



**School Achievement Indicators Program  
Council of Ministers of Education (Canada)  
SAIP 2004**

Québec Results  
in the 2004  
Science Assessment



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Ministère de l'Éducation, du Loisir et du Sport  
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## **1. CONTEXT OF THE STUDY**

The provinces of Canada have given the Council of Ministers of Education, Canada (CMEC) the mandate to implement the School Achievement Indicators Program (SAIP) to assess students' performance in mathematics, reading and writing, and science. In April 2004, the science achievements of students from all the provinces and territories of Canada were assessed.

This report presents the results of Québec students in this assessment.

### **Target Groups**

The Science III assessment was administered to students who were 13 or 16 years old on August 31, 2003. These two age groups were selected for the following reasons: the group of 13-year-olds consisted of students who, in most of the provinces' education system, were in the first year of secondary school (second year in Québec), which is the transition year between elementary and secondary school; the group of 16-year-olds consisted mainly of students in their last year of compulsory school attendance.

### **Assessment Instruments**

In science, two separate instruments are used to assess students' performance in written tasks and practical tasks. The written component, common to all three assessments (1996, 1999 and 2004), focuses on knowledge of science concepts, the nature of science, and the relationship of science to technology and societal issues, and consists of multiple-choice and written-response questions. Students who took part in this component answered questions that were grouped according to simple scenarios requiring the application of scientific knowledge in situations familiar to the students. In the 1996 and 1999 SAIP assessments, the practical task component focused on science inquiry skills by presenting practical problems in a hands-on environment. In 2004, only the written component of the assessment was administered.

All the students wrote a placement test, in which they were asked to answer a preliminary set of questions. They also answered a student questionnaire. They had two and a half hours to complete the assessment and 30 minutes for the questionnaire. Teachers and school administrators also answered questionnaires designed specifically for them.

### **Comparability of the Results of Anglophones and Francophones**

From the outset, the instruments used in the science assessment were developed by anglophone and francophone educators working in tandem for the purpose of eliminating any possible linguistic bias. Whether they wrote in English or French, the students responded to the same questions and solved the same problems. Consequently, the statistical results presented for each language group in this report can, with reasonable confidence, be compared.

## **Comparability of the 1996, 1999 and 2004 Results**

As for previous assessments, the 2004 consortium team of subject and assessment specialists from Ontario, Québec, British Columbia and Nova Scotia (French sector) strove to make the third cycle of the assessment as comparable as possible to the previous versions. Attention was paid to this factor at all levels—from framework and criteria, to the production of reports, instrumentation, scoring and data collection.

## **Description of Performance Levels**

Students' science achievement was evaluated in terms of five levels of performance, representing a continuum of learning acquired by the students throughout their elementary and secondary studies. Level 1 corresponds to the knowledge and skills generally attained by students at the end of elementary school, whereas level 5 describes the knowledge and skills attained by more talented students who are taking specialized courses in science at the end of secondary school.

It is important to note that the same assessment instruments were administered to both the 13- and 16-year-olds in order to measure learning achieved over time. The development teams therefore designed the assessments so that **most of the 13-year-olds would attain level 2 and most of the 16-year-olds, level 3**. It is also important to know that the differences between the successive levels are not the same; for example, the difference between level 2 and 3 tends to be greater than between level 4 and 5.

## **SAIP Science Assessment Framework and Criteria**

Questions dealing with science concepts assessed student understanding in the following areas: the knowledge and concepts of science (chemistry, biology, physics, and earth and space sciences), the nature of science, and the relationship of science to technology and societal issues.

Questions also dealt with conceptual knowledge and understanding, procedural knowledge and skills, and the ability to use science to solve problems.

For each level, the assessment comprised multiple-choice and written questions (short-answer and constructed-response items). A description of the five levels of performance is provided in Appendix A.

## 2. QUÉBEC PARTICIPANTS

Table 1 shows the size of the Québec samples in the study. More than 3 500 13-year-olds and 16-year-olds took part. Students enrolled in college did not participate in the assessment.

**Table 1**

**Number of Students in the Sample**

|                     | 13-year-olds      |                    | 16-year-olds      |                    |
|---------------------|-------------------|--------------------|-------------------|--------------------|
|                     | Number of schools | Number of students | Number of schools | Number of students |
| <b>Anglophones</b>  | 96                | 894                | 95                | 799                |
| <b>Francophones</b> | 102               | 958                | 103               | 893                |

Source: CMEC, *Report on the SAIP Science III Assessment, 2004*

### 3. QUÉBEC RESULTS IN THE WRITTEN ASSESSMENT

Students were classified in five levels of performance following the marking of the assessment. It was expected that 13-year-old students would place in level 2, and 16-year-old students in level 3.

Tables 2A and 2B show the percentages of Québec students attaining each level of performance in the understanding of science concepts. The results for 13-year-olds and 16-year-olds are provided for anglophones and francophones.

#### 13-year-olds

**Table 2A**

| PERCENTAGE OF 13-YEAR-OLD STUDENTS BY PERFORMANCE LEVEL |                             |         |              |         |         |         |
|---|-----------------------------|---------|--------------|---------|---------|---------|
| <i>Population</i>                                       | DISTRIBUTION OF FREQUENCIES |         |              |         |         |         |
|   | Below 1                     | LEVEL 1 | LEVEL 2      | LEVEL 3 | LEVEL 4 | LEVEL 5 |
| <b>QUÉBEC (anglophones)</b>                             | 17.2%                       | 82.8%   | <b>67.9%</b> | 36.4%   | 2.2%    | 0.3%    |
| QUÉBEC (anglophones):<br>Females                        | 16.7%                       | 83.3%   | <b>66.5%</b> | 31.5%   | 2.0%    | 0.2%    |
| QUÉBEC (anglophones):<br>Males                          | 17.8%                       | 82.2%   | <b>69.2%</b> | 41.2%   | 2.5%    | 0.5%    |
| CANADA (anglophones):<br>Females                        | 13.6%                       | 86.4%   | <b>69.9%</b> | 37.8%   | 3.0%    | 0.6%    |
| CANADA (anglophones):<br>Males                          | 14.0%                       | 86.0%   | <b>71.7%</b> | 41.3%   | 2.8%    | 0.4%    |
| <b>QUÉBEC (francophones)</b>                            | 11.2%                       | 88.8%   | <b>73.0%</b> | 42.7%   | 3.0%    | 0.5%    |
| QUÉBEC (francophones):<br>Females                       | 10.7%                       | 89.3%   | <b>72.6%</b> | 40.2%   | 3.7%    | 0.6%    |
| QUÉBEC (francophones):<br>Males                         | 11.6%                       | 88.4%   | <b>73.6%</b> | 45.6%   | 2.2%    | 0.4%    |
| CANADA (francophones):<br>Females                       | 12.5%                       | 87.5%   | <b>71.5%</b> | 39.9%   | 3.4%    | 0.5%    |
| CANADA (francophones):<br>Males                         | 13.9%                       | 86.1%   | <b>71.7%</b> | 44.2%   | 2.3%    | 0.4%    |
| CANADA: Females   | 13.3%                       | 86.7%   | <b>70.4%</b> | 38.3%   | 3.1%    | 0.6%    |
| CANADA: Males   | 14.0%                       | 86.0%   | <b>71.7%</b> | 42.0%   | 2.7%    | 0.4%    |
| <b>Canada</b>   | 13.7%                       | 86.3%   | <b>71.0%</b> | 40.1%   | 2.9%    | 0.5%    |

Source: CMEC, *Report on the SAIP Science III Assessment, 2004*

The results for Québec at level 2, the performance level expected for the 13-year-olds, indicate that francophone males achieved the best results, followed by francophone females. There is no significant difference in Québec's results. At level 3, francophone and anglophone males

performed the best. At levels 4 and 5, francophone females had the highest results, followed by anglophone males. Anglophone females consistently had the lowest results.

At levels 2 and 3, the levels expected for 13- and 16-year-old students, respectively, Québec's francophone females and males outperformed females and males for Canada as a whole.

Appendix B shows the percentage of 13-year-old students by performance level and population for each province and territory (anglophones and francophones, where applicable). Alberta's students achieved the highest results at levels 2, 3, 4 and 5. Québec's francophone students ranked second out of the 17 populations at levels 2, 3 and 4, and third at level 5. They performed better than Canada as a whole at levels 1, 2, 3 and 4. Québec's anglophone students ranked fifth at level 2, sixth at level 3, seventh at level 4 and sixth at level 5.

### 16-year-olds

**Table 2B**

| PERCENTAGE OF 16-YEAR-OLD STUDENTS BY PERFORMANCE LEVEL |                             |                |                |                |                |                |
|---|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| <i>Population</i>                                       | DISTRIBUTION OF FREQUENCIES |                |                |                |                |                |
|   | <b>Below 1</b>              | <b>LEVEL 1</b> | <b>LEVEL 2</b> | <b>LEVEL 3</b> | <b>LEVEL 4</b> | <b>LEVEL 5</b> |
| <b>QUÉBEC (anglophones)</b>                             | 9.1%                        | 90.9%          | 83.0%          | <b>57.7%</b>   | 19.8%          | 3.9%           |
| QUÉBEC (anglophones): Females                           | 7.3%                        | 92.7%          | 84.0%          | <b>53.3%</b>   | 18.3%          | 2.1%           |
| QUÉBEC (anglophones): Males                             | 11.3%                       | 88.7%          | 81.7%          | <b>62.6%</b>   | 21.5%          | 5.9%           |
| CANADA (anglophones): Females                           | 6.6%                        | 93.4%          | 87.3%          | <b>62.1%</b>   | 22.1%          | 7.2%           |
| CANADA (anglophones): Males                             | 8.2%                        | 91.8%          | 85.9%          | <b>65.7%</b>   | 23.5%          | 7.3%           |
| <b>QUÉBEC (francophones)</b>                            | 5.3%                        | 94.7%          | 88.8%          | <b>65.8%</b>   | 22.4%          | 3.8%           |
| QUÉBEC (francophones): Females                          | 4.9%                        | 95.1%          | 88.8%          | <b>63.5%</b>   | 21.6%          | 4.3%           |
| QUÉBEC (francophones): Males                            | 5.7%                        | 94.3%          | 88.8%          | <b>68.8%</b>   | 23.4%          | 3.2%           |
| CANADA (francophones): Females                          | 6.2%                        | 93.8%          | 87.2%          | <b>61.9%</b>   | 20.6%          | 4.0%           |
| CANADA (francophones): Males                            | 7.6%                        | 92.4%          | 86.8%          | <b>66.5%</b>   | 22.2%          | 3.1%           |
| CANADA: Females   | 6.5%                        | 93.5%          | 87.3%          | <b>62.1%</b>   | 21.8%          | 6.5%           |
| CANADA: Males   | 8.1%                        | 91.9%          | 86.1%          | <b>65.8%</b>   | 23.2%          | 6.6%           |
| <b>Canada</b>   | 7.3%                        | 92.7%          | 86.7%          | <b>64.0%</b>   | 22.6%          | 6.5%           |

Source: CMEC, *Report on the SAIP Science III Assessment, 2004*

For Québec, at the performance level expected for the 16-year-olds, that is, level 3, francophone males achieved the highest results, followed by francophone females, anglophone males and anglophone females. The results were the same at level 4. There is no significant difference in Québec's results. At level 5, anglophone males performed the best, followed by francophone females and francophone males. Anglophone females had the lowest results at levels 3, 4 and 5.



At levels 3 and 4, Québec's francophone males achieved higher results than males for Canada as a whole. Québec's francophone females performed better than females in Canada as a whole at level 3 and had similar results at level 4 as well.

Appendix C shows the percentage of 16-year-old students by performance level and population for each province and territory (anglophones and francophones, where applicable). Alberta's students achieved the highest results at levels 3, 4 and 5. Québec's francophone students ranked second out of the 17 populations at level 3, fourth at level 4, and tenth at level 5. Québec's anglophone students ranked thirteenth at level 3, sixth at level 4, and eighth at level 5. Québec students did not achieve very good results at level 5.

#### 4. COMPARISON OVER TIME

In order to be able to make comparisons over time, an important aspect must be considered: the impact of changes made to the programs of study over the years as well as to teaching practices, be it as a result of new discoveries in education or the changing social role of education in the eyes of society. Consequently, and this applies to all subjects, the SAIP assessments contain a sufficient number of questions from one cycle to the next to allow for longitudinal comparisons of academic performance, yet incorporate enough changes to take into account developments in educational policies and practices. For the 2004 SAIP science assessment, several criteria were slightly modified and a small number of questions were changed to account for scientific and educational developments in this field since the 1999 assessment.

Table 3 presents the results of Québec's 13-year-old students in the written component of the 1996, 1999 and 2004 science assessments.

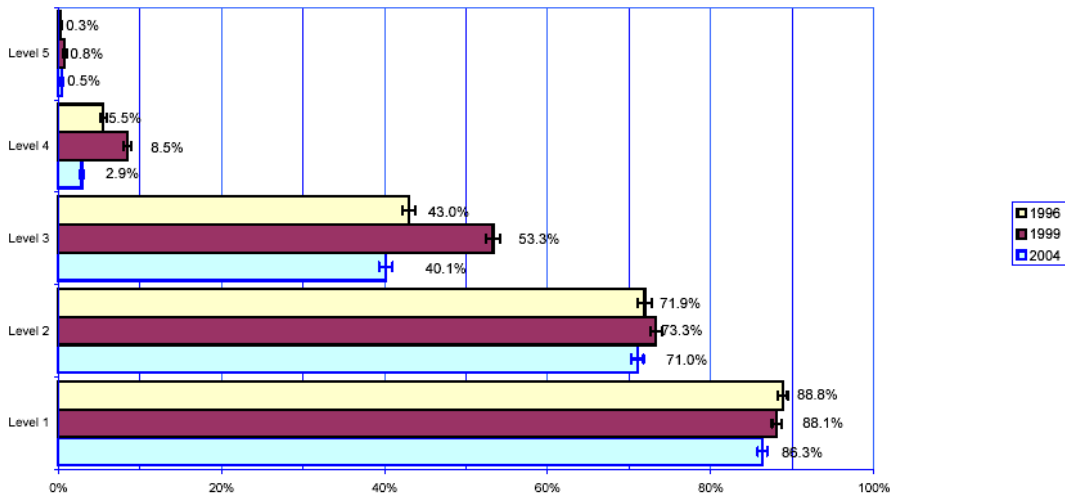
**Table 3**

| <b>1996, 1999 and 2004 Science Assessments—Written Component<br/>Percentage of 13-year-old students by performance level</b> |                                    |         |                              |               |              |               |
|--|------------------------------------|---------|------------------------------|---------------|--------------|---------------|
|  | <b>DISTRIBUTION OF FREQUENCIES</b> |         |                              |               |              |               |
| <i>Population</i>  | Below 1                            | LEVEL 1 | LEVEL 2                      | LEVEL 3       | LEVEL 4      | LEVEL 5       |
| QUÉBEC (anglophones): 1996   | 9.5%                               | 90.5%   | <b>72.6%</b><br><b>10/17</b> | 43.0%<br>8/17 | 5.0%<br>6/17 | 0.2%<br>5/17  |
| QUÉBEC (anglophones): 1999   | 14.1%                              | 85.9%   | <b>69.6%</b><br><b>9/18</b>  | 50.5%<br>8/18 | 8.1%<br>5/18 | 0.8%<br>6/18  |
| QUÉBEC (anglophones): 2004   | 17.2%                              | 82.8%   | <b>67.9%</b><br><b>5/17</b>  | 36.4%<br>6/17 | 2.2%<br>7/17 | 0.3%<br>6/17  |
|  |                                    |         |                              |               |              |               |
| QUÉBEC (francophones): 1996  | 8.9%                               | 91.1%   | <b>73.3%</b><br><b>7/17</b>  | 48.4%<br>3/17 | 5.2%<br>5/17 | 0.0%<br>10/17 |
| QUÉBEC (francophones): 1999  | 13.5%                              | 86.5%   | <b>72.8%</b><br><b>5/18</b>  | 57.3%<br>3/18 | 7.6%<br>7/18 | 0.3%<br>11/18 |
| QUÉBEC (francophones): 2004  | 11.2%                              | 88.8%   | <b>73.0%</b><br><b>2/17</b>  | 42.7%<br>2/17 | 3.0%<br>2/17 | 0.5%<br>3/17  |
|  |                                    |         |                              |               |              |               |
| Canada: 1996   | 11.2%                              | 88.8%   | <b>71.9%</b>                 | 43%           | 5.5%         | 0.3%          |
| Canada: 1999   | 11.9%                              | 88.1%   | <b>73.3%</b>                 | 53.3%         | 8.5%         | 0.8%          |
| Canada: 2004   | 13.7%                              | 86.3%   | <b>71.0%</b>                 | 40.1%         | 2.9%         | 0.5%          |

Source: CMEC, *Report on the SAIP Science III Assessment, 2004*, and *Report on Science Assessment, School Achievement Indicators Program, 1999*

**Chart 1**

**13-year-old students by performance level**



Source: CMEC, *Report on the SAIP Science III Assessment, 2004*

Results for Canada as a whole dropped slightly from 1999 to 2004 at level 2 (2.3%), and considerably at levels 3 and 4 (13.2% and 5.6%).

The results of Québec's francophone students were slightly better in 2004 than in 1999 at levels 2 and 5 (0.2%). They were lower at levels 3 and 4 (14.6% and 4.6%). At level 2, the expected level of achievement for 13-year-olds, an improvement can be seen in the ranking of these students: fifth in 1999 and second in 2004. A slight improvement is also observed in their ranking at level 3; an even more noticeable increase is seen at level 4 and an even greater one at level 5.

The 2004 results for Québec's anglophone students were lower than in 1999 at levels 2, 3, 4 and 5. These students ranked higher at levels 2 and 3, but lower at level 4.

Table 4 presents the results for Québec's 16-year-old students in the written component of the 1996, 1999 and 2004 science assessments.

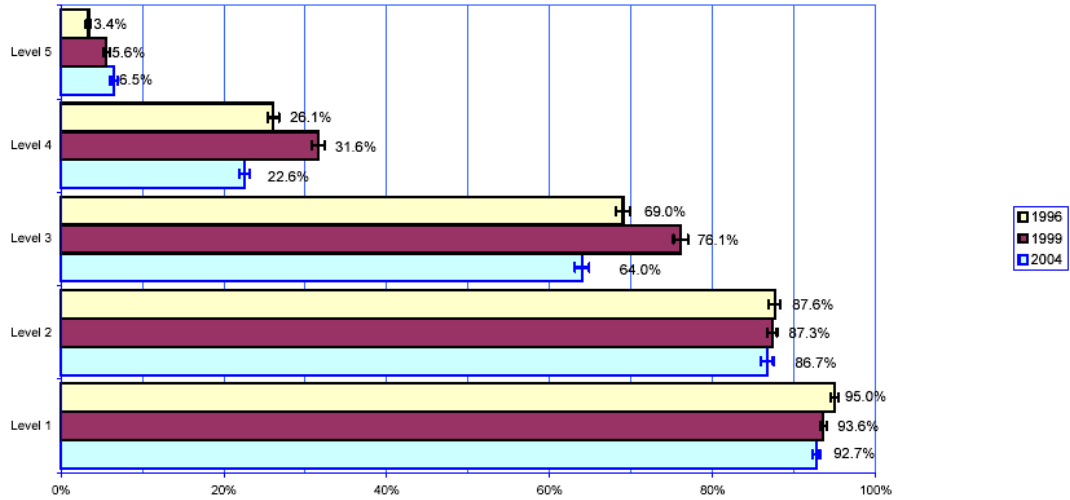
**Table 4**

| <b>1996, 1999 and 2004 Science Assessments—Written Component<br/>Percentage of 16-year-old students by performance level</b> |                                    |         |         |                              |                |               |
|--|------------------------------------|---------|---------|------------------------------|----------------|---------------|
|  | <b>DISTRIBUTION OF FREQUENCIES</b> |         |         |                              |                |               |
| <i>Population</i>  | Below 1                            | LEVEL 1 | LEVEL 2 | <b>LEVEL 3</b>               | LEVEL 4        | LEVEL 5       |
| QUÉBEC (anglophones): 1996   | 4.6%                               | 95.4%   | 85.2%   | <b>65.6%</b><br><b>12/17</b> | 21.2%<br>13/17 | 3.5%<br>8/17  |
| QUÉBEC (anglophones): 1999   | 7.3%                               | 92.7%   | 86.3%   | <b>76.7%</b><br><b>6/18</b>  | 32.4%<br>7/18  | 7.0%<br>3/18  |
| QUÉBEC (anglophones): 2004   | 9.1%                               | 90.9%   | 83.0%   | <b>57.7%</b><br><b>13/17</b> | 19.8%<br>6/17  | 3.9%<br>8/17  |
|  |                                    |         |         |                              |                |               |
| QUÉBEC (francophones): 1996  | 3.8%                               | 96.2%   | 90.3%   | <b>73.4%</b><br><b>3/17</b>  | 28.6%<br>6/17  | 1.7%<br>13/17 |
| QUÉBEC (francophones): 1999  | 4.4%                               | 95.6%   | 90.6%   | <b>80.5%</b><br><b>3/18</b>  | 32.8%<br>6/18  | 5.7%<br>6/18  |
| QUÉBEC (francophones): 2004  | 5.3%                               | 94.7%   | 88.8%   | <b>65.8%</b><br><b>2/17</b>  | 22.4%<br>4/17  | 3.8%<br>10/17 |
|  |                                    |         |         |                              |                |               |
| Canada - 1996  | 5.1%                               | 95%     | 87.6%   | <b>69%</b>                   | 26.1%          | 3.4%          |
| Canada - 1999  | 6.4%                               | 93.6%   | 87.3%   | <b>76.1%</b>                 | 31.6%          | 5.6%          |
| Canada - 2004  | 7.3%                               | 92.7%   | 86.7%   | <b>64.0%</b>                 | 22.6%          | 6.5%          |

Source: CMEC, *Report on the SAIP Science III Assessment, 2004*, and *Report on Science Assessment, School Achievement Indicators Program, 1999*

Chart 2

16-year-old students by performance level



Source: CMEC, *Report on the SAIP Science III Assessment, 2004*

A comparison of the results for Canada as a whole for 1999 and 2004 shows that students performed essentially the same at levels 1 and 2. However, they did not do as well at levels 3 and 4 (a drop of 12.1% and 9.0%). There was a slight improvement at level 5 (0.9%).

The 2004 results for Québec's francophone students were lower than in 1999 for the five levels. At levels 3 to 5, for example, there was a drop of 14.7%, 10.4% and 1.9%, respectively. At level 3, the level 16-year-old students were expected to attain, their ranking rose from third place to second. At level 4, their ranking went from sixth to fourth; however, at level 5, it dropped from sixth place to tenth.

The results of Québec's anglophone students were lower in 2004 than in 1999 at all levels. If only levels 3 to 5 are considered, the decline was 19.0%, 12.6% and 3.1%, respectively. These students improved their ranking slightly at level 4, but dropped seven places at level 3 and five places at level 5.

## 5. CONCLUSION

If the results of the written assessment for the 13-year-old students at levels 2, 3 and 4 are compared for Canada as a whole and for Québec's francophone students, the latter rank second, after Alberta's students.

Québec's francophone females and males performed better than Canadian females and males at levels 1, 2 and 3. In Québec, francophone males achieved the highest results at levels 2 and 3. At levels 4 and 5, francophone females did the best.

If the Canadian results for the 16-year-old students at level 3 of the written assessment are compared with the results of Québec's francophone students, the latter ranked second, after Alberta's students. Québec's students did not perform as well at level 5.

Québec's francophone females and males achieved higher results than Canadian females and males at level 3.

## 6. APPENDIXES

### APPENDIX A

#### DESCRIPTION OF PERFORMANCE LEVELS FOR SCIENCE CONCEPTS (WRITTEN ASSESSMENT)<sup>1</sup>

The following are examples of criteria associated with the written assessment, but are by no means a complete list.

##### **At level one, the student can:**

- describe physical properties of objects
- distinguish living things from nonliving things
- recognize that energy can appear in different forms
- recognize that objects in the universe undergo change
- demonstrate care and accuracy during scientific investigations
- identify various technologies important to society

##### **At level two, the student can:**

- classify substances according to their physical properties
- compare various plant and animal adaptations
- know that the amount of energy in the universe is conserved but that it can change form and be transferred
- know that the motion of the Earth and the tilt of its axis affect cycles such as the years, days and seasons
- explain that there are different forms of scientific investigation and that their results may contradict each other
- identify technologies that influence science, and science knowledge that leads to new technologies

##### **At level three, the student can:**

- use chemical properties to compare and classify substances
- know that some life forms are unicellular and others are multicellular, and that life forms are involved in the transfer of energy
- compare gravitational and electrical forces
- compare changes in the Earth's surface and their causes
- analyze experiments and judge their validity
- identify areas where science knowledge and technologies address societal problems

##### **At level four, the student can:**

- describe and compare particles: protons, neutrons and electrons
- state the importance and role of DNA
- analyze uniform motion in one dimension
- use the theory of plate tectonics to explain various geological activities
- explain that scientific progress is the result of ongoing experimentation and evaluation

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<sup>1</sup> *Science III Assessment (2004), Handbook for Schools, School Achievement Indicators Program, Council of Ministers of Education, Canada, 2004, <[www.cmec.ca/saip/science3/HandbookSchools.en.pdf](http://www.cmec.ca/saip/science3/HandbookSchools.en.pdf)>.*

- describe a situation where science or technology has affected our view of the world

**At level five, the student can:**

- relate properties of substances to their molecular structures
- know that various factors can mutate DNA and that some mutations may be passed on to offspring
- analyze uniform motion in two dimensions
- evaluate evidence used to substantiate the theory of plate tectonics
- explain conditions used to evaluate scientific theories
- show the influence of world views on science and technology



**APPENDIX B**

**SAIP 2004 Science Assessment: 13-year-olds**

| <b>PERCENTAGE OF 13-YEAR-OLD STUDENTS BY PERFORMANCE LEVEL</b> |                                    |                |                |                |                |                |
|--|------------------------------------|----------------|----------------|----------------|----------------|----------------|
|  | <b>DISTRIBUTION OF FREQUENCIES</b> |                |                |                |                |                |
| <i>Population</i>  | <b>Below 1</b>                     | <b>LEVEL 1</b> | <b>LEVEL 2</b> | <b>LEVEL 3</b> | <b>LEVEL 4</b> | <b>LEVEL 5</b> |
| British Columbia   | 16.0%                              | 84.0%          | 69.6%          | 38.5%          | 2.9%           | 0.7%           |
| Alberta  | 11.8%                              | 88.2%          | 77.9%          | 53.5%          | 6.4%           | 1.0%           |
| Saskatchewan   | 17.3%                              | 82.7%          | 65.9%          | 30.5%          | 1.0%           | 0.2%           |
| Manitoba (anglophones)   | 17.7%                              | 82.3%          | 67.6%          | 37.3%          | 2.3%           | 0.4%           |
| Manitoba (francophones)  | 29.5%                              | 70.5%          | 58.4%          | 32.6%          | 1.6%           | 0.5%           |
| Ontario (anglophones)  | 11.5%                              | 88.5%          | 71.8%          | 39.3%          | 2.5%           | 0.3%           |
| Ontario (francophones)   | 23.3%                              | 76.7%          | 63.2%          | 30.9%          | 1.0%           | 0.0%           |
| <b>QUÉBEC</b> (anglophones)                                    | 17.2%                              | 82.8%          | 67.9%          | 36.4%          | 2.2%           | 0.3%           |
| <b>QUÉBEC</b> (francophones)                                   | 11.2%                              | 88.8%          | 73.0%          | 42.7%          | 3.0%           | 0.5%           |
| New Brunswick (anglophones)                                    | 18.7%                              | 81.3%          | 61.7%          | 31.4%          | 0.5%           | 0.1%           |
| New Brunswick (francophones)                                   | 34.8%                              | 65.2%          | 48.6%          | 23.2%          | 0.2%           | 0.1%           |
| Nova Scotia (anglophones)                                      | 18.9%                              | 81.1%          | 63.1%          | 31.9%          | 1.4%           | 0.2%           |
| Nova Scotia (francophones)                                     | 31.0%                              | 69.0%          | 58.8%          | 32.7%          | 0.4%           | 0.0%           |
| Prince Edward Island   | 18.9%                              | 81.1%          | 65.8%          | 31.1%          | 0.7%           | 0.1%           |
| Newfoundland and Labrador                                      | 20.2%                              | 79.8%          | 65.6%          | 28.7%          | 2.2%           | 0.3%           |
| Yukon  | 24.2%                              | 75.8%          | 61.5%          | 32.0%          | 1.1%           | 0.0%           |
| Northwest Territories  | 35.2%                              | 64.8%          | 48.7%          | 25.8%          | 2.6%           | 0.0%           |
| <b>Canada</b>  | 13.7%                              | 86.3%          | 71.0%          | 40.1%          | 2.9%           | 0.5%           |

Source: CMEC, *Report on the SAIP Science III Assessment, 2004*

## SAIP 2004 Science Assessment: 16-year-olds

| <b>PERCENTAGE OF 16-YEAR-OLD STUDENTS BY PERFORMANCE LEVEL</b> |                                    |                |                |                |                |                |
|--|------------------------------------|----------------|----------------|----------------|----------------|----------------|
|  | <b>DISTRIBUTION OF FREQUENCIES</b> |                |                |                |                |                |
| <i>Population</i>  | <b>Below 1</b>                     | <b>LEVEL 1</b> | <b>LEVEL 2</b> | <b>LEVEL 3</b> | <b>LEVEL 4</b> | <b>LEVEL 5</b> |
| British Columbia   | 10.9%                              | 89.1%          | 83.3%          | 63.6%          | 21.6%          | 5.7%           |
| Alberta  | 4.9%                               | 95.1%          | 90.4%          | 72.4%          | 32.0%          | 8.7%           |
| Saskatchewan   | 8.0%                               | 92.0%          | 82.7%          | 59.3%          | 16.2%          | 3.9%           |
| Manitoba (anglophones)   | 11.9%                              | 88.1%          | 82.5%          | 59.3%          | 18.4%          | 3.8%           |
| Manitoba (francophones)  | 13.0%                              | 87.0%          | 82.7%          | 58.2%          | 12.4%          | 1.9%           |
| Ontario (anglophones)  | 5.8%                               | 94.2%          | 88.4%          | 64.0%          | 22.9%          | 8.3%           |
| Ontario (francophones)   | 17.1%                              | 82.9%          | 73.6%          | 48.2%          | 13.6%          | 2.6%           |
| <b>QUÉBEC</b> (anglophones)                                    | 9.1%                               | 90.9%          | 83.0%          | 57.7%          | 19.8%          | 3.9%           |
| <b>QUÉBEC</b> (francophones)                                   | 5.3%                               | 94.7%          | 88.8%          | 65.8%          | 22.4%          | 3.8%           |
| New Brunswick (anglophones)                                    | 11.5%                              | 88.5%          | 81.7%          | 57.6%          | 15.1%          | 3.3%           |
| New Brunswick (francophones)                                   | 16.6%                              | 83.4%          | 76.6%          | 57.2%          | 16.8%          | 2.6%           |
| Nova Scotia (anglophones)                                      | 10.1%                              | 89.9%          | 82.9%          | 59.7%          | 18.1%          | 4.8%           |
| Nova Scotia (francophones)                                     | 15.1%                              | 84.9%          | 78.0%          | 58.5%          | 11.9%          | 1.9%           |
| Prince Edward Island   | 11.7%                              | 88.3%          | 82.0%          | 58.0%          | 14.5%          | 3.5%           |
| Newfoundland and Labrador                                      | 9.1%                               | 90.9%          | 84.4%          | 62.3%          | 23.1%          | 8.6%           |
| Yukon  | 14.5%                              | 85.5%          | 78.6%          | 60.7%          | 14.5%          | 5.2%           |
| Northwest Territories  | 20.4%                              | 79.6%          | 69.5%          | 49.1%          | 14.9%          | 5.0%           |
| <b>Canada</b>  | 7.3%                               | 92.7%          | 86.7%          | 64.0%          | 22.6%          | 6.5%           |

Source: CMEC, *Report on the SAIP Science III Assessment, 2004*



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