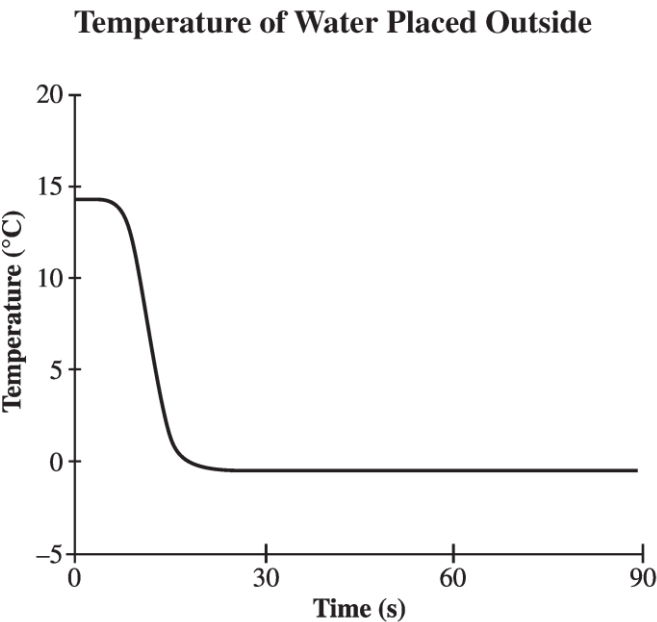
There is a table titled “Comparison of Two Planets,” with two columns and two rows. The column headings are “Earth” and “Mars.” The row headings are “Distance from the Sun” and “Time required for radio waves to travel from the Sun.” The information in the table is as follows:

Distance from the Sun: Earth – one hundred fifty million kilometres; Mars – two hundred twenty-five million kilometres.

Time required for radio waves to travel from the Sun: Earth – eight decimal three minutes; Mars – question mark.

Graphs

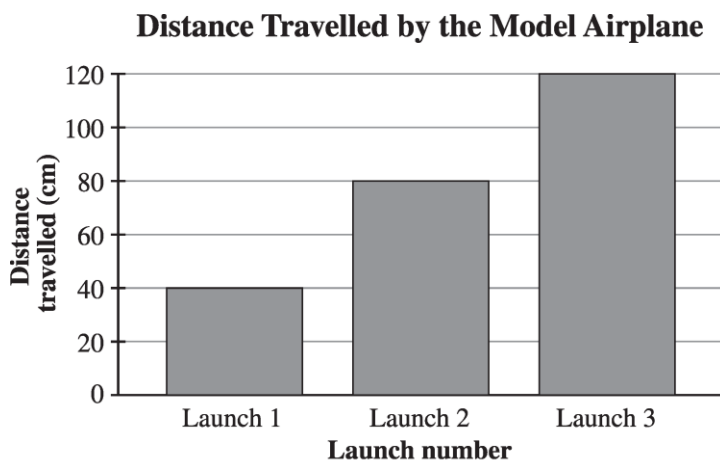
Introduce the graph starting with the title, if there is one, and then describe the labels and scales for the horizontal axis and the vertical axis. If there are no marks or scale on the axis, state so. To describe the shape of the line representing the data, reference the axis and use descriptive words such as *top*, *bottom*, *right*, *left*, *downward*, *upward*, *rises*, and *falls*. When there are four graphs for each of the multiple-choice options (A, B, C, and D), describe the labels and scales for the similarities between the graphs, such as the horizontal axis and the vertical axis, and then describe the shape of the line for each of the choices.



There is a line graph titled “Temperature of Water Placed Outside.” The horizontal axis is labelled “Time” in seconds, scaled from zero to ninety, marked and labelled in increments of thirty. The vertical axis is labelled “Temperature” in degrees Celsius, scaled from negative five to twenty, and marked and labelled in increments of five. The line begins on the vertical axis at approximately fourteen degrees Celsius. It then falls at approximately ten seconds to become almost vertical. It then becomes horizontal, once again, at approximately twenty seconds and zero degrees Celsius and remains horizontal until it reaches the right side of the graph.

Bar graphs

Introduce the graph starting with the title, and then describe the label for the horizontal axis, list the label for each bar, and then describe the label and scale for the vertical axis. Describe the height to which each labelled bar rises.



There is a bar graph titled "Distance Travelled by the Model Airplane." The horizontal axis is labelled "Launch number" and from left to right the bars are labelled "Launch one," "Launch two," and "Launch three." The vertical axis is labelled "Distance travelled" in centimetres, scaled from zero to one hundred twenty, marked and labelled in increments of twenty.

The bars on the graph read as follows.

Launch one – forty

Launch two – eighty

Launch three – one hundred twenty



Provincial Assessment Contacts

Provincial Achievement Tests Help Desk

Email: ECC.PATS@gov.ab.ca

Examination Administration (for test security, rules, scheduling and policy issues)

Email: exam.admin@gov.ab.ca

Online Assessment (for technical assistance)

Email: online.assessment@gov.ab.ca

Provincial Assessment mailing address

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