

MINIMUM PROFICIENCY LEVELS

REVISIONS PROPOSED BY ACER

4.1.1 Proportion of children and young people (a) in Grade 2 or 3; (b) at the end of primary education; and (c) at the end of lower secondary education achieving at least minimum proficiency level in (i) reading) and (ii) mathematics

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The ACER Centre for Global Education Monitoring supports the monitoring of educational outcomes worldwide, holding the view that the systematic and strategic collection of data on education outcomes, and factors related to those outcomes, is required to inform high quality policy aimed at improving educational progress for all learners.

Suggested revisions to Minimum Proficiency Levels from 2018 GAML meeting

This paper proposes revisions to the Minimum Proficiency Levels (MPLs) for Sustainable Development Goal 4.1, Indicator 4.1.1, in the form provided by the Paris/Hamburg GAML meetings (Nitko, 2018). A brief rationale is offered for each change. The proposed revisions draw on a number of sources: an earlier set of suggested revisions submitted to UIS, *Mapping Minimum Proficiency Levels to the ACER Learning Progressions* (ACER, 2019c); the *IBE Curriculum and Assessment Frameworks* (International Bureau of Education - UNESCO, 2019); ACER's learning progressions for reading and mathematics (ACER, 2019a, 2019b); output of the policy linking workshops conducted by USAID and UIS in Washington in 2019 (USAID/UIS, 2019a, 2019b); a further paper recommending changes to the MPLs provided by ACER in July 2019, *Minimum Proficiency Levels: Described, unpacked and illustrated* (ACER 2019d, circulated as GAML6/REF/2); and most recently, subsequent work of the mathematics and reading working groups during 2020 to develop the Global Performance Frameworks, in *Global Performance Descriptors - Mathematics v8* and *Global Performance Descriptors - Reading v8* (USAID/UIS, 2020a, 2020b).

Mathematics

General Comment

The Nitko (2018) MPL descriptors have elements that repeat at each level. For example, *skills in number sense and computation* is referred to in the Grade 2–3 MPL and the Grade 4–6 MPL. Grade 8 & 9 also refers to *skills in computation*. Proposed adjustments to wording of each MPL have been made with a view to showing a distinction in the type of skills and knowledge for any elements that are repeated across the three MPL descriptors.

4.1.1(a) – End of Lower Primary

Consensual Levels (Nitko, October 2018)	Suggested Revision (ACER, September 2020)
Students demonstrate skills in number sense and computation, shape recognition and spatial orientation.	Students recognise, read, write, order and compare whole numbers up to 100. They demonstrate computational skills involving the processes of addition, subtraction, doubling and halving for whole numbers within 20. They recognise and name familiar shapes and describe location in a space using simple language.

Rationale for Suggested Revision

The nature of ‘number sense and computation’ and ‘shape recognition and spatial orientation’ characteristic of the end of lower primary have been made more explicit, in accordance with the consensus reached by the mathematics working groups that developed the Global Performance Framework for mathematics. The elaborations provided in the revised descriptor reflect core content from the ‘Meets minimum proficiency’ category of the Global Performance Framework at Grade 2.

4.1.1(b) – End of Primary

Consensual Levels (Nitko, October 2018)	Suggested Revision (ACER, September 2020)
Students demonstrate skills in number sense and computation, basic measurement, reading, interpreting, and constructing graphs, spatial orientation, and number patterns.	Students recognise, read, write, order, compare and calculate with whole numbers, simple fractions and decimals. Students can measure length and weight using standard units, calculate the perimeter of simple 2D shapes and area of rectangles. They read, interpret and construct different types of data displays such as tables, column graphs and pictographs and recognise, describe and extend number patterns. They can solve simple application problems.

Rationale for Suggested Revision

The nature of ‘number sense and computation’ and ‘spatial orientation’ characteristic of the end of primary have been made more explicit, in order to distinguish these concepts from those referred to in 4.1.1a and 4.1.1c. The specific skills stated in the revised descriptor reflect core content from the ‘Meets minimum proficiency’ category of the global performance descriptors at Grade 5 and 6.

Note that in the original Nitko 2018 descriptors, application problems are only referred to in the Grade 8 & 9 MPL (4.1.1c), with the following accompanying glossary definition:

Application problems: also known as ‘word problems’ or ‘story problems’, these are problems that are presented in context, without explicitly telling students which mathematical operation(s) to use.

The Global Performance Framework developed by the mathematics working group includes application problems (named ‘real-word’ problems in the GPF) from the earliest grades (early primary onwards). Including a reference to application problems only in Grade 8/9 may therefore send an unintended signal that application problems are not important at primary level. The recommendation therefore, is to also include a reference to application problems at end of primary level.

4.1.1(c) – End of Lower Secondary

Consensual Levels (Nitko, October 2018)	Suggested Revision (ACER, September 2020)
Students demonstrate skills in computation, application problems, matching tables and graphs, and making use of algebraic representations.	Students demonstrate skills in computation with fractions, decimals, rates, ratios, percentages and integers. They apply geometric relationships and formulae such as area, surface area and volume, Pythagorean theorem, angle sum of a triangle. They interpret and construct, a variety of data displays and calculate measures of central tendency. They make use of algebraic representations of linear relationships. They can use their mathematics knowledge to solve application problems.

Rationale for Suggested Revision

The nature of ‘computation’ characteristic of the end of lower secondary have been made more explicit, in order to distinguish these concepts from those referred to in 4.1.1(a) and 4.1.1 (b). Concepts of measurement and geometry were not part of the original level descriptor for 4.1.1(c), yet conceptual development in these learning areas is particularly rapid between upper primary and end of lower secondary and are referred to extensively in the global performance descriptors at Grades 7, 8 and 9. Therefore, reference to core measurement and geometrical concepts have been added. It was unclear whether the phrase ‘matching tables and graphs’ was referring to algebraic or statistical representations. The complexity of the tables and graphs was not obvious from this wording either. Therefore, core content from the ‘Meets minimum proficiency’ category of the Global Performance framework at Grade 8 and 9 was used to differentiate these skills in the revised descriptor with regard to statistical and algebraic representations.

Reading

4.1.1(a) – End of Lower Primary

MPLs from 2018 GAML meeting (Nitko, October 2018)	Suggested Revision (ACER, September 2020)
Grade 3: Students read aloud written words accurately and fluently. They understand the overall meaning of sentences and short texts. Students identify the texts' topic. Grade 2: They read and comprehend most of written words, particularly familiar ones, and extract explicit information from sentences.	Students accurately read aloud and understand written words from familiar contexts. They retrieve explicit information from very short texts. When listening to slightly longer texts, they make simple inferences.

Rationale for Suggested Revision

In some countries, where there is a preparatory year of school (called variously 'reception', 'kindergarten' and 'prep'), the third year of schooling is called 'Grade 2', while in others, where there is no preparatory year, the second year of schooling is called 'Grade 2'. If calling the MPL 'Grade 2/3' was intended to accommodate this variation, it did not, as evidenced in Nitko's presentation of two MPLs for End of Lower Primary, one for Grade 2 and one for Grade 3. Nitko's solution recognises that the rate of progress in learning in the first few years of school is very rapid; a single definition cannot be found for Grade 2 and Grade 3. In the interests of consistency, in line with mathematics, we propose a single definition for the End of Lower Primary MPL for reading. It is closely aligned with the Nitko's Grade 2 MPL, and, like mathematics, aligned with the Grade 2 descriptions for 'Meets minimum proficiency' in the Global Performance Framework.

'Retrieving information' in texts is the terminology used in many assessments and in the GPF. It is suggested as an alternative to 'extracting information'. A reference to aural language comprehension is included to make explicit the essential contribution of *listening to texts* to the development of reading proficiency in the early years.

4.1.1(b) – End of Primary

MPLs from 2018 GAML meeting (Nitko, October 2018)	Suggested Revision (ACER, September 2020)
Students interpret and give some explanations about the main and secondary ideas in different types of texts. They establish connections between main ideas on a text and their personal experiences as well as general knowledge.	Students independently and fluently read simple, short narrative and expository texts. They retrieve explicitly-stated information. They interpret and give some explanation about the main and secondary ideas in different types of texts, and establish connections between main ideas in a text and their personal experiences.

Rationale for Suggested Revision

The aligned MPLs and the GPF descriptions for this level suggest the need for a reference to fluency. A sentence has been added to include 'retrieving information' as a continuing key element of reading at this level. Reflecting on texts is represented in a more limited way than in the Nitko version, since making connections with 'general knowledge' does not appear in the reviewed performance level descriptors or in the GPF, and may be too challenging at this level.

4.1.1(c) – End of Lower Secondary

MPLs from 2018 GAML meeting (Nitko, October 2018)	Suggested Revision (ACER, September 2020)
Students establish connections between main ideas on different text types and the author’s intentions. They reflect and draw conclusions based on the text.	Students retrieve and connect multiple pieces of related information across sections of texts to understand key ideas. They make straightforward inferences when there is some competing information. They reflect and draw conclusions based on a variety of text types.

Rationale for Suggested Revision

The changes suggest a broader conception of reading comprehension than the Nitko version, which was limited to the notion of making connections between main ideas and authorial intent. The implication that ‘authorial intent’ is knowable, moreover, is likely to be challenged by some reading experts. Our suggested revisions aim to represent an uncontentious and more inclusive notion of comprehension at this level, comprising locating, drawing inferences and evaluating.

References

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