

Appendix C: PCAP 2013 science performance levels

A Description of science performance levels⁴ used by the Pan-Canadian Assessment Program (PCAP 2013)

Level 4 (Scores of 655 and above)

Students at performance level 4 communicate an understanding of complex and abstract concepts in science. They can identify the scientific components of many complex life situations; apply both scientific concepts and knowledge about science to these situations; and can compare, select, and evaluate appropriate scientific evidence for responding to life situations. Students at this level can use well-developed inquiry abilities, link knowledge appropriately, and bring critical insights to these situations. They can construct evidence-based explanations and arguments based on their critical analysis. They can combine information from several sources to solve problems and draw conclusions, and can provide written explanations to communicate scientific knowledge.

Level 3 – Above Expected Level (Scores between 516 and 654)

Students at performance level 3 demonstrate understanding of concepts related to science principles. They demonstrate some science inquiry skills, and combine and interpret information from various types of diagrams, graphs, and tables; select relevant information, analyze, and draw conclusions; and provide explanations conveying scientific knowledge. At this level, students can work effectively with situations and issues that may involve explicit phenomena requiring them to make inferences about the role of science. They can select and integrate explanations from different disciplines of science and link those explanations directly to aspects of life situations. Students at this level can reflect on their actions, and they can communicate decisions using scientific knowledge and evidence.

Level 2 – At Expected Level (Scores between 379 and 515)

Students at performance level 2 recognize and apply their understanding of basic scientific knowledge in various contexts. They interpret information from tables, graphs, and pictorial diagrams; draw conclusions; and communicate their understanding through brief descriptive responses. At this level, students can identify clearly described scientific issues in a range of contexts. They can select facts and knowledge to explain phenomena and apply simple models or inquiry strategies. They can interpret and use scientific concepts from different disciplines and can apply them directly. They can also develop short communications using facts and make decisions based on scientific knowledge.

4 From O'Grady & Houme (2013), p.13

Level 1 – Below Expected Level (Scores of 378 and less)

Students at performance level 1 may recognize some basic science facts and may be able to interpret simple pictorial diagrams, complete simple tables, and apply basic knowledge to practical situations. At this level, they may be able to provide possible explanations in familiar contexts or draw conclusions based on simple investigations. They may be capable of direct reasoning and making literal interpretations of the results of scientific inquiry.