

**Alberta Provincial  
Achievement Testing**

**Assessment  
Highlights  
2013–2014**

**GRADE  
6**

# Science

*Alberta*  Government

This document contains assessment highlights from the 2014 Grade 6 Science Achievement Test.

This *Assessment Highlights* document provides information about the overall test, the test blueprint, and student performance on the 2014 Grade 6 Science Achievement Test. Also provided is commentary on areas of strength and weakness in student performance at the *acceptable standard* and the *standard of excellence* on selected items from the 2014 achievement tests. This information is intended for teachers and is best used in conjunction with the multi-year and detailed school reports that are available to schools via the extranet. *Assessment Highlights* reports for all achievement test subjects and grades are posted on the Alberta Education website every year in the fall.

The examination statistics that are included in this document represent all writers: both French and English. If you would like to obtain English-only statistics or French-only statistics that apply to your school, please refer to your detailed reports, which are available on the Extranet.

For further information, contact **Matt Dodd, Grades 6 and 9 Science Examiner**, at [Matt.Dodd@gov.ab.ca](mailto:Matt.Dodd@gov.ab.ca), or **Sean Wells, Director, Achievement Testing, Student Learning Assessments & Document Production**, at [Sean.Wells@gov.ab.ca](mailto:Sean.Wells@gov.ab.ca) at the Assessment Sector, or call (780) 427-0010. To call toll-free from outside Edmonton, dial 310-0000.

The Alberta Education Internet address is [education.alberta.ca](http://education.alberta.ca).

This document was written primarily for:

Students	
Teachers	✓ of Grade 6 Science
Administrators	✓
Parents	
General Audience	
Others	

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## The 2014 Grade 6 Science Achievement Test

This report provides teachers, school administrators, and the public with an overview of the performance of those students who wrote the 2014 Grade 6 Science Achievement Test. It complements the detailed school and jurisdiction reports.

### How Many Students Wrote the Test?

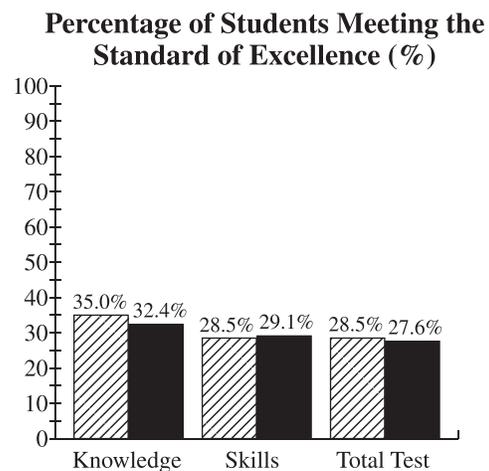
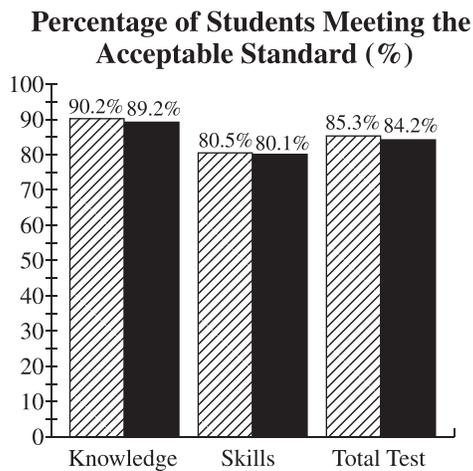
A total of 41 209 students wrote the 2014 Grade 6 Science Achievement Test.

### What Was the Test Like?

The 2014 Grade 6 Science Achievement Test consisted of 50 multiple-choice items based on five science topics: Inquiry and Problem Solving; Air, Aerodynamics, and Flight; Sky Science; Evidence and Investigation; and Trees and Forests.

### How Well Did Students Do?

The percentages of students meeting the *acceptable standard* and the *standard of excellence* in 2014 compared with 2013 are shown in the graphs below. Out of a total possible score of 50, the provincial average was 32.8 (65.6%). The results presented in this report are based on scores achieved by all students who wrote the test. Detailed provincial assessment results are provided in school and jurisdiction reports.



-  2013 Achievement Standards: The percentage of students in the province who met the *acceptable standard* and the *standard of excellence* on the 2013 Grade 6 Science Achievement Test (based on those who wrote).
-  2014 Achievement Standards: The percentage of students in the province who met the *acceptable standard* and the *standard of excellence* on the 2014 Grade 6 Science Achievement Test (based on those who wrote).

## 2014 Test Blueprint and Student Achievement

In 2014, 84.2% of students who wrote the Grade 6 Science Achievement Test achieved the *acceptable standard*, and 27.6% of students who wrote achieved the *standard of excellence*. These results are consistent with previous administrations of the achievement test.

Student achievement on the 2014 Grade 6 Science Achievement Test averaged 32.8 out of a total score of 50 (65.6%).

The blueprint below shows the categories and topics by which 2014 summary data are reported to schools and school authorities, and lists the provincial average of student achievement by both raw score and percentage.

Topics	Reporting Category		Provincial Student Achievement Average (Raw Score and Percentage)
	Knowledge	Skills	
	Fundamental understanding of both the concepts and the processes of science	Application of science processes and the use of higher-level thinking to solve problems	
<b>Inquiry and Problem Solving</b>			<b>6.7/11 (60.9%)</b>
<b>Air, Aerodynamics, and Flight</b>			<b>9.2/14 (65.7%)</b>
<b>Sky Science</b>			<b>5.5/8 (68.8%)</b>
<b>Evidence and Investigation</b>			<b>4.7/7 (67.1%)</b>
<b>Trees and Forests</b>			<b>6.7/10 (67.0%)</b>
<b>Provincial Student Achievement Average Raw Score and Percentage for Students Who Wrote the Test</b>	<b>13.1/20 (65.5%)</b>	<b>19.7/30 (65.7%)</b>	<b>Total Test 32.8/50 (65.6%)</b>

## ***Commentary on 2014 Student Achievement***

The following is a brief summary of the areas where most students demonstrated strengths and experienced difficulties on the 2014 Grade 6 Science Achievement Test.

### **Students demonstrated relative strength by being able to:**

- Identify the role decomposers play in the nutrient cycle
- Identify a modification to a pop-bottle rocket that would allow it to ascend to a greater height
- Identify the section of a lab report where a particular statement would be found
- Analyze fingerprint data represented in a circle graph and identify a conclusion that is supported by the data

### **Students demonstrated relative difficulty when asked to:**

- Identify the constant variables in an experiment
- Based on given information, identify the characteristic least helpful in determining a thread's origin
- Identify a plant's leaf characteristics based on an image of the plant's leaves
- Recognize the position of the moon relative to Earth and the sun that would produce specific phases of the moon

# *Achievement Testing Program Support Documents*

The Alberta Education website contains several documents that provide valuable information about various aspects of the achievement testing program. To access these documents, go to the Alberta Education website at [education.alberta.ca](http://education.alberta.ca). From the home page, follow the path *Teachers > Provincial Testing > Provincial Achievement Tests (PAT)*, and then click on one of the specific links to access the following documents.

## **Achievement Testing Program General Information Bulletin**

The [\*General Information Bulletin\*](#) is a compilation of several documents produced by Alberta Education and is intended to provide superintendents, principals, and teachers with easy access to information about all aspects of the achievement testing program. Sections in the bulletin contain information pertaining to schedules and significant dates; security and test rules; test administration directives, guidelines, and procedures; calculator and computer policies; test accommodations; test marking and results; field testing; resources and web documents; forms and samples; and Assessment Sector contacts.

## **Subject Bulletins**

At the beginning of each school year, subject bulletins are posted on the Alberta Education website for all achievement test subjects for grades 6 and 9. Each bulletin provides descriptions of assessment standards, test design and blueprinting, and scoring guides (where applicable) as well as suggestions for preparing students to write the tests and information about how teachers can participate in test development activities.

## **Examples of the Standards for Students' Writing**

For achievement tests in grades 6 and 9 English Language Arts and Français/French Language Arts, writing samples have been designed to be used by teachers and students to enhance students' writing and to assess this writing relative to the standards inherent in the scoring guides for the achievement tests. The exemplars documents contain sample responses with scoring rationales that relate student work to the scoring categories and scoring criteria.

## **Previous Achievement Tests and Answer Keys**

All January achievement tests (parts A and B) for Grade 9 semestered students are secured and must be returned to Alberta Education. All May/June achievement tests are secured except Part A of grades 6 and 9 English Language Arts and Français/French Language Arts. Unused or extra copies of only these Part A tests may be kept at the school after administration. Teachers may also use the released items and/or tests that are posted on the Alberta Education website.

## **Parent Guides**

Each school year, versions of the [\*Alberta Provincial Achievement Testing Parent Guide\*](#) for grades 6 and 9 are posted on the Alberta Education website. Each guide presents answers to frequently asked questions about the achievement testing program as well as descriptions of and sample questions for each achievement test subject.

## **Involvement of Teachers**

Teachers of grades 6 and 9 are encouraged to take part in activities related to the achievement testing program. These activities include item development, test validation, field testing, and marking. In addition, arrangements can be made through the Alberta Regional Professional Development Consortia for teacher in-service workshops on topics such as Interpreting Achievement Test Results to Improve Student Learning.