



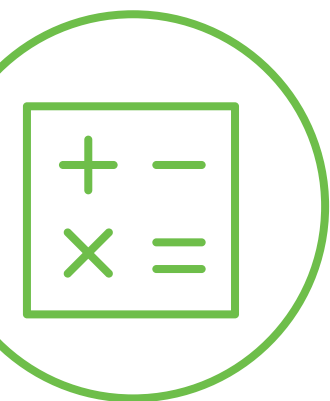
MONITORING TRENDS IN
EDUCATIONAL GROWTH

CLASS 6 PROFICIENCY IN AFGHANISTAN 2013

OUTCOMES OF A LEARNING
ASSESSMENT OF MATHEMATICAL,
READING AND WRITING LITERACY

Australian Council for Educational Research





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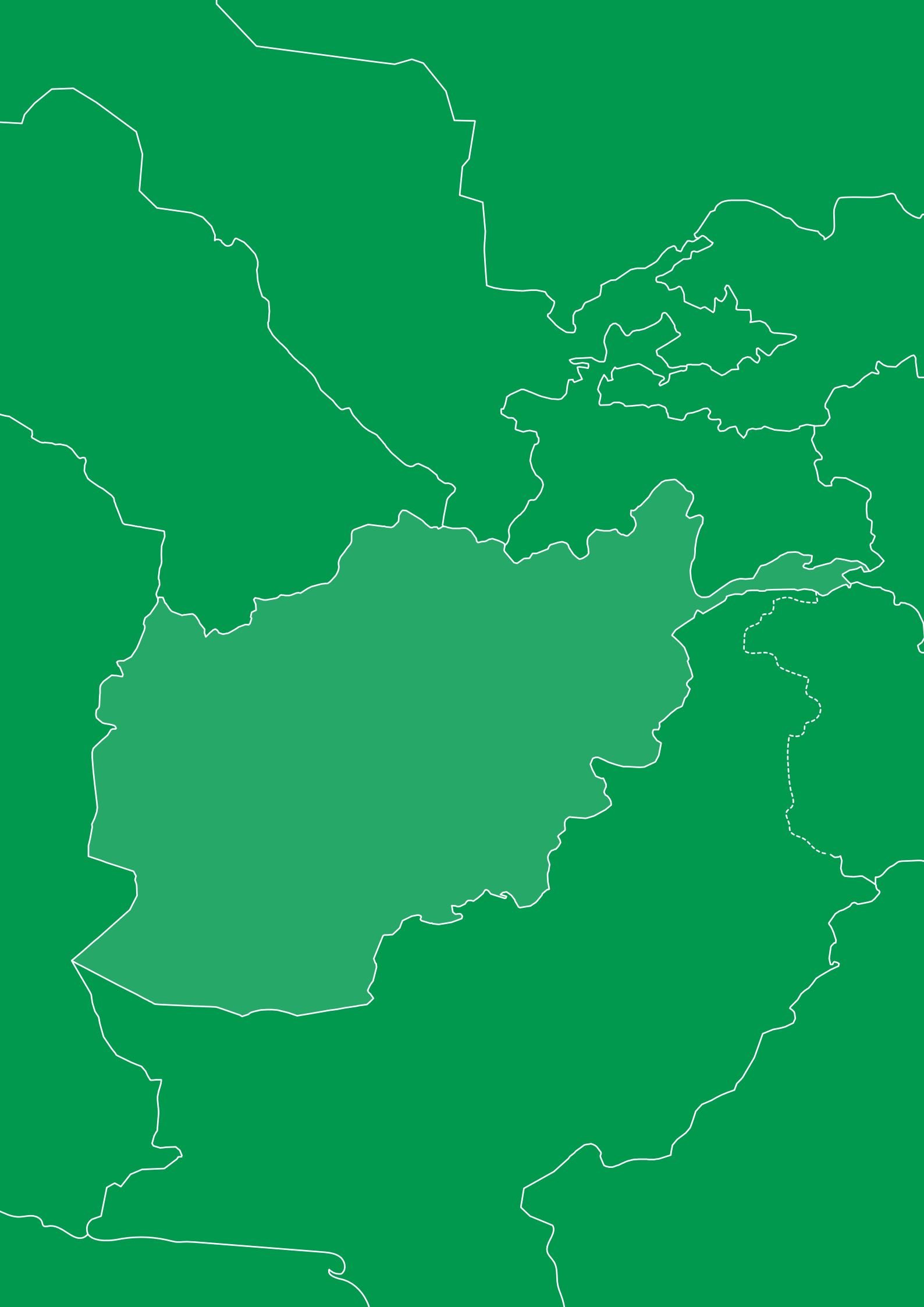


CLASS 6 PROFICIENCY IN AFGHANISTAN 2013



OUTCOMES OF A LEARNING
ASSESSMENT OF MATHEMATICAL,
READING AND WRITING LITERACY

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This report has been prepared for the
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Ministry of Education

Islamic Republic of Afghanistan

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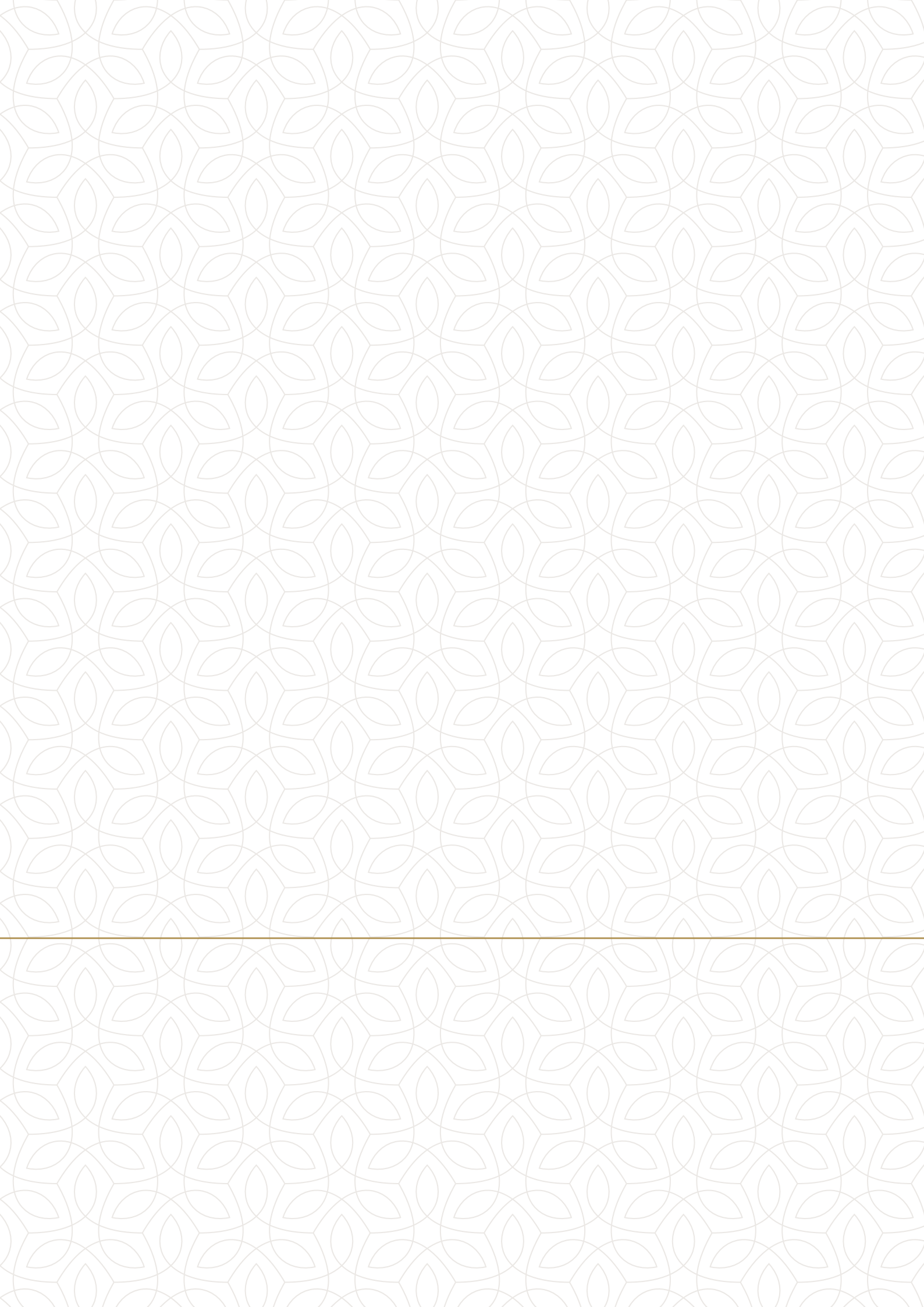
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Overview

Background

In 2012, the Ministry of Education, Afghanistan, engaged the Australian Council for Educational Research (ACER) as a partner to support the development of a national learning assessment program in Afghanistan. To achieve this goal, the Learning Assessment unit of the Ministry of Education and ACER have collaborated to design and implement the Monitoring Trends in Educational Growth (MTEG) program in Afghanistan.

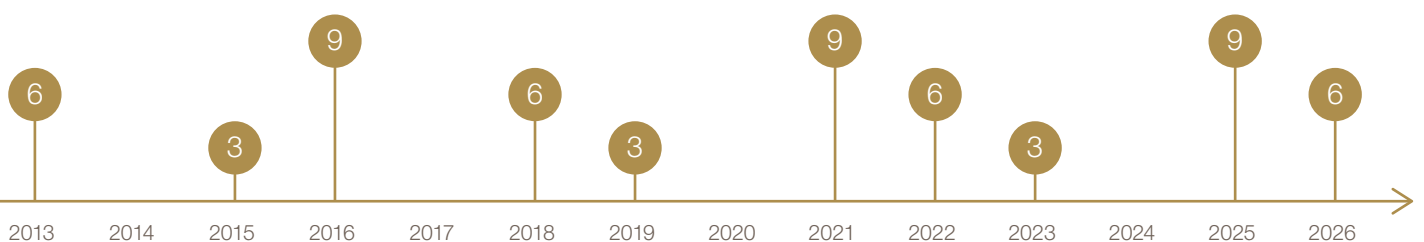
MTEG is designed as a long-term monitoring program with one focus on trends in achievement outcomes in single class levels over time, and another focus on the growth of achievement in cohorts throughout the school cycle, from Class 3 through to Class 9.

As can be seen from the MTEG assessment schedule below, the first assessment of Class 6

students took place in 2013. In 2018, another assessment of Class 6 students is planned which will measure the trend in Class 6 achievement over time. In addition to measuring class-level achievement, as Exhibit 1 shows, growth in achievement is measured by testing the same cohort as it progresses through the class levels. For example, the cohort tested in Class 3 in 2015 will be the same cohort tested in Class 6 in 2018, and again in Class 9 in 2021. Thus, the design of the program allows for conclusions to be drawn about changes in the achievement of Class 6 students at regular intervals, as well as about changes in achievement as students progress from class to class.

It is the assessment results of the Class 6 students measured in 2013 that are the focus of this report.

Exhibit 1: MTEG assessment schedule in Afghanistan



Terminology and conventions used in this report

Reporting of student data

The report uses “Class 6” students as shorthand for the MTEG Afghanistan 2013 target population. The target population is defined as Class 6 students in government schools in 13 Afghan provinces taught in Dari or Pashto.

The figures in this report are estimates that apply to the Class 6 population. To obtain these estimates, the sample data is weighted to the estimated number of students in the Class 6 population.

Rounding

All statistics, including their totals and differences, are rounded for reporting purposes. Because of rounding, some figures in some tables may not add up to 100 per cent.

Where a value of 0 is reported it means that the value is less than 0.5.

Acronyms

ACER	Australian Council for Educational Research
MTEG	Monitoring Trends in Educational Growth
PIRLS	Progress in International Reading Literacy Study
TIMSS	Trends in International Mathematics and Science Study

Key Points for MTEG Afghanistan 2013

Purpose

- MTEG is designed as a long-term monitoring program.
- One focus of MTEG is on trends in achievement outcomes in single classes over time.
- Another focus is on the growth of achievement in cohorts throughout the school cycle, ideally from Class 3 through to Class 9.

Methods

- In total, 110 schools and 5979 students participated in the assessment, representing 361,172 students estimated to be in the Class 6 population across the 13 provinces.
- Each participating student undertook a one-and-a-half-hour test and a background questionnaire of approximately half an hour.
- The test contained tasks relating to mathematical, reading and writing literacy.
- The student questionnaire contained questions about the student, his or her family, living conditions, and attitudes towards school, reading, and mathematics.
- In addition, the principals of participating schools filled in a school questionnaire including questions about the principal, the teachers, and the school's facilities and resources.

Publications

- Along with the Technical Report and Assessment Framework, a number of short topical reports are included in the series being published by ACER in 2015 in conjunction with the 2013 MTEG Afghanistan assessment.
- The topics include:
 - *Class 6 proficiency*
 - Class 6 girls and boys
 - School resources
- The cognitive results from the 2013 Class 6 assessment in mathematical, reading and writing literacy are the main topic of this report (*Class 6 proficiency*).

Database

- The 2013 Class 6 data is available for research purposes at this address <http://www.acer.edu.au/gem/activities/mteg/products>

Future assessments

- The MTEG program design includes assessments of Class 3 and Class 9 students in Afghanistan, as well as ongoing assessment of Class 6. It is envisaged that the program will expand to implementation in other countries.

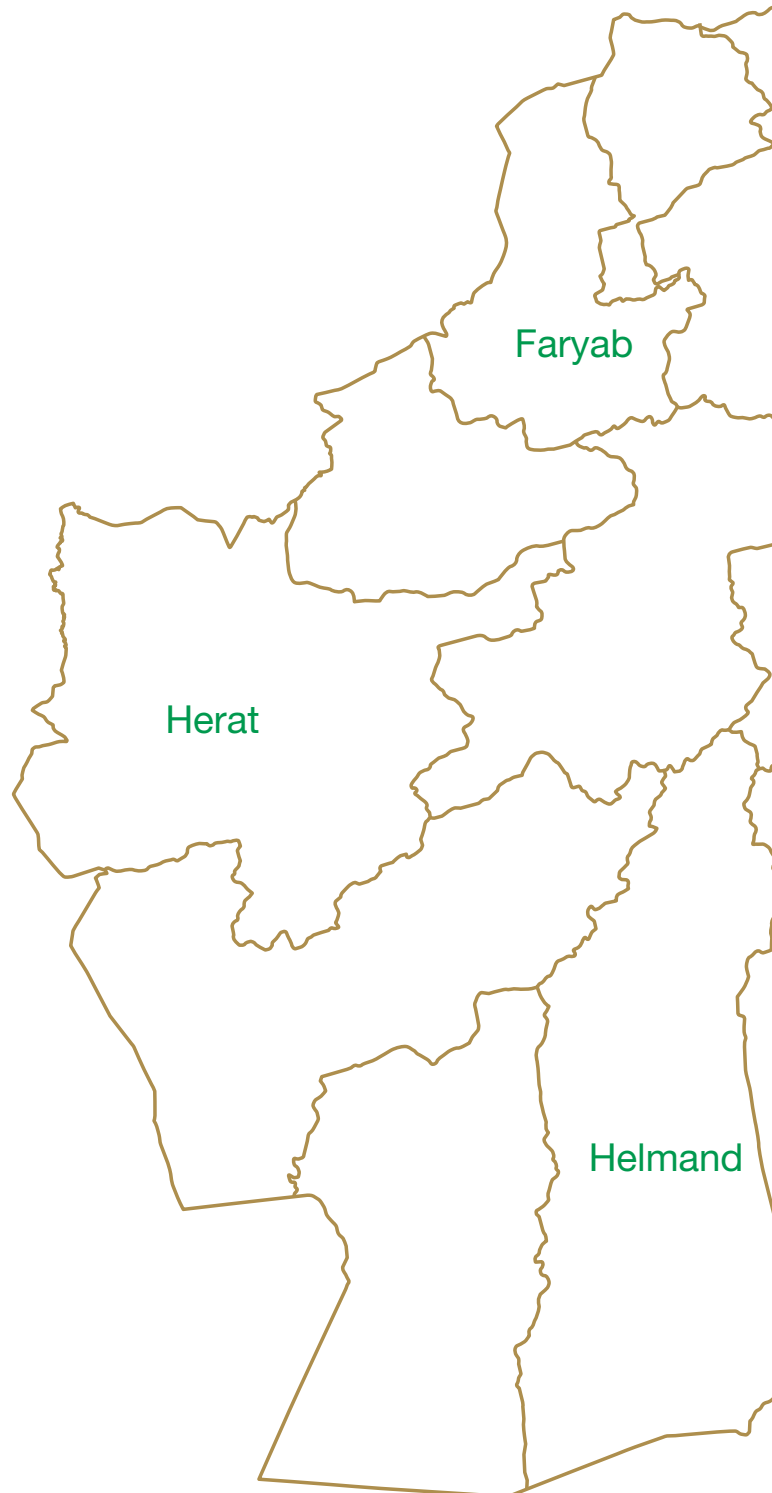
The sample

Schools from 13 provinces in Afghanistan participated in the assessment. The provinces included are broadly representative of the five main regions of Afghanistan: East, West, Central, North and South. The 13 provinces are Balkh, Bamyan, Faryab, Helmand, Herat, Kabul Province, Kabul City, Kandahar, Khost, Kunduz, Nangarhar, Paktia, and Parwan.

Schools from these provinces were randomly sampled using scientific methods to participate in the study. One section of Class 6 students from each of these schools was then randomly sampled to participate.

In total, 110 schools and 5979 students participated in the assessment, representing 361,172 students estimated to be in the Class 6 population across the 13 provinces. About 42% of the sample consisted of girls and 58% of boys, which closely matches the estimated gender proportion in the population at this class level. The number of participating students was fairly even in terms of students tested in Dari (54%) and students tested in Pashto (46%).

Exhibit 2: Provinces participating in the MTEG Class 6 Afghanistan survey in 2013





Introduction: student proficiency in mathematical, reading and writing literacy

This paper presents the results of an assessment of mathematical, reading and writing literacy of Class 6 students in 13 provinces in Afghanistan, based on data collected in late 2013.

The Afghan Ministry of Education's curriculum goals speak of students' learning skills such as 'reading and writing, using numbers', and of utilising those skills to support 'thinking, reasoning, study, research, diagnosis and innovation in academic, literary, cultural and technical contexts' and in the 'solving and identification [of] individual and social problems' (Ministry of Education, 1390 [2011], pp. 30). These goals are reflected in MTEG's literacy approach to the assessment of mathematics, reading and writing. The term literacy denotes the ability to *apply* knowledge, skills and understanding across a range of contexts, both within school and in extra-curricular settings. Rather than limiting its focus to set topics laid out in a curriculum, in MTEG the domains of mathematics, reading and writing are assessed through tasks that

require *authentic use of knowledge* (Turner, 2014). Similarly, the Afghanistan Education Curriculum also highlights the importance of being able to 'use the acquired knowledge and skills in solving daily problems' at Class 6 level (Ministry of Education, 1390 [2011], pp. 45). The literacy orientation underpins an approach that is both curricular and cross-curricular. The assumptions behind a literacy approach to assessment are explained in more detail in *An Assessment Framework for Monitoring Trends in Educational Growth* (ACER, in press).

The purpose of MTEG is to provide information to *education policy makers* on the quality of education outcomes in Afghanistan. In addition, MTEG will inform *educational practitioners* by clearly demonstrating what students at Class 6 can and cannot do in an assessment situation. To this end, this report assists teachers by providing some suggestions for teaching relevant to the proficiencies demonstrated by the students.

Exhibit 3: Educational Goals of the Afghanistan Education Curriculum



Acquiring and strengthening the learning skills as listening, speaking, reading and writing, using numbers and calligraphy in national and foreign languages.



Promoting and strengthening the abilities of thinking, reasoning, study, research, diagnosis and innovation in academic, literary, cultural and technical contexts.



Gaining skills for solving and identification [of] individual and social problems.

(Ministry of Education, 1390 [2011], pp. 30)

The results of the assessment are reported on 'described proficiency scales'.¹ For each subject, proficiency can be described from early stages of learning to more sophisticated skills and understanding. For ease of interpretation, each continuous scale is divided into 'bands' or 'levels', making it possible to describe the knowledge, skills and understanding that students demonstrate at a given region of the scale for each of reading, writing and mathematical literacy.

Based on the results of the assessment, the proportion of the Class 6 population performing at each proficiency level is identified (see Exhibits 4–6). What the results show is that while there are small numbers of Class 6 students operating at the higher levels of proficiency in each of the domains of reading, writing and mathematical literacy, there are substantial proportions of the population who are not able to perform simple reading, writing and mathematical tasks.

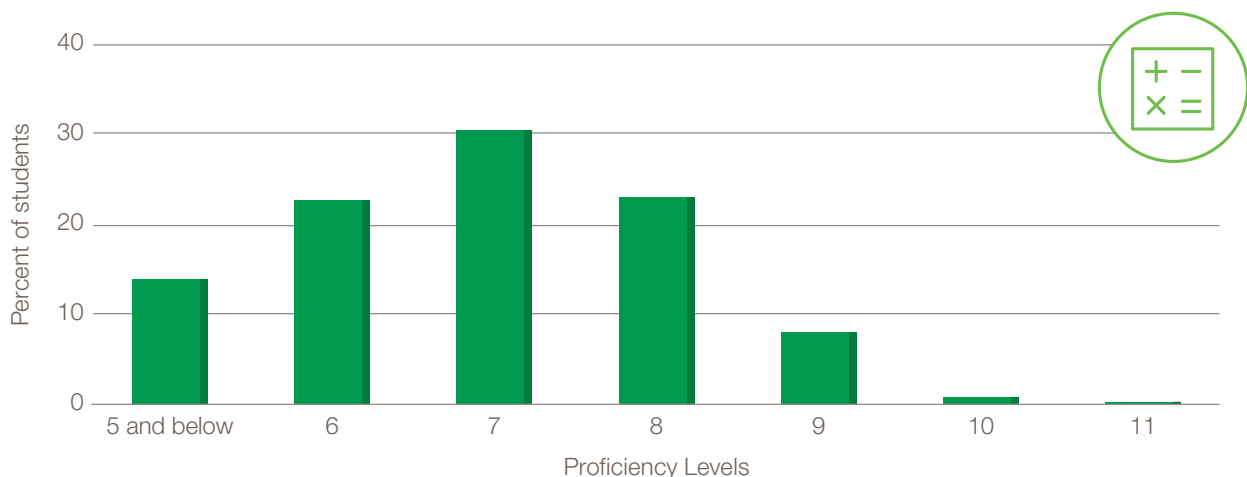
In the area of mathematical literacy, the data show that 86% of students in Class 6 are likely to be able to recognise common shape names, and use

spatial reasoning as part of a counting strategy or to make comparisons involving mathematical properties of objects. In addition to this, a small percentage of Class 6 students can understand and use a range of mathematical tools, language, and techniques to solve problems where relationships among problem elements are central.

While the above results are encouraging, the data also show that more than one-third of students in Class 6 cannot answer questions that require them to add two-digit numbers (eg $22 + 49$). At the time of writing, there is little known about the performance of Class 6 students studying in countries neighbouring Afghanistan. However, there are results from TIMSS – a major international study on Class 4 students – in the Islamic Republic of Iran, Azerbaijan and Kazakhstan that may be used for comparative purposes. Among other findings, the TIMSS study reports on Class 4 students' ability to add three-digit numbers (eg $155 + 318$) – a more difficult arithmetic procedure than adding two-digit numbers. TIMSS reports that 64% of Class 4 students in Iran, 72% in Azerbaijan and 88% in Kazakhstan demonstrate the ability to add three-digit numbers (Mullis et al., 2012a pg 90, 95). It would appear that Class 4 students in those countries are performing at a similar or higher level compared to Class 6 students in Afghanistan.

¹ Described proficiency scales are also referred to as 'learning metrics' in education literature. Throughout this report, 'described proficiency scales' will be used.

Exhibit 4: Distribution of Class 6 mathematical proficiency



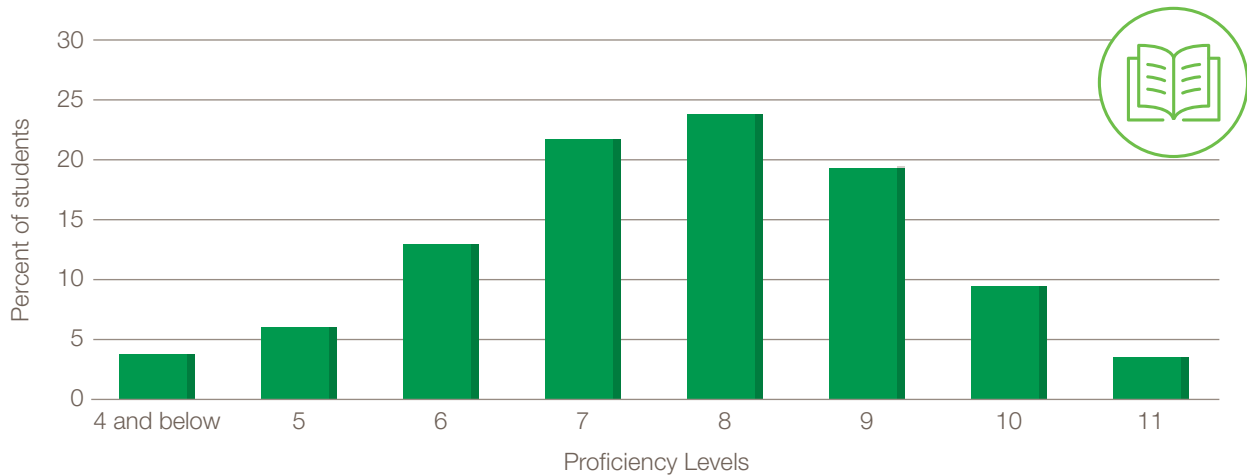
In the area of reading literacy, 90% of students in Class 6 are likely to be able to recognise the meaning of single sentences on familiar topics; about 10% of students are able to identify the main message in short texts on familiar topics; and a small percentage of Class 6 students can explain the behaviour and emotions of characters in a narrative text.

The data also show that 55% of Class 6 students in Afghanistan could answer questions that required them to retrieve directly-stated information located at the beginning of a text. No data are available on neighbouring regions for reading literacy at Class 6 level. However, using PIRLS – a major international study of reading literacy at

Class 4 level – some interesting comparisons can be drawn. In PIRLS, this skill of retrieving directly stated information at the beginning of a text was demonstrated by 76% of Class 4 students in the Islamic Republic of Iran, and 82% of Class 4 students in Azerbaijan (Mullis et al., 2012b pp 65, 68). It would appear that many Class 4 students in these countries are performing at or above the level of Class 6 students in Afghanistan.

Nevertheless, it is promising that a large majority of students are able to demonstrate fundamental reading skills and that a significant, if small, proportion of the population is performing well on relatively difficult reading tasks.

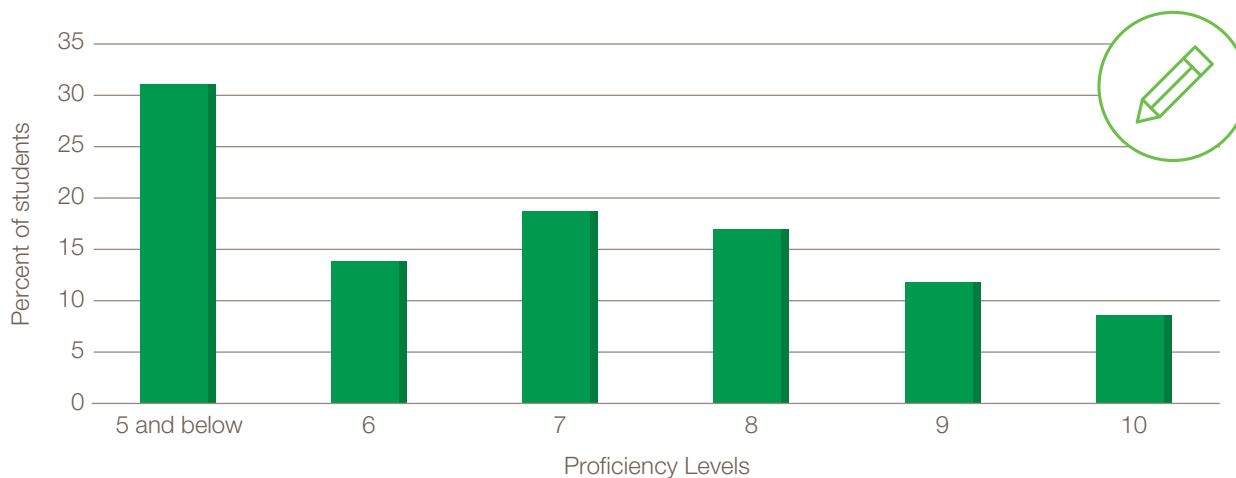
Exhibit 5: Distribution of Class 6 reading proficiency



For writing literacy, eight per cent of students are able to produce texts where ideas are elaborated to some extent, and are generally relevant to the task. Forty-five per cent of Class 6 students are unable to demonstrate writing ability beyond producing a recognisable word to label an everyday object or correctly spelling single words prompted by a picture.

MTEG is one of the first large-scale assessments to focus on writing literacy. This means that currently, comparisons with other regions cannot be drawn for writing literacy.

Exhibit 6: Distribution of Class 6 writing proficiency



This report focuses on the 2013 results for mathematical, reading and writing literacy of Class 6 students in 13 provinces in Afghanistan. It includes:

- a background to the construction of the assessment and of the reporting scales;
- detailed information on what the scales represent;
- example items from the assessment; and
- suggestions for teaching.

Defining Proficiency

The purpose of MTEG Afghanistan is to provide a profile of the skills, knowledge and understanding of the Class 6 cohort, including gender, socio-economic status and location (urban vs. rural), rather than to provide results for individual students, sections or schools. The data can be used to inform policy debates by providing information about contextual factors that influence achievement; and teaching practice by illustrating what students can and cannot do. The data can also be used to reveal trends in educational growth from one class to another, as well as measuring changes within one class level over time.

Students' performance on the cognitive items can be used to describe the skills, knowledge and understanding of Class 6 students, as demonstrated by their performance on the assessment instruments. These descriptions are created through a process that starts with an assessment framework which articulates the Afghanistan curriculum goals through a literacy orientation. Next, literacy-based assessment tasks are designed to reflect these goals, and the tasks are administered to students. After analysis of the results, scales are created on which students' levels of proficiency are located. These *proficiency levels* are then described with reference to the skills, knowledge and understanding required to complete items at each level.

In the following section, the assessment and reporting process will be briefly outlined (see Exhibit 7) and then each step explained.

Using this method, statements can be made about the percentage of students at various levels of proficiency on continua of learning in mathematical, reading and writing literacy.

A hypothetical example of a described proficiency scale for mathematics is shown in Exhibit 8.

Exhibit 7: Assessment and reporting process

- 01 Define objective – in this case, to ascertain the skills, knowledge and understanding of Class 6 students in Afghanistan, in the domains of mathematical, reading and writing literacy.
- 02 Create an assessment framework based on experts' conceptual understanding of the domains and in collaboration with the Ministry of Education, Afghanistan.
- 03 Develop assessment tasks to reflect the assessment framework.
- 04 Validate assessment tasks using quantitative and qualitative methods, including trial testing and expert review.
- 05 Administer the assessment to a scientifically drawn sample of students; collect and analyse the data to create a calibrated scale for each domain which plots both student performance and difficulty of items (based on student performance) on a single scale.
- 06 Describe the proficiency levels in the scale in terms of the skills, knowledge and understanding demonstrated by students in the test by dividing this scale into bands and using item descriptions to find generalisations about performance at each level.

Exhibit 8: Example proficiency scale

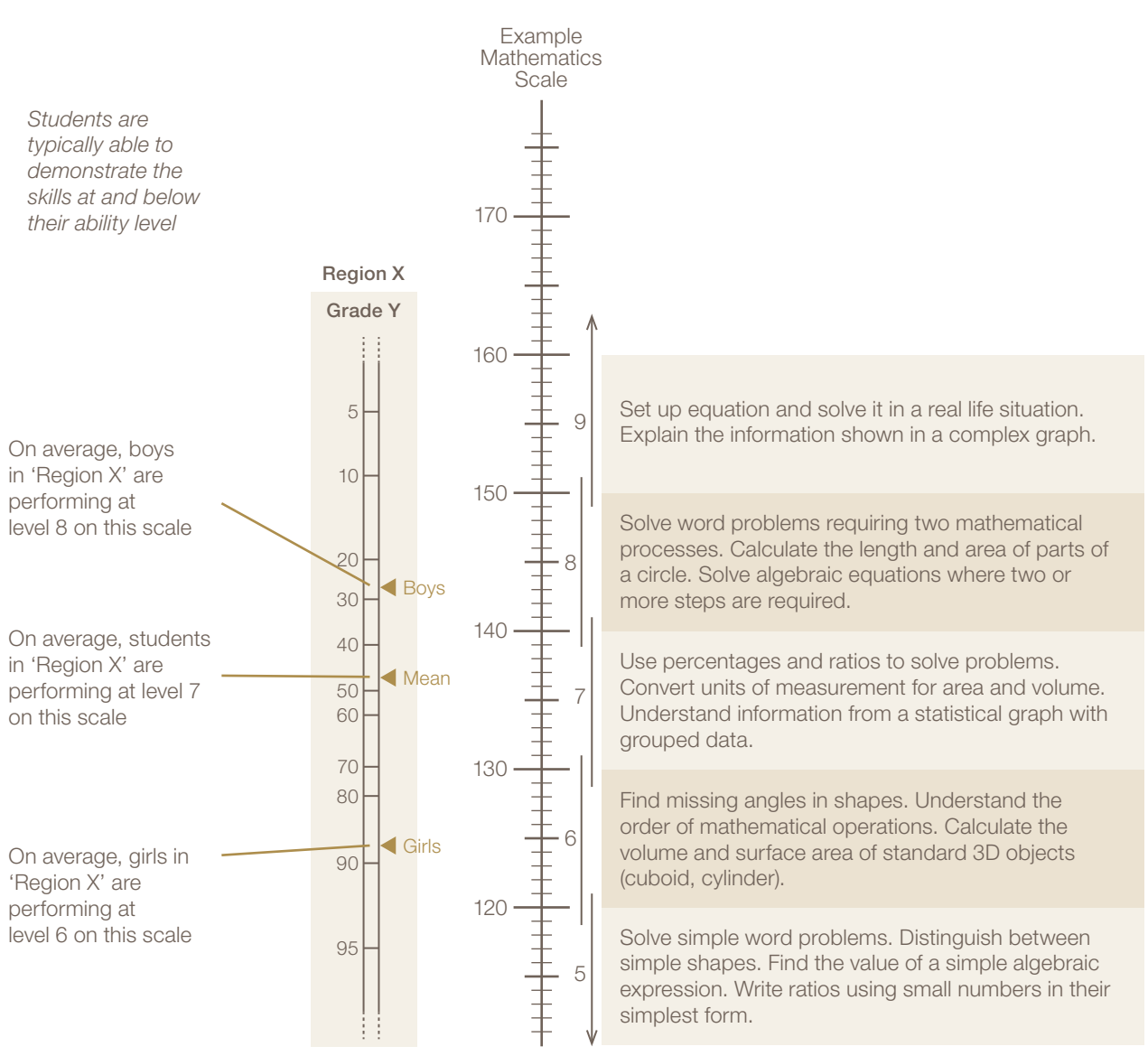
The central elements of the described proficiency scale are the numerical scale, and the descriptions of the levels of the scale in meaningful substantive terms. The various locations on this scale are proficiency scores.

Against the described proficiency scale in Exhibit 8, the learning outcomes of one region ('Region X') at 'Grade Y' are reported. A range of indicators is shown: the distribution of performance; the mean proficiency scores for all children; and the mean proficiency scores

for girls and boys. Differences between other subgroups could also be highlighted.

Described proficiency scales also allow for the comparison of different class levels and regions on the one scale if such data become available.

Matching the mean proficiency scores of the different groups to the proficiency descriptions of the levels gives an understanding of the skills and abilities of these groups.





Development of the assessment framework

The development of the MTEG described proficiency scales began with the creation of an assessment framework. One of an assessment framework's main purposes is to guide test development, ensuring that the assessment instrument covers the domain, reflecting key educational goals of the Afghanistan Education Curriculum. A second important purpose is to ensure that there is an articulated plan for the assessment. This provides stability over time – or, where change is desired, it can be made explicit and implemented deliberately.

The MTEG assessment framework for each domain lays out a definition of the domain, its key characteristics, and a prescribed balance of those elements, that are used as a blueprint for constructing the instruments. Content, processes and contexts are described for each of the literacy domains, based on what experts in the field take to be the essential characteristics of the domain and consistent with the educational goals expressed in the Afghanistan Education Curriculum, and on what the experts understand increasing proficiency in the domain to mean. Please see Appendix A for a table of the content, process and context categories defined for each of the three domains.

An Assessment Framework for Monitoring Trends in Educational Growth (ACER, in press) provides a full account of the procedures and definitions on which the assessment is based.



Development of assessment tasks to reflect the framework

Once the assessment frameworks had been drafted, assessment tasks were developed to give substance to the framework, with each assessment task explicitly designed to represent one of the defined content, process and context categories. For example, where the assessment framework for reading has identified 'interpret' as a key reading process, 'descriptive texts' as a key text type, and 'wider world' as a key context for reading, a reading task might measure whether a student could interpret information in a short descriptive information text set in a wider world context (see Exhibit 27: Country Fact File Q4). The tasks in the instrument designed for each domain were developed to represent, in aggregate, what the framework had outlined.

An important step in the development of the tasks was to describe the cognitive demand of each task in some detail. This meant paying particular attention to features known from research to make items more or less difficult. In mathematics, for example, the difficulty of a task might be increased because the mathematical strategy that the student needs to use to solve the task is not explicitly provided in the question, and must be devised, implemented and monitored by the student in order to solve the problem. This characteristic of the task would be included in the description of cognitive demand for that task.





Collecting and analysing assessment data

Once the tasks have been designed and validated (using a variety of quantitative and qualitative methods, such as trial testing and expert review), they are administered to a sample of students – in the case of the MTEG Afghanistan project, to Class 6 students in 13 provinces in November 2013.

When the assessment data have been collected, the items and students are calibrated on a single scale for each domain:

- The position on the scale at which a task appears is determined by how difficult the task was for the group of students who did that task.
- The position on the scale at which a student appears is determined by how successful the student was in completing all the tasks that he or she did in the assessment.

Please see Appendix B for a simplified version of a calibrated scale of student ability and item difficulty.



Reporting student proficiency on a described proficiency scale

The scale for each domain assumes there is an underlying trait – mathematical or reading or writing proficiency – which can be thought of as an attribute possessed to differing degrees by different students. Similarly, each task (or question) in the assessment can be thought of as demanding the activation of a certain degree of this trait. The underlying trait can be represented as a line or scale, showing at the same time the increasing presence of the attribute and the increasing extent to which tasks call for the attribute.

In associating students with items on the scale, we make probabilistic statements, for example that we expect students at a certain location on the scale to have a particular probability of correctly answering items at or near that same location. Similarly, we expect that students would have a higher probability of correctly answering questions below that location (relatively easy items), and a lower probability of correctly answering questions higher on the scale (relatively difficult items). In other words, the more difficult an item is, the more ability a student needs to answer it; and the less proficient a student is in the relevant domain, the less likely it is that he or she is able to answer more difficult questions – that is, those that demand more of the relevant attribute.

In this sense, the proficiency scale encapsulates descriptive and probabilistic statements about the expected performance of groups of students in each domain, rather than specific predictions about individuals.

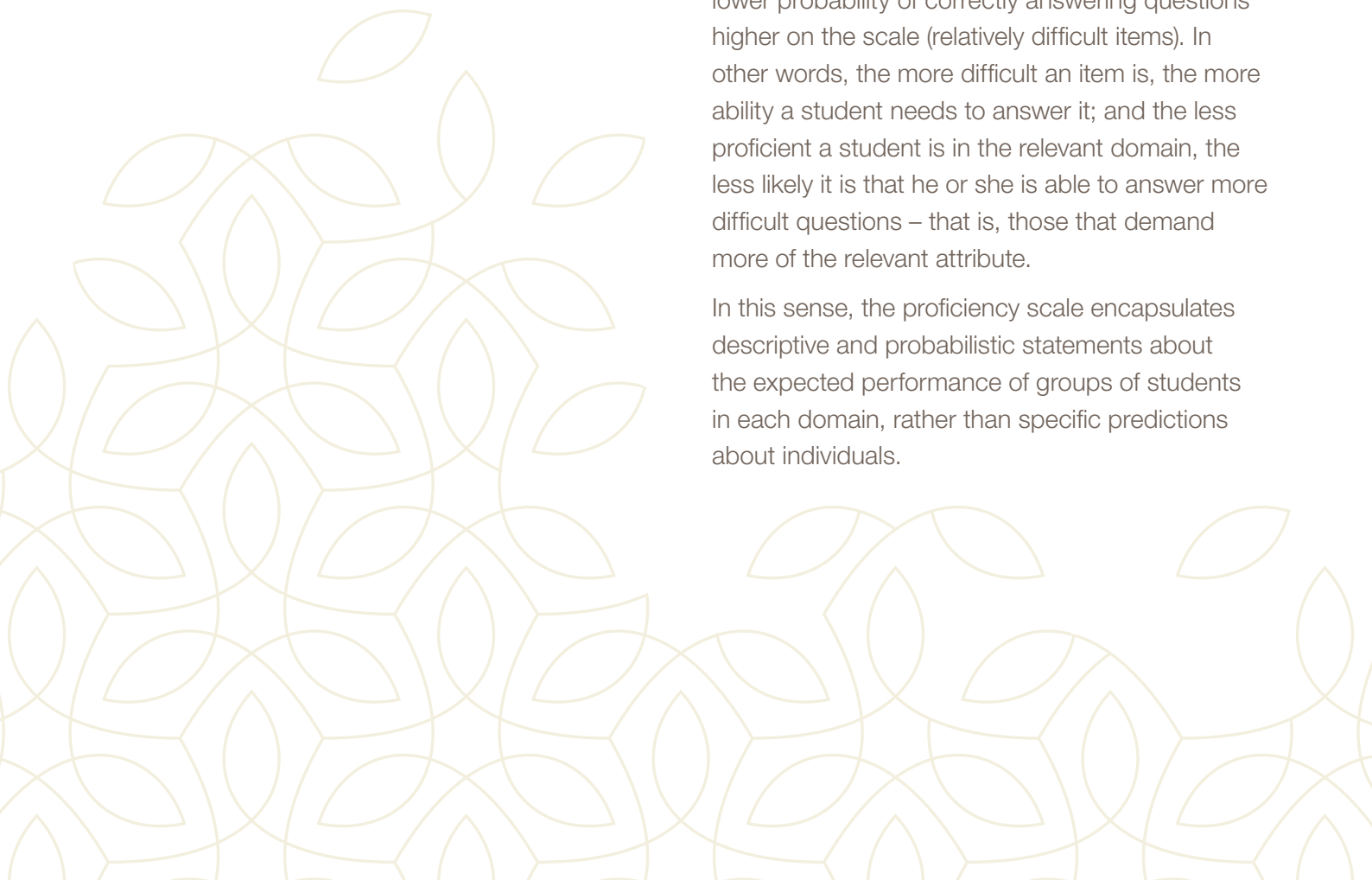


Exhibit 9: Summary of described proficiency scale development

The proficiency scale and its descriptions were developed by following these steps:

- For mathematics and reading, first describing the demand of each task in some detail, paying particular attention to features of mathematical or reading tasks known from research to be significant drivers of item demand and ability;
- For writing, using the points within each of the scoring criteria for each writing task as a starting position for scale development, as each point directly describes an aspect of students' writing;
- Using the empirical difficulty of all items (mathematics and reading) or score points within each criterion (writing) arising from the administration of the MTEG assessment among Afghanistan's sampled Class 6 students to place all items and score points in order from most difficult to least difficult, as determined by actual student performance;
- Identifying a suitable band-width for all levels and possible cut-points between levels;
- Using the descriptions of task demand for items or score points near to each other (that is, lying in the same level on the scale) to identify common patterns and elements that reflect key growth steps in different regions of the scale.

Dividing the scale into levels

Although the scales are continuous, for ease of interpretation they are divided into bands – Level 1, Level 2, and so on. In MTEG, students are said to be at a particular level on the proficiency scale if their performance indicates that they would be likely to get at least half of the items correct on a test composed of items spread uniformly across that level; or for writing, they are likely to be able to demonstrate the majority of the skills described at the level.

A student right at the bottom of a mathematics or reading level would be expected to succeed on approximately half of the items on a test comprising items within that level. Students at higher points on the scale within that level would be expected to get a progressively higher proportion of such items correct, until at the top of the level they would be expected to succeed at between 70% and 80% of those items (depending exactly on how wide the band width is set), but not yet half of the items in the next higher band.

For writing, students at the bottom of the level would have a moderate (at least 50%) likelihood of being able to demonstrate the skills described. Students at the top of the level would have a high likelihood (between 70% and 80%) of demonstrating those skills.

Using the scale to describe what students know, understand and can do

The previous section outlined how the scales are constructed mathematically. Once this has been done, we can identify what a position on the scale means in terms of the characteristics of tasks at that level, and in terms of the skills and knowledge of students in mathematical or reading or writing literacy at that level. This is done by inspecting the tasks located within the defined levels of the scale. Since every task in the test has been described in terms of its cognitive demand, the next step is to identify common elements among the task descriptions at a given level. Finally, these elements are synthesised to yield a general account of proficiency at each level: a 'described level'.

Locating Class 6 proficiency within a continuum of learning

Mathematical, reading and writing literacy are conceived of as continua of learning – beginning from early stages of schooling and developing across the class levels and beyond school education. In any setting, students in a given class demonstrate a range of skills, knowledge and understanding, and in any large-scale assessment, such as a national or international assessment, the range within a class level is likely to be very wide: there is almost inevitably overlap between proficiency of students in different classes. For example, students performing at low levels in Class 6 are likely to demonstrate a similar level of proficiency to students at the very highest levels in Class 3. Similarly, students with high levels of proficiency in Class 6 are likely to be on a par with less proficient Class 9 students. As the MTEG program develops, these hypotheses will be tested by including links (in the form of common tasks) between the Class 3 and Class 6 assessments, and between Class 6 and Class 9. The ultimate goal will be to map student proficiencies from Class 3 through to Class 9 on a single scale for each domain.

The mathematical, reading and writing scales developed for Class 6 already cover a wide range of proficiencies, from early stages of learning to quite sophisticated skills and understanding. The levels on the MTEG described proficiency scales have been given number labels in anticipation that many Class 9 students will demonstrate more sophisticated skills and understanding than those demonstrated by the top-performing Class 6 students. Similarly, many Class 3 students will perform below the lowest described levels on the current proficiency scales. That is why the described proficiency scales in this report start their descriptions around 'Level 5', allowing space for the Class 3 levels of proficiency to be described and linked to the described proficiency scales as the MTEG program unfolds.

Suggestions for teaching

When thinking about the implications of this report for teaching practice, different issues need to be considered in the context of assessment from those that are relevant in the context of teaching and learning. For design, development and implementation of a large-scale assessment, items are written and selected for inclusion in the test in such a way as to maximise the validity, consistency and reliability of the resulting assessment data. These demands impose restrictions on the material that can be used for assessment. When teachers consider using the assessment materials to help design or stimulate teaching and learning activities, a much broader range of options becomes possible, since the need for comparability and other specifically assessment-related matters cease to be relevant. For example, assessment items might provide a useful stimulus for class discussion, and related ideas might usefully be discussed that will help students explore relevant mathematical content and processes, but this would not normally be possible within an assessment.

Suggestions for teaching are presented in this report that are relevant to a selection of the example items. These suggestions are intended as ideas to stimulate further discussion by teacher educators for follow-up work with classroom teachers, taking into consideration the stage of development of the students at the schools where they are working.

The most effective instruction is likely to be a little beyond where students currently are in their level of proficiency. It is in this zone that effective learning is most likely to take place (Masters, 2013; Vygotsky, 1978). An implication of the described proficiency scales for teaching is, therefore, that teaching should be targeted just beyond where students' learning is now.



Class 6 proficiency in MTEG Afghanistan 2013

The proficiency scales presented on the next few pages are based on the results of the assessment of mathematical literacy, reading literacy and writing literacy administered to Class 6 students in MTEG Afghanistan in November 2013.

Each domain is represented by two displays:

- First, a described proficiency scale is presented, showing the percentage of Class 6 students who performed at each of several levels associated with MTEG scores, and briefly describing the kinds of skills, knowledge and understanding that can be expected from students located at that level.
- Second, for each domain there is an illustrated scale, showing how example items from the MTEG Afghanistan instruments for Class 6 relate to the MTEG scores and levels.

Following these nutshell presentations, there is a more detailed description of what kinds of proficiencies are demonstrated by students at each level in the relevant domain.

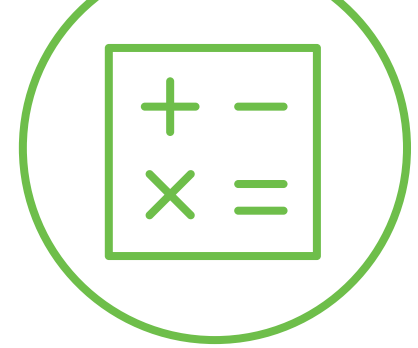
Illustrative example tasks drawn from the Afghan assessment follow the detailed proficiency

descriptions with information about the specific cognitive requirements of these items.

In addition, suggestions for teaching are included for some example items, which are intended to help teachers in supporting students to develop the skills, knowledge and understanding represented in the tasks. These suggestions are designed for students who demonstrate proficiency just below the difficulty level of the item.

The MTEG scale can be expressed numerically. For Class 6 in Afghanistan, the MTEG scale has been set to a mean of 200 and standard deviation of 20.² In other words, the mean achievement of Class 6 students in Afghanistan is reported as 200 and nearly all students would be expected to receive a scale score between 160 and 240. In the Exhibits below the boundaries of the proficiency levels are expressed on this numeric scale in parentheses, eg Mathematical literacy Level 8 (210 to less than 226).

² Note: a value of 200 on the MTEG scale does not equate to 200 points out of the total possible number of points on the test.



Mathematical literacy

Exhibit 10 is a description of the proficiency scale for mathematics. Examples are items from the Class 6 assessment. Exhibit 11 presents the scale with illustrated items.

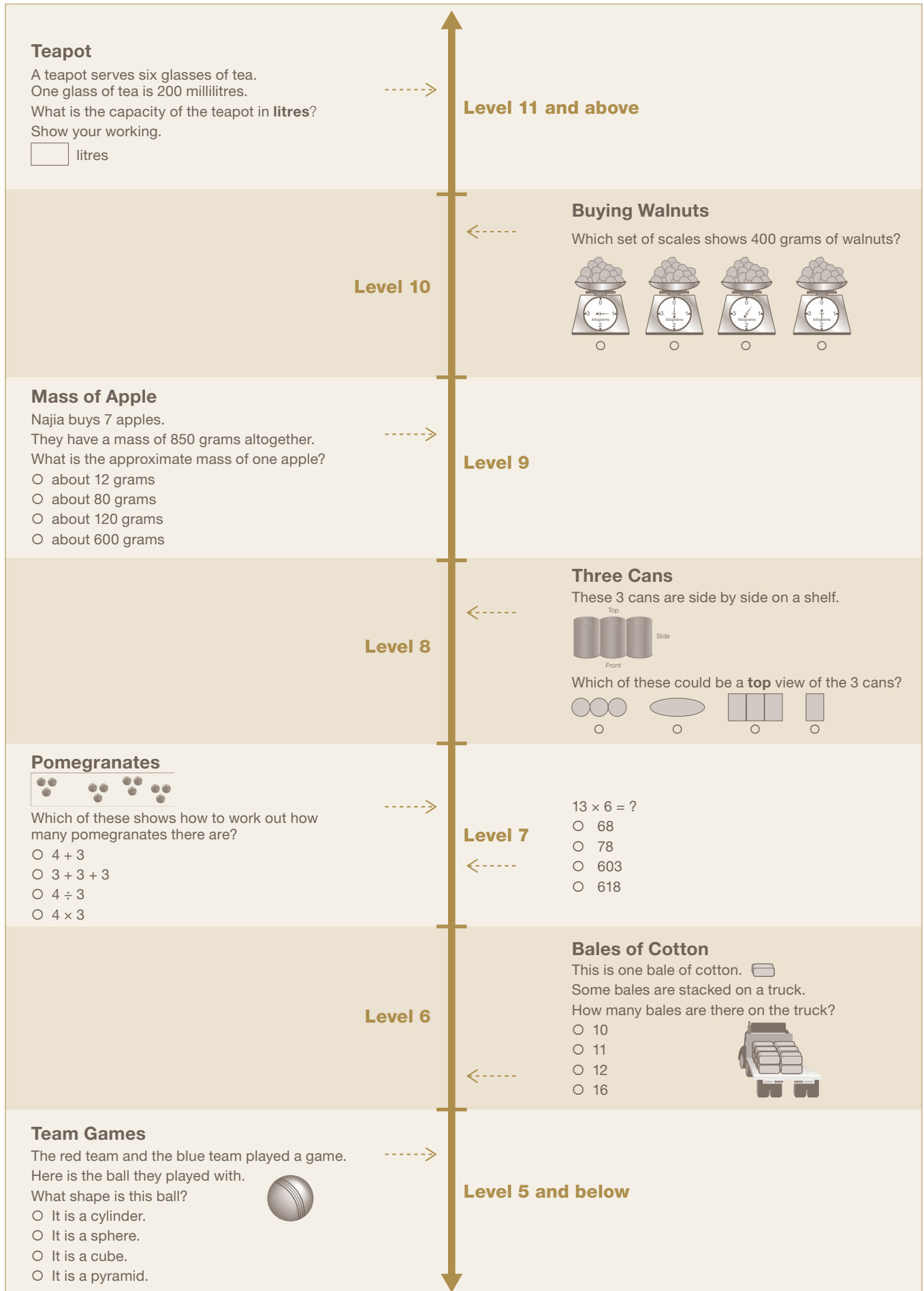
Exhibit 10: Proficiency descriptions for mathematics (Class 6)

Level and examples	Proficiency description
<p>Level 11 and above (259 and above)</p> <p>eg Teapot (full credit) 12-sided shape (full credit)³</p> <p>Class 6 students at this level: 0%</p>	<p>Students at this level typically have highly developed reasoning and strategic thinking skills; they can flexibly use different mathematical representations, and they can apply a range of mathematical skills and knowledge to solve problems involving multiple steps set in a variety of contexts.</p>
<p>Level 10 (242 to less than 259)</p> <p>eg Buying walnuts, Carpet turn</p> <p>Class 6 students at this level: 1%</p>	<p>Students at this level can typically understand and use a range of mathematical tools, language, and techniques to solve problems where relationships among problem elements are central; and they can apply the required reasoning steps to plan and follow straight-forward sequential processes.</p>
<p>Level 9 (226 to less than 242)</p> <p>eg Mass of apple, Population of Afghanistan, Teapot (partial credit)</p> <p>Class 6 students at this level: 8%</p>	<p>Students at this level can typically understand important mathematical terms and processes, and are able to carry out linked calculations that involve a number of steps. Their abstract reasoning skills are developing; they show fluency with calculations involving 1-digit and 2-digit numbers and those involving time; and they can work with data in tables and graph form.</p>
<p>Level 8 (210 to less than 226)</p> <p>eg Three cans, Mount Noshaq, 12-sided shape (partial credit)</p> <p>Class 6 students at this level: 23%</p>	<p>Students at this level can typically interpret information presented in text form, and relate it to graphs or diagrams; they can work with basic mathematical properties of objects; they can successfully complete calculations of different kinds that involve tractable numbers; and they can interpret and use mathematical concepts expressed in relational language.</p>
<p>Level 7 (194 to less than 210)</p> <p>eg Pomegranates, 13x6, Team Games Q2</p> <p>Class 6 students at this level: 31%</p>	<p>Students at this level can typically perform basic arithmetic operations; they can interpret text describing a familiar situation involving mathematical ideas, formulate an appropriate calculation and solve it; and they can interpret and use standard graphical representations of data and of relative quantities.</p>
<p>Level 6 (178 to less than 194)</p> <p>eg Bales of cotton</p> <p>Class 6 students at this level: 23%</p>	<p>Students at this level can typically recognise common shape names, and they can use spatial reasoning as part of a counting strategy or to make comparisons involving mathematical properties of objects.</p>
<p>Level 5 and below (less than 178)</p> <p>eg Team Games Q1</p> <p>Class 6 students at Level 5 and below: 14%</p>	<p>Below the lowest level currently described: there were insufficient items at this level in the Class 6 test to create a general description.</p>

³ In some mathematical and reading literacy tasks, 'partial credit' marking is used, with fully satisfactory responses given full credit (a score of 2), and partially successful responses given 'partial credit' (a score of 1). These categories of credit appear at different locations on the scale.



Exhibit 11: Graphic representation of illustrated mathematics scale





What Class 6 students know, understand and can do in mathematical literacy

Six levels of proficiency provide descriptions of the mathematical literacy of Class 6 students in Afghanistan. A further level (Level 5) is identified but not described, as there were insufficient items at that level to create a general description.

Level 11 and above – 259 and above

Students performing at and above Level 11 are the most proficient in their class.

Fewer than half a per cent of students in Class 6 performed at this level or above.

Students performing at this level are typically able to devise and apply a mathematical strategy. They can use reasoning skills to solve a problem involving a familiar context and that facilitate solving multi-step problems. Their algebraic thinking skills show signs of development, for example with the recognition that a given symbol can stand for both an object and the number of articles in the object. They can make flexible use of different representations (for example to identify defining features of a shape, and to replicate it and relocate it in a different position). They can transform relevant contextual information into mathematical form. They can successfully employ different types of calculations including working with proportions, for example in understanding scaling relationships.

Exhibit 12 and Exhibit 13 illustrate the kinds of tasks that students performing at Level 11 are able to do.

Exhibit 12: Teapot

A teapot serves six glasses of tea.

One glass of tea is 200 millilitres.

What is the capacity of the teapot in **litres**?

Show your working.

litres

Scoring Guide

Code 2: Calculates 6 times 200 AND converts to litres.

- a) 1.2 [accept 1.20 OR 1.200: ignore redundant decimal places]
- b) 1,2 [accept use of , instead of . for the decimal marker, if that is a common local usage]

Code 1: Working shows a correct method but is incomplete, or with a conversion error.

- a) 1200 [does not convert to litres]
- b) 12 [uses 100 mL = 1 L]
- c) $200 \times 6 \div 1000$ [shows correct method]

Code 0: Other responses

Code 9: Missing

Difficulty: 270 (Level 11)



This item has two levels of credit. Students performing at Level 11 are likely to receive full credit (Code 2). This constructed response item, one of the most difficult items used in the Class 6 assessment, involves mathematical modelling, strategic thinking, and reasoning across multiple steps, as well as the procedural knowledge of multiplication and conversion of units. The mathematical procedural knowledge needed includes working with decimals to convert between millilitres and litres, and multiplication. The sequence of steps involved in application of this knowledge was judged to be the most demanding aspect of the item, so it was classified in the *Apply* process category.⁴ The modelling required includes making a simplifying assumption that the capacity of the teapot is *exactly* six glasses, recognising that the capacity can therefore be calculated by multiplying the volume of the glass by six, and formulating an appropriate mathematical model to implement this. The precise mathematical model used will depend on the strategy adopted by the student. The strategic thinking needed includes recognising the need to convert volumes expressed or calculated in millilitres to a volume in litres, and the decision either to perform the required multiplication in millilitres and then to perform the unit conversion, or whether to carry out the unit conversion first, and then perform the multiplication in litres.

Suggestions for teaching

Teapot (Exhibit 12) can be used to stimulate and motivate teaching about unit conversion and the use of the decimal number system to represent measurement units.

Use a volume measuring instrument (for example, a graduated measurement cup or jug from the kitchen) to reinforce the idea that the volume of liquids can be measured and that different units are used, with the units typically shown as subdivisions of the scale on the measuring container.

Practise expressing volumes in the different units (for example, litres and millilitres). Demonstrate the way that the decimal number system is used to express these different units.

Extend the discussion to the measurement of other quantities (for example, length in centimetres and metres), showing how the decimal number system provides a consistent mathematical way to express the same kinds of relationships in quite different contexts. The discussion could be extended to include the decimal representation of (for example) kilometres, decametres, metres, centimetres, millimetres, and conversion between them.

Teapot (Exhibit 12) could also be used to demonstrate and explore the importance of thinking through what steps might be needed to solve a problem and to recognise that different strategies might work. Start by asking students how they would go about solving this problem, aiming to identify the two different paths to solve this particular problem. Demonstrate and discuss the different mathematical demands imposed depending on which strategy is used.

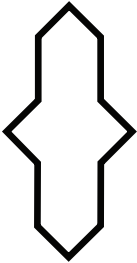
⁴ Please see Appendix A. For a full description of the content, process and context categories, see *An Assessment Framework for Monitoring Trends in Educational Growth* (ACER, in press).



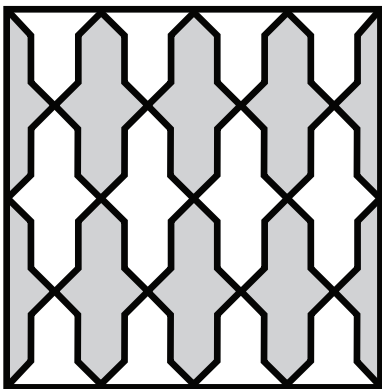
Exhibit 13 is another example of an item located at Level 11.

Exhibit 13: 12-sided shape (full credit)

Here is a 12-sided shape.

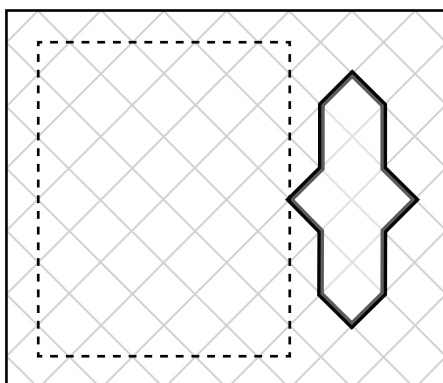


It can be repeated to make patterns like this.



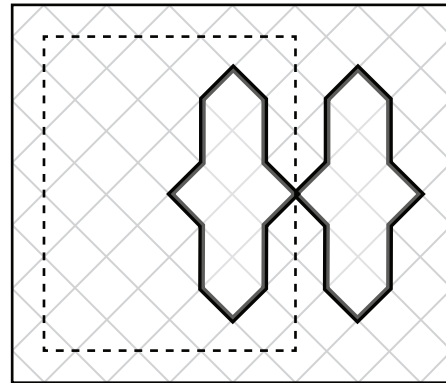
Look at the 12-sided shape on this graph paper.

Continue the pattern. Draw the next 12-sided shape in the correct position. Draw it in the dotted box.



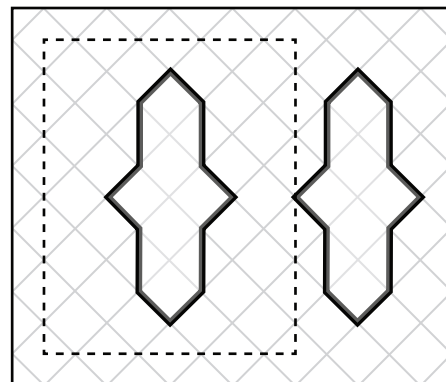
Scoring Guide

Code 2: Correctly draws 12-sided shape in correct location



Code 1: Correctly draws 12-sided shape but not in correct location

For example



Code 0: Other responses

Code 9: Missing

Difficulty: 259 (Level 11)



Level 10 – 242 to less than 259 score points

Students performing at this level are very high achievers relative to their cohort.

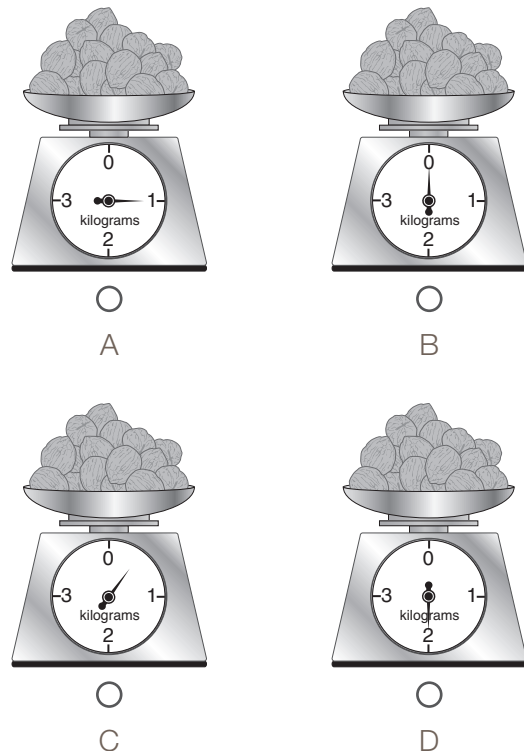
About one per cent of students in Class 6 performed at this level or above.

Students performing at this level are typically able to interpret and use mathematical terms about a range of objects and mathematical properties. They are able to apply their understanding of geometric concepts to recognise mathematical features of objects and to perceive relationships between them. They can understand and use the relationships between information given in text and related graphs, tables or diagrams. They are able to devise and use a simple strategy in a familiar context that might involve a multi-step calculation, including conversion of measurement units. They can apply the required reasoning steps and strategic thinking to plan and follow straight-forward sequential processes.

Exhibit 14 and Exhibit 15 illustrate the kinds of tasks that students performing at Level 10 are able to do.

Exhibit 14: Buying walnuts

Which set of scales shows 400 grams of walnuts?



Key: C

Difficulty: 248 (Level 10)

The item *Buying Walnuts* requires students to interpret text in relation to a set of images in the context of weighing objects on measuring scales, to recognise and understand the relationship between the mass of objects expressed in grams and displayed in kilograms, and visual scrutiny of different measuring scale images to identify the image that shows a mass of 400 grams. This item was classified in the *Translate* process category because it asks students to interpret real-world contextual elements (the sets of measuring scales, and the quantities of walnuts) and decide which image displays the specified mathematical quantity (400 grams on the scale displayed in kilograms) by interpolating between the gradations displayed on the scales.⁵ As an item presented in multiple choice format, some students might eliminate the

⁵ Please see Appendix A. For a full description of the content, process and context categories, see *An Assessment Framework for Monitoring Trends in Educational Growth* (ACER, in press).



more obvious incorrect answer options: three of the options show the scale pointer respectively at 1, 0 and 2 on the displayed kilogram scale, leaving one scale with the pointer just below the half-way mark between 0 and 1.

Suggestions for teaching

Buying Walnuts (Exhibit 14) could be used to stimulate, or reinforce, the conversion of measured quantities from one unit to another (in this case, grams to kilograms). It could also be used to explore approximation from measurement displays and the way interpolation is sometimes needed to derive suitable approximations when a measurement lies in between the scale gradations displayed. Many practical measurement applications give rise to this issue: for example the number of pace-lengths needed to measure a distance of several metres, the number of hand-spans to measure a length of several decimetres, and many similar informal measurement units that can be used to compare the properties of different objects. This exploration could also be used to demonstrate the practical occurrence of fractions in daily activities.

Exhibit 15 is another example of an item located at Level 10.

Exhibit 15: Carpet turn

Baba used one turn to move his carpet.



Before

After

Which type of turn could Baba have used to move his carpet?

Circle 'Yes' or 'No' for each type of turn.

Type of turn	Could Baba have used this type of turn?	
Quarter turn	A Yes	B No
Half turn	A Yes	B No

Key:

Quarter turn Yes

Half turn No

Difficulty: 252 (Level 10)



Level 9 – 226 to less than 242

Students at this level are performing well relative to their cohort.

Fewer than 10% of Class 6 students demonstrated mathematical literacy at this level or above.

Typically, students at Level 9 can recognise technical terms for a variety of mathematical objects. They can carry out sequential reasoning and calculations involving multiple steps. They can use spatial reasoning to define, identify, count and compare particular characteristics of shapes. They show fluency with calculations involving one-digit and two-digit numbers. They show understanding of the structure of decimal numbers. They are beginning to use algebraic thinking as they deal with symbolic representations. They can interpret time represented in both analogue and digital form and perform time-related calculations. They can work flexibly with data presented in a table and in a related graphical form. They can recognise numerical and geometric patterns, for example in number sequences.

Exhibit 16 and Exhibit 17 illustrate the kinds of tasks that students performing at Level 9 are able to do.

Exhibit 16: Mass of Apple

Najia buys 7 apples.

They have a mass of 850 grams altogether.

What is the approximate mass of one apple?

- A. about 12 grams
- B. about 80 grams
- C. about 120 grams
- D. about 600 grams

Key: C

Difficulty: 231 (Level 9)

Exhibit 17: Population of Afghanistan

The population of Afghanistan is approximately thirty million.

Which of these numbers is thirty million?

- A. 30 000
- B. 300 000
- C. 3 000 000
- D. 30 000 000
- E. 300 000 000

Key: D

Difficulty: 228 (Level 9)

Also at this level:

Teapot (partial credit) – see Exhibit 12 (pg 20)

Difficulty: 228 (Level 9)



Level 8 – 210 to less than 226

Students performing at this level are above the average proficiency level for their cohort.

Almost one-third of Class 6 students demonstrated the mathematical literacy required to achieve Level 8 or above.

Students at this level are typically able to interpret a problem presented in text form and related images that describe familiar contexts and objects (for example, different money denominations, counts of objects). They can interpret data representations such as pictograms, charts and graphs (for example, depicting category counts), and work effectively with them. They can understand common technical terms (such as ‘faces’ on a three-dimensional shape) and recognise different units of measurement. They can use spatial reasoning, for example: in a context that explores area; to imagine an object from a different perspective; or to interpret characteristics of a described hypothetical shape and select plausible options including recognising formal shape names. They can make appropriate decisions to identify which kind of calculation is needed and perform calculations of different kinds with one- to four-digit numbers (including addition with carrying, subtraction with borrowing, multiplication, division by a single-digit number, and using an understanding of place value to support such calculations). They can interpret relational phrases such as ‘how many more’ or ‘how much higher’, or a score difference, to formulate an appropriate calculation (subtraction). They can perform time calculations with time shown on an analogue clock.

Exhibit 18 and Exhibit 19 illustrate the kinds of tasks that students performing at Level 8 are able to do.

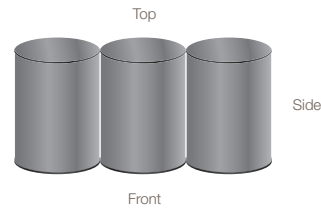
Also at this level:

12-sided shape (partial credit)
– see Exhibit 13 (pg 22)

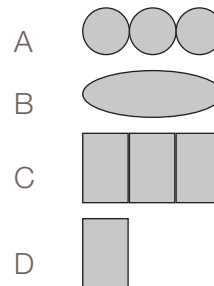
Difficulty: 217 (Level 8)

Exhibit 18: Three Cans

These 3 cans are side by side on a shelf.



Which of these could be a **top** view of the 3 cans?

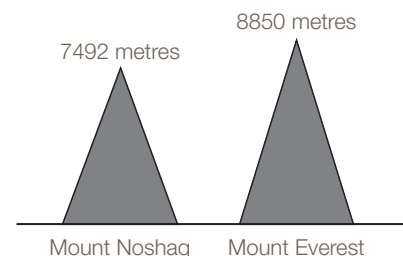


Key: A

Difficulty: 224 (Level 8)

Exhibit 19: Mount Noshaq

Mount Noshaq is the highest mountain in Afghanistan.



How much higher is Mount Everest than Mount Noshaq?

- A. 1352 metres
- B. 1358 metres
- C. 1442 metres
- D. 1458 metres

Key: B

Difficulty: 218 (Level 8)



Level 7 – 194 to less than 210

Students at this level are achieving around the average proficiency for their cohort: the mean score on the scale for Class 6 is 200.

Almost two-thirds of the students in Class 6 (63%) demonstrated mathematical literacy proficiency at or above Level 7.

Students at Level 7 are typically able to carry out at least basic arithmetic operations (such as addition with one- and two-digit numbers, subtraction of a one-digit number from a two-digit number, and multiplication of one-digit numbers by one- or two-digit numbers). They can interpret text describing a simple familiar situation, formulate an appropriate calculation and solve it (for example involving sharing out objects amongst members of a group to formulate an appropriate division; interpreting relational phrases such as 'higher than' and relevant contextual information to formulate an appropriate addition; or interpreting a score difference to formulate a subtraction). They can interpret a Cartesian representation system (such as a map with grid references) to locate a specified data point. They can recognise graphical representations of simple fractions (such as 'half') and calculate half of both a countable set and of a continuous quantity (such as volume).

To illustrate the above, students at Level 7 and above were able to calculate a simple multiplication sum, for example

$$13 \times 6 = ?$$

- 68
- 78
- 603
- 618

They were also likely to be able to succeed at the tasks shown in Exhibit 20 and Exhibit 21.

Exhibit 20: Pomegranates



Which of these shows how to work out how many pomegranates there are?

- A. $4 + 3$
- B. $3 + 3 + 3$
- C. $4 \div 3$
- D. 4×3

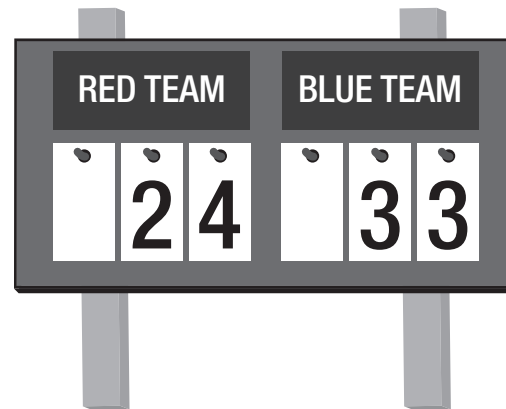
Key: D

Difficulty: 206 (Level 7)

Exhibit 21: Team Games Q2

The red team and the blue team played a game.

This is the scoreboard at the end of the game.



How many points did the blue team win by?

- A. 9
- B. 11
- C. 17
- D. 19

Key: A

Difficulty: 201 (Level 7)



Level 6 – 178 to less than 194

Students at this level are performing below the average level achieved by students in their cohort.

86% of Class 6 students demonstrated these and more advanced skills.

They are typically able to recognise common shape names. They can interpret images of familiar objects and use spatial reasoning, for example to devise and apply a counting strategy for stacked objects. They can interpret graphical representations and use them to make comparisons, for example involving mathematical properties such as length.

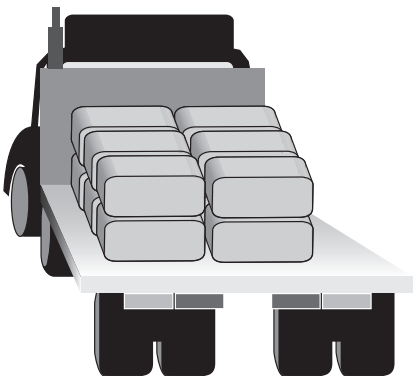
Exhibit 22 is an example of a task at this level.

Exhibit 22: Bales of Cotton

This is one bale of cotton.



Some bales are stacked on a truck.



How many bales are there on the truck?

- A. 10
- B. 11
- C. 12
- D. 16

Key: C

Difficulty: 181 (Level 6)

The item *Bales of Cotton* was one of the easiest items used in the Class 6 assessment. It presents a visual image of a collection of stacked cuboids. Bales of cotton may not be familiar to all students, but certainly stacks of regular-shaped cuboids do occur very frequently in different contexts (for example, stacks of bricks, or children's blocks, or apartment buildings). Solving this problem involves spatial reasoning to interpret the graphic image, and devising a counting strategy to calculate $3 \times 2 \times 2$ (or its equivalent).

Suggestions for teaching

Bales of Cotton (Exhibit 22) provides an opportunity to explore different counting and calculation strategies in a simple practical context, which could be explored and extended to different numbers and types of regularly shaped objects. Start by asking students how they solved the problem. Possibilities could include direct counting (for example counting 6 bales on the top layer, and adding another 6 because there are two layers, or counting 4 bales at the back, and adding another 2 lots for the other layers, or counting 6 bales seen on the side, and doubling this), or seeing the three-dimensional multiplicative array involved.

This task involves recognising one of the symbolic mathematical expressions that could be used to represent these numbers. It could be a starting point for discussing different possible counting methods, and from there to explore different but equivalent symbolic expressions (for example $6 + 6$ is equivalent to $4 + 4 + 4$; $3 \times 2 \times 2$ is equivalent to $2 \times 3 \times 2$; 6×2 is equivalent to 4×3). In a further step, the task could be used to encourage students to move from a strategy that involves additive reasoning to a strategy that involves multiplicative thinking.



Level 5 and below – less than 178

Students at this level are performing poorly in comparison with their cohort.

14% of Class 6 students did not demonstrate the skills, knowledge and understanding described at Level 6.

There were insufficient tasks in the assessment that measured skills below those attained by students at Level 6 for a general description of Level 5 to be constructed. However, a small number of tasks were located at Level 5.

Exhibit 23 illustrates a task on which students at Level 5 were likely to be able to succeed.

Exhibit 23: Team games Q1

The red team and the blue team played a game.

Here is the ball they played with.



What shape is this ball?

- A. It is a cylinder.
- B. It is a sphere.
- C. It is a cube.
- D. It is a pyramid.

Key: B

Difficulty: 175 (Level 5)

The item *Team Games (Question 1)* was the easiest item used in the Class 6 assessment. It involves recognition of a standard geometric name for a shape that would be familiar to many students, displayed as a two-dimensional graphic representation of a three-dimensional object (a ball). The visual interpretation needed would not present a big challenge to students, and many would have no trouble recognising the name 'sphere' as the appropriate option from the given list.

While no description was provided for 'Level 5 and below', interpretation of familiar visual representations is likely to be typical of tasks at this level, as is recognising the formal geometric terms for common objects.

Suggestions for teaching

One teaching and learning activity that could be generated from *Team Games Q1* (Exhibit 23) would be to explore shapes described by each of the multiple choice options for this item. Students could first be asked to draw three different examples of each of the shapes listed (cylinder, sphere, cube, pyramid). Then the different solutions to that task could be compared and discussed, as a way of exploring the different properties of each of these four classes of geometric objects, and also as a way of exploring the ways different members of each class can vary. For example, the only mathematical variation possible among different spheres is their radius. But for pyramids, the area of the base can vary, as can the height. In addition, the shape of the base can vary (we use 'pyramid' as the label for objects with bases that can be circular, triangular, square, pentagonal and so on); and it is possible to have a pyramid whose apex, when projected, lies outside the plane of the base.



Reading literacy

Exhibit 24 is a description of the proficiency scale for reading. Exhibit 25 presents the scale with illustrated items.⁶

Exhibit 24: Proficiency descriptions for reading (Class 6)

Level and examples	Proficiency description
<p>Level 11 and above (234 and above) eg The Hole Q2 (full credit)</p> <p>Class 6 students at this level: 3%</p>	<p>Students at this level are typically able to explain the behaviour and emotions of characters, even when they are not stated directly; and, they can combine several pieces of information and deal with distracting information in texts of several hundred words on a variety of familiar topics (family, school or local community) including narratives and persuasive texts.</p>
<p>Level 10 (222 to less than 234) eg Country Fact File Q4; The Hole Q2 (partial credit)</p> <p>Class 6 students at this level: 9%</p>	<p>Students at this level are typically able to identify the main message and clearly stated details, even when they are not in a prominent position, in short texts on familiar topics. These texts include narratives and letters, and information presented in tables.</p>
<p>Level 9 (210 to less than 222) eg The Hole Q8; Country Fact File Q3 & Q8</p> <p>Class 6 students at this level: 19%</p>	<p>Students at this level are typically able to identify one or two pieces of explicitly stated information from different parts of texts on familiar topics, where there is strong support in the text such as illustrations, or where the information is in a prominent position, such as at the beginning of the text.</p>
<p>Level 8 (198 to less than 210) eg The Hole Q6</p> <p>Class 6 students at this level: 24%</p>	<p>Students at this level are typically able to identify directly stated information in short texts on familiar topics such as family or school, or a longer text with strong support given in the task (such as a key word from the text); and they can recognise information about concrete objects or well-known things such as animals.</p>
<p>Level 7 (186 to less than 198) Class 6 students at this level: 22%</p>	<p>Students at this level are typically able to recognise simple details, explicitly stated, in a very short text such as a note to a relative; and they can identify the message of a narrative, supported by repetition in the text.</p>
<p>Level 6 (174 to less than 186) Class 6 students at this level: 13%</p>	<p>Students at this level are typically able to recognise the meaning of single sentences on familiar topics; and they can match one of four given words to a simple illustration of a familiar object, where the other three words may have similarities to the target word in meaning or graphic appearance.</p>
<p>Level 5 (162 to less than 174) eg Wheel Class 6 students at this level: 6%</p>	<p>Students at this level are typically able to match one of four given words to a simple illustration of a single highly familiar object, where the task is simple, direct and repetitive, and the other three words are unlike the target word in both meaning and graphic appearance.</p>
<p>Level 4 and below (less than 162) eg Gloves Class 6 students at Level 4 and below: 4%</p>	<p>Below the lowest level currently described: there were insufficient items at this level in the Class 6 test to create a general description.</p>

⁶ Examples are items from the Class 6 assessment. Due to the limited number of publicly available items, examples cannot be given for all levels.



Exhibit 25: Graphic representation of illustrated reading scale





What Class 6 students know, understand and can do in reading literacy

Seven levels of proficiency provide descriptions of the reading literacy of Afghan Class 6 students. A further level (Level 4) is identified but not described, as there were insufficient items at that level to create a general description.

Level 11 and above – 234 and above

Students performing at Level 11 are the most proficient in their cohort.

Three per cent of Class 6 students performed at this level.

Typically, students at Level 11 are able to identify, infer or explain behaviour, attitudes or emotions of characters where the information needed to answer the question is not prominent (for example, towards the end of a 450-word text). They can combine several pieces of information in a substantial amount of text (for example, a paragraph), where texts deal with familiar topics (family, school, local community), but where imaginative engagement may be required to respond to the task. They can deal with significant competing information.

Exhibit 26 illustrates the kinds of tasks that students performing at Level 11 are able to do.



Exhibit 26: The Hole Q2 (full credit)

'I can see something shiny at the bottom,' said Samsur. 'Maybe it's a gold coin.'

'Don't be silly,' said Nazneen, peering into the hole. Her younger brother was always seeing things, creating objects out of nothing.

'Maybe it's a sword,' continued Samsur. 'Maybe a king buried a gold sword in the ground many years ago, and then forgot about it.'

'Maybe it's dirt, covered in dirt, covered in more dirt,' said Nazneen. 'It's just a hole, probably made by a wild animal.'

'You are wrong!' exclaimed Samsur. 'No animal could make a hold as big as this!'

'Well, if you are so sure this is not an animal's hole, perhaps you should climb down into it.'

Samsur began to turn pale. 'Erm ... No. I cannot go in the hole ... because ... I have a sore foot!'

Nazneen smiled; it had nothing to do with Samsur's foot. A big hole could mean a big animal.

'I have an idea,' she said picking up a stone that lay beside her. 'I will drop this into the hole. If we hear a clink, there is treasure. If we hear a thud, there is dirt. If we hear a yelp, there is an animal.'

Nazneen dropped the stone and they heard nothing for a moment.

Then they heard a splash.

Why does Samsur refuse to climb down into the hole?

.....

Scoring Guide

Code 2: Refers to Samsur being scared.

Explanation must be consistent with the text.

1. He's frightened
2. He thinks there might be a big animal in the hole [implies fear]
3. He doesn't know what is in the hole [implies fear]
4. Because the hole is very dark [implies fear, consistent with text]

Code 1: Refers to a sore foot.

1. Samsur has a sore foot.

Code 0: Response is vague or inaccurate or irrelevant.

1. He can see a coin.

Difficulty: 240 (Level 11)

This item has two levels of credit. Students performing at Level 11 are likely to receive full credit (Code 2). They are able to explain the behaviour of a character in this story of a children's adventure, even when it is not stated directly. They do this by using several pieces of information as clues: they read beyond Samsur's explanation, which they can discount, and combine the sentence 'Samsur began to turn pale' with Nazneen's comment, 'A big hole could mean a big animal' to make the inference that Samsur was scared.

Suggestions for teaching

Present students with stories involving interactions among several people. These stories can be read aloud by the teacher, or by one of the students. They can also be read by the students as a printed text. Discuss with students the qualities of the interactions between different characters and ask them to explain how they would describe the behaviour or the feelings of the characters, and the reasons for the characters' behaviour or feelings. Encourage a range of views, and discuss why some interpretations are well supported by the story, and why others are not.



Level 10 – 222 to less than 234

Students performing at Level 10 are also very high achievers relative to their cohort.

12% of Class 6 students demonstrated the reading literacy required to achieve Level 10 or above.

Students at Level 10 are typically able to identify the main, persuasive message in a medium-length text (such as a letter to a relative or a narrative about family events). They can identify explicitly stated details that are not prominent by linking information in several places in short texts on familiar topics (for example, a series of very short texts, or two sentences in an illustrated very short text on a school-based topic, or multiple cells in a table). They can make a low-level inference or give literally stated evidence for a character's attitude in a narrative about a children's adventure. They can draw on background knowledge and understanding of structure of a table of school-based information to add information to the table. They can deal with a moderate level of plausible competing information.

Exhibit 27 and Exhibit 28 illustrate the kinds of tasks that students performing at Level 10 are able to do.

Exhibit 27: The Hole Q2 (partial credit)⁷

Why does Samsur refuse to climb down into the hole?

.....





Difficulty: 225 (Level 10)

In The Hole Q2, students proficient at Level 10 are likely to receive partial credit (Code 1) for this item: they are able to identify Samsur's stated reason for not climbing down into the hole, but they do not recognise that this is an excuse, covering for his fear of what might be in the hole.

⁷ For full stimulus text, see pg 33



Exhibit 28: Country Fact File Q4

	Afghanistan	Vietnam	Philippines	Nepal
				
Climate	arid to semi-arid; freezing winters and hot summers	tropical in south; monsoonal in north	usually hot and humid	subtropical in south; cool summers and severe winters in north
Geography	landlocked and mountainous	the fertile Mekong river delta covers a large part of south western Vietnam	made up of 7107 islands	landlocked; contains eight of the world's 10 highest peaks
Main crops	wheat, fruits, nuts; wool, sheepskins	paddy rice, coffee, rubber, cotton; fish	sugarcane, coconuts, rice	rice, corn, wheat, sugarcane, milk
Typical exports (goods sold to other countries)	fruits and nuts, carpets, saffron	crude oil, marine products, rice, coffee, rubber; garments	electronic equipment, transport equipment, garments	carpets, clothing, leather goods
Wildlife	the Marco Polo sheep: it has the longest horns of any sheep	the saola (a kind of antelope): one of the world's rarest animals	the Philippine Eagle: the largest eagle in the world	the one-horned rhinoceros: the world's fourth largest land mammal

According to the text, which country exports the same goods as Afghanistan?

.....

Scoring Guide

Code 1: Refers to Nepal. May also refer to Afghanistan.

1. Nepal
2. Nepal and Afghanistan

Code 0: Refers to any other country either alone or in conjunction with Nepal.

1. Philippines
2. Nepal and Vietnam

Difficulty: 229 (level 10)

In *Country Fact File Q4* (Exhibit 27), students are able to find a similarity between two countries in a table of information. They use information in the row 'Typical exports' to compare multiple pieces of information about four countries (represented by the columns in the table), recognising that both Nepal and Afghanistan export carpets.

Suggestions for teaching:

Show students a table of information, containing rows and columns. Ask students what it is; discuss the nature and purpose of the text. Discuss with students the organisation of tables, and why it is helpful to organise information in this way. Discuss the way the table is organised in rows and columns. Show them the headings of each column, and discuss the difference between the headings and the kind of information in the cells of each column. Show them the labels for each row, and discuss the difference between the labels for the rows and the kind of information in the cells of each row. Write the words 'table', 'row', 'column', 'heading' and 'cell' for them, as well as any other features of the table that arise in the discussion. Students can practise reading the words aloud. Ask students to copy these words. Ask students in groups to construct a table themselves – for example, categorising members of the class according to where they live, or how many members they have in their family. Students can then label their table with the words they have learned. Discuss how the structure of the table helps to group information and highlight similarities and differences. Ask students to use their table to compare and contrast information.



Level 9 – 210 to less than 222

Students at this level are performing well relative to their cohort.

31% of Class 6 students demonstrated the reading literacy required to achieve Level 9 or above.

Students at Level 9 are typically able to identify one or two pieces of explicitly stated information in different parts of texts of varying lengths on familiar topics (such as a brief note to a family member, a persuasive letter to a relative, or a medium or long narrative about family events or a children’s adventure), where the task provides strong support (a direct word match, an illustration, or the information is in a prominent position or repeated several times in the text). They can make a simple inference (about a character in a family, or the behaviour of an insect). They can recognise and use knowledge of the structure of simple texts (for example, to identify the writer of a short note or show limited understanding of categories in tables containing school-based information). They can recognise the function of a punctuation mark. They can deal with limited plausible competing information.

Exhibit 29, Exhibit 30 and Exhibit 31 illustrate the kinds of tasks that students performing at Level 9 are able to do.

Exhibit 29: The Hole Q8⁸

Nazneen says ‘I have an idea’.

What is her idea?

- A. to push her brother into the hole
- B. to go into the hole to explore
- C. to throw a coin into the hole
- D. to drop a stone into the hole

Key: D

Difficulty: 214 (Level 9)

Students are able to locate the part of the text that contains the quotation ‘I have an idea’, towards the end of the text. They are able to read the words that follow, stating that Nazneen picks up a stone and that she ‘will drop this into the hole’. All the information is explicitly stated, with students able to rely on direct word matches between the question and the text.

This task requires the reader to scan text to identify relevant sections, and then identify where the explanation (or clues) come in the text – whether earlier or later.

Exhibit 30: Country Fact File Q8⁹

How is information shown in this text?

- A. in sentences
- B. in paragraphs
- C. in a table
- D. in a map

Key: C

Difficulty: 212 (Level 9)

Students are able to identify the form in which information is shown in this text. They relate real-world knowledge to the text in order to recognise that its structure is a table.

8 For full stimulus text, see pg 33

9 For full stimulus text, see pg 35



Suggestions for teaching

Show students a text that consists of sentences and paragraphs. Find a table of information, containing rows and columns. Ask students to comment on the differences between the two texts: the kind of information included, the way the texts look, the use of sentences versus points, the use of images and labels, and other differences that may be observed. Discuss with students the organisation of tables, and why it is helpful to organise information in this way. Explain the difference between sentences, paragraphs, rows, columns, headings, cells in a table. Make sure that students understand the names for these text elements as well as their purpose. Ask students in groups to construct a table themselves - for example, categorising members of the class according to where they live, or how many members they have in their family. Students can label their tables with headings. Ask each group to talk about the information in their table, and explain the rows and columns.

Extend this kind of activity, using other text types. For example, it might be possible to show students a map. Discuss what a map is, and the kind of information it includes. Students may be unfamiliar with maps, so they may need a lot of support to understand the purpose of a map, and its features.

Exhibit 31: Country Fact File Q3¹⁰

Which country has an unusual bird?

- A. Afghanistan
- B. Vietnam
- C. Philippines
- D. Nepal

Key: C

Difficulty: 211 (Level 9)

Students are able to distinguish the relevant row (wildlife) and column (Philippines) in this table of wider-world information (facts about countries) that lead them to the cell that refers to an unusual bird (eagle).

¹⁰ For full stimulus text, see pg 35



Level 8 – 198 to less than 210

Students at this level are achieving around the average proficiency for their cohort: the mean score on the scale for Class 6 is 200.

55% of Class 6 students demonstrated the reading literacy required to achieve Level 8 or above.

Typically, students at Level 8 show limited ability to identify given information such as directly stated detail in one of a series of very short texts, or a person's intention in a medium-length text on a familiar topic (such as a persuasive letter to a friend or a narrative about family events), where the task provides strong support (an exact or synonymous word match to direct the reader to the relevant section of a text, the information is at the beginning of the text, or there are multiple clues to the intended answer). They can make a simple comparison of information in a school-based text describing observable behaviour or concrete things (such as a table of facts about common animals or features of countries).

Exhibit 32 illustrates the kinds of tasks that students performing at Level 8 are able to do.

Exhibit 32: The Hole Q6¹¹

Which word best describes Nazneen?

- A. clever
- B. scared
- C. excited
- D. greedy

Key: A

Difficulty: 198 (Level 8)

Students are able to identify clues in Nazneen's actions and words in this medium-length narrative text describing a children's adventure: Nazneen has several suggestions for what is in the hole, and how they can find out. Students who read the whole text will form an overall impression of Nazneen, and make the inference that she is clever.

Suggestions for teaching

Read a story about two or three characters with the students. (Depending on the skills of the students, the teacher may choose to read the story aloud to the students, or they may read the story themselves. The focus of the learning is on sharing an interpretation of the behaviour and feelings of characters in a story, rather than on deciphering the written symbols.) Ask students to think of words (adjectives) to describe each of the characters. Write the words so that all students can see the words. Ask students to explain why they chose each word. Decide which words match each character. Read the story again, if this seems necessary. See if there are several words that can describe each character. Discuss the differences between the characters in the story. Then discuss the differences between the words used to describe them. Ask students to write down the name of each character, and the word or words that describe each one. Ask students to read the characters' names and the words aloud, to make sure they can read the words.

As an extension activity, ask students to write a sentence that uses one of the words. They can write a sentence that comes from the story, or a new sentence of their own, as they wish. Ask students to read aloud the sentences they have written. See who has the most interesting sentence.

¹¹ For full stimulus text, see pg 33



Level 7 – 186 to less than 198

Students at this level are performing just below the average for Class 6 Afghan students.

Just over three quarters (77%) of Class 6 students demonstrated the reading literacy required to achieve Level 7 or above.

Students at this level are typically able to recognise simple details, explicitly stated, in very short texts (such as a note to a relative), where the task provides strong support (such as a direct match between words in the question and the text). They can identify the implied message of a long narrative text, supported by a repeated word match. They can deal with competing information when it is not prominent (for example, when it is in an irrelevant part of the text).

Note: there is limited information about performance at this level, so the description of performance is inferred from performances at the level above. Due to the limited pool of items being released to the public, no example question can be provided to illustrate this level.

Level 6 – 174 to less than 186

Students at this level are performing poorly relative to their cohort.

90% of Class 6 students demonstrated the reading literacy required to achieve Level 6 or above.

Typically, students at Level 6 show understanding of single sentences, where tasks are simple and direct. They are able to match a given word to a simple illustration of a highly familiar object. They can deal with competing information if it exists only at the word level, when it may share grapho-phonetic similarity with the correct answer.

Note: there is limited information about performance at this level, so the description of performance is inferred from performances at the level below. Due to the limited pool of items being released to the public, no example question can be provided to illustrate this level.



Level 5 – 162 to less than 174

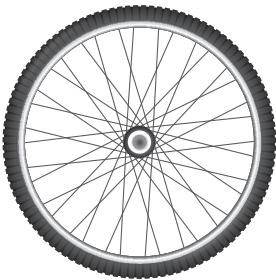
Students at this level are performing very poorly relative to their cohort.

96% of Class 6 students demonstrated these and more advanced skills in reading.

Typically, students at Level 5 are able to match one of four given words to a simple illustration of a single highly familiar object, where the task is simple, direct and repetitive. Generally, competing information (distracters) is semantically unrelated and shares no grapho-phonetic similarity with the correct answer.

Exhibit 33 illustrates the kinds of tasks that students performing at Level 6 are able to do.

Exhibit 33: Wheel



- A. Car
- B. Shoe
- C. Wheel
- D. Goat

Key: C

Difficulty: 170 (Level 5)

The word choices presented as options to label this image are semantically unrelated, and have no grapho-phonetic similarity to the word for 'wheel'.

Suggestions for teaching

At this level, students may have difficulty in recognising words and non-words, or in distinguishing words within sentences. Find some common objects, and ask students to name them. Write down the names for the objects. Ask students to read aloud the names. They should then make drawings of each object, and write the name of the object next to each one.

An extension activity would be to ask students to make up a sentence using each object. It could be a sentence about how the object is used, or it could be a statement about who owns the object, or where it can be found. At this stage students can simply say their sentences aloud. They may need help in completing their sentences. Choose a sentence that one of the children has made up, and ask someone to write it down so everyone can see it. Get a few of the children to read the sentence aloud. If there are some weaker students, ask them to find the word in the sentence that describes or identifies the object. Ask students to decide how many words there are in the sentence. Make sure all students can find the first word and the last word. There are many similar activities that can be used with students, allowing them to practise identifying words in a meaningful context, writing individual words, making up sentences, writing these sentences down, and reading them aloud.



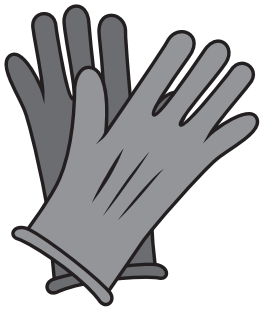
Level 4 and below – less than 162

Students at this level are performing at a level below the lowest level described by the Class 6 proficiency scale.

Four per cent of Class 6 students did not demonstrate the skills, knowledge and understanding described at Level 5.

There were insufficient tasks in the assessment that measured skills below those attained by students at Level 5 for a general description of Level 4 to be constructed. However, a few tasks appeared below Level 5, one of which is illustrated below, in Exhibit 34.

Exhibit 34: Gloves



- A. Gloves
- B. Grapes
- C. Girl
- D. Road

Key: A

Difficulty: 156 (Level 4)

It is hard to explain why the word for 'gloves' is more recognisable than other individual words used in the assessment. It is possible that the word for 'gloves' is more often spoken in isolation than words such as 'wheel', making it easier to recognise.



Writing literacy

Tasks in the mathematical and reading literacy assessments are generally marked as correct or incorrect, and the task appears at a single location on the described proficiency scale.¹² In contrast, the writing literacy tasks in the MTEG Afghanistan instrument are more complex or ‘larger’ tasks, which are marked on several different criteria. Moreover, each criterion may be divided into several categories for scoring, depending on the quality that the writing exhibits in a given feature.

The mathematical and reading assessments are designed to include many tasks encompassing a range of difficulty to capture students’ abilities. In contrast, the writing assessment has fewer tasks. While there is still some difference in the difficulty of writing tasks, they are designed so that various responses to the one writing task can capture a broad range of student ability.

In their 30 minutes of writing literacy assessment, students may have been administered two longer writing tasks, up to five shorter writing tasks, or a combination of longer and shorter tasks – a much smaller number of tasks than in either reading or mathematics. But although each student is only administered a small number of tasks, they are designed so that students, regardless of their level of proficiency, can demonstrate their writing skills.

Four writing tasks are used in this report to illustrate the writing literacy instrument and reporting. Each of the writing tasks included in the assessment has its own set of marking criteria, as shown in Exhibit 35.

Exhibit 35: Marking criteria for example writing tasks

Task	Criterion	Maximum score/ Number of scale locations
Brothers’ Race	Story elements	2
	Narrative sequence	2
	Development of narrative	4
	Punctuation	2
	Sentence structure and complexity	3
Celebration	Ideas (relevance)	2
	Vocabulary	2
	Handwriting	2
Scenes we see – bird over mountains	Vocabulary	1
	Syntax / sentence structure	2
Objects we see: foot	Vocabulary	1
	Spelling	1

Each of the criteria for a writing task are further divided into categories. The task *Brothers’ Race* (Exhibit 36 and Exhibit 37) is presented by way of illustration.

Exhibit 36: Brothers’ race

Use the picture to help you write a story. Write as much as you can.



One day, ...

.....

.....

.....

.....

¹² In a few mathematical and reading literacy tasks, ‘partial credit’ marking is used, with fully satisfactory responses given full credit (a score of 2), and partially successful responses given ‘partial credit’ (a score of 1). These categories of credit will appear at different locations on the scale. An example of this is shown in the reading described proficiency scale, where The Hole Question 2 appears at both Level 10 and Level 11 (see Exhibit 24).



Brothers' Race is assessed on five different criteria: *story elements*, *narrative sequence*, *development of narrative*, *punctuation*, and *sentence structure and complexity*. Exhibit 37 shows the *Brothers' Race* marking guide.

Exhibit 37: Brothers' Race marking guide

Criterion	Score	Description
story elements	0	evidence of a response, but no relevant information is included. No introduction or conclusion.
	1	has an introduction (scene setting) or an ending (conclusion)
	2	has an introduction (scene setting) and an ending
narrative sequence	0	evidence of a response but no relevant information is included
	1	ideas are present but not a narrative
	2	ideas are linked into a narrative
development of narrative (elaboration of ideas)	0	evidence of a response, but no relevant information is included
	1	fragments: few ideas or no complete ideas
	2	limited writing related to the picture
	3	simple writing related to the picture; limited detail
punctuation	0	no evidence of ability to use punctuation (no commas or full stops correctly used)
	1	some correct use but some problems with punctuation
	2	correct use of punctuation
sentence structure and complexity	0	isolated words or sentence fragments OR copied from stimulus
	1	some sentences are incomplete OR sentences contain many errors
	2	sentences are very simple and repetitive but generally correctly formed OR are more complex but with errors
	3	sentences are varied in structure and correctly formed

As shown in Exhibit 37, these criteria have varying numbers of marking categories (score points). Three of the criteria (*story elements*, *narrative sequence* and *punctuation*) are marked as 0, 1 or 2. *Sentence structure and complexity* are marked with 0, 1, 2 or 3, and *development of narrative* is marked on a five-point scale (0, 1, 2, 3 or 4). The number of different categories was determined empirically, based on the number of clear categories of response that were observed in the collection of students' writing obtained from the MTEG assessment.

There are 13 possible score points for *Brothers' Race* (excluding zeros), which appear at different locations on the described proficiency scale.

For example, on the described proficiency scale for writing literacy (Exhibit 38 following), it can be seen that the scoring category 4 of the criterion *development of narrative* for *Brothers' Race* ('detailed writing with relevant ideas') is located at Level 10, while the scoring category 2 ('limited writing related to the picture') is located at Level 8.

As with mathematical and reading literacy, the level descriptions are a synthesis of the descriptions of cognitive demand of tasks (for writing literacy, scoring categories) that are located in that region of the calibrated described proficiency scale.



Exhibit 38 is a description of the proficiency scale for writing, showing a sample of the criteria used (with their score points given in brackets). Exhibit 39 presents the scale with illustrated items.¹³

Exhibit 38: Proficiency descriptions for writing (Class 6)

Level and examples

Proficiency description

Level 10 and above (224 and above)

- eg Brothers' Race:
- Development of narrative (4)
 - Punctuation (2)
- eg Celebration:
- Ideas (relevance) (2)

Students at this level are typically able to produce texts where ideas are elaborated to some extent, and generally relevant to the task (for example, telling a short story or presenting an opinion); they can write texts in which sentences are varied in structure and correctly formed; and they can use vocabulary that is adequate to convey some level of detail (for example, describing a scene).

Class 6 students at this level: 8%

Level 9 (216 to less than 224)

- eg Celebration:
- Vocabulary (2)
- eg Brothers' Race:
- Punctuation (1)
 - Narrative sequence (2)
 - Development of narrative (3)
 - Story elements (2)

Students at this level are typically able to include important elements that are characteristic of the kind of writing required (for example, use persuasion in a message to a family member; write an introduction and ending in a narrative); they can provide minor elaboration in their texts; they can form simple sentences correctly and use vocabulary adequately to convey important elements of a short and simple message; they can generate and spell words correctly beyond basic vocabulary in writing about family or school; they can use some punctuation correctly in a story; and they can control handwriting to produce good letter formation.

Class 6 students at this level: 11%

Level 8 (208 to less than 216)

- eg Celebration:
- Handwriting (2, 1)
 - Ideas (relevance) (1)
 - Vocabulary (1)
- eg Brothers' Race:
- Development of narrative (2, 1)
 - Narrative sequence (1)
 - Story elements (1)
- eg Scenes we see – Bird over mountains:
- Syntax (2)

Students at this level are typically able to provide some simple ideas relevant to a task (for example, describe some elements in a picture or tell part of a story); they can form one or two simple sentences correctly using a basic pattern; they can use basic vocabulary to describe a scene or convey a simple message; they can spell basic words in a letter or when giving an opinion; and they can write legibly with most letters well formed.

Class 6 students at this level: 17%

Level 7 (200 to less than 208)

- eg Scenes we see – Bird over mountains:
- Syntax (1)
 - Vocabulary (1)

Students at this level are typically able to begin to include important elements of writing (for example, an introduction to a story, or part of a process when writing a set of instructions); they can produce up to two very basic sentences correctly; they can use simple and relevant nouns, verbs and adjectives; and they can spell the names of common objects correctly.

Class 6 students at this level: 19%

Level 6 (192 to less than 200)

Class 6 students at this level: 14%

Students at this level are typically able to produce a recognisable word to label an everyday object; and they can correctly spell single words prompted by a picture.

Level 5 and below (less than 192)

- eg Foot:
- Vocabulary (1)

Below the lowest level currently described: there were insufficient items at this level in the Class 6 test to create a general description.

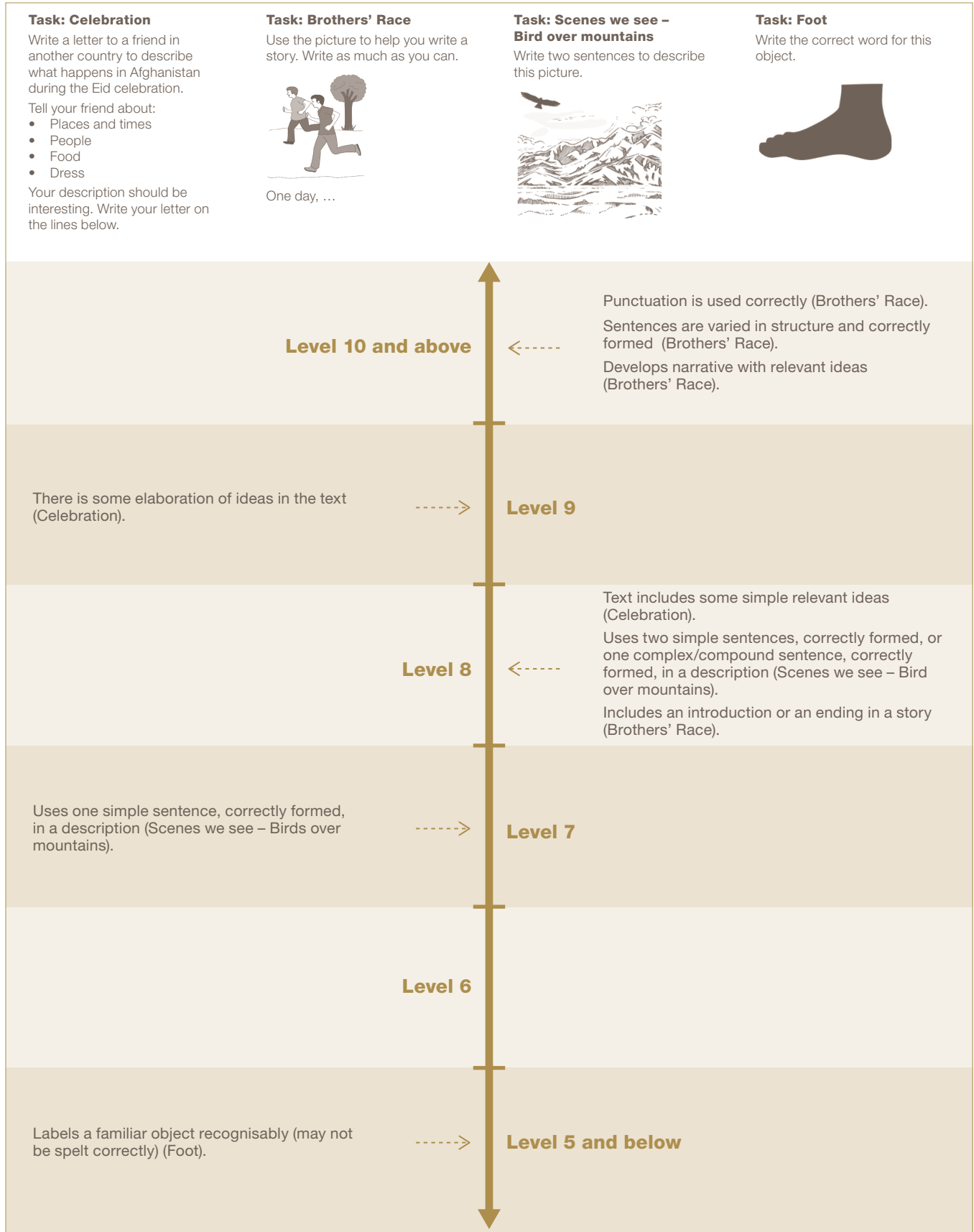
Class 6 students at Level 5 and below: 31%

¹³ Examples are items from the Class 6 assessment. Due to the limited number of publicly available items, examples cannot be given for all levels.



Writing skills that were measured in four of the MTEG writing tasks are used to illustrate this scale. The four tasks are shown above the scale. Skills relating to a single task may appear at different levels along the scale.

Exhibit 39: Graphic representation of illustrated writing scale





What Class 6 students know, understand and can do in writing literacy

Five levels of proficiency provide descriptions of the writing literacy of Afghan Class 6 students. A further level (Level 5) is identified but not described, as there were insufficient items at that level to create a general description.

(Note: Unlike in the mathematics and reading sections above, the suggestions for teaching writing are not individualised for specific items; instead, they are combined at the end of all the descriptions and examples of writing items.)

Level 10 and above – 224 and above

Students performing at Level 10 and above are the most proficient in their class.

Eight per cent of students in Class 6 performed at this level or above.

When composing a short narrative text, a letter to a family member or a piece of persuasive writing, students at Level 10 and above typically provide relevant detail, so that the reader is well oriented to the content. They use a variety of sentence forms and the structure of their sentences is correct. Vocabulary is used to provide detail in their writing, with a good range of parts of speech: verbs, adjectives and nouns. Simple punctuation marks, including question marks and full stops, are used correctly.

For the writing task Brothers' Race (see Exhibit 36 above), students' writing is assessed on several criteria, including narrative development, sentence structure and complexity, and punctuation. When responding to this task, students proficient at Level 10 typically exhibited the following features in their writing:

- Detailed writing with relevant ideas
- Sentences varied in structure and correctly formed
- Correct use of simple punctuation



Level 9 – 216 to less than 224

Students proficient at Level 9 are performing well in comparison with the whole of Class 6.

19% of students in Class 6 performed at this level or above.

Students performing at Level 9 can describe a picture in general terms, with limited complexity and some simple detail – though there may be some irrelevant inclusions. In a persuasive piece, the ideas presented are generally easy for the reader to follow, and reasonably convincing. In both narrative and descriptive pieces, ideas are linked, and the writing has an introduction and an ending. Sentences are varied in structure (including at least one complex sentence) and correctly formed. Vocabulary is adequate to convey basic ideas in a range of tasks. The writing shows the student’s ability to spell beyond basic words. Handwriting is well controlled.

Students proficient at Level 9 who were administered the task *Brothers’ Race* (see Exhibit 36 above) exhibited the following features in their writing:

- Simple writing related to the picture, with limited detail
- Linked ideas in the narrative
- Some correct use of punctuation



Students proficient at Level 8 who were administered the task *Celebration* composed writing with the following features:

- Some simple relevant ideas
- Vocabulary adequate to convey the message to a limited extent (Students performing **above** Level 8 who were administered this task used vocabulary in their letter that was adequate to convey details.)
- Legible handwriting, with most letters well formed (Students performing **above** Level 8 showed good control of letter formation throughout.)

The writing of students proficient at Level 8 who were administered *Brothers' Race* (see Exhibit 36 above) produced:

- Limited ideas relating to the picture – not necessarily in the form of a narrative.



Level 7 – 200 to less than 208

Students performing at Level 7 are at or just above the average level of performance for Afghan Class 6 students in 2013.

Over half of students in Class 6, about 55%, performed at Level 7 or above.

Students at Level 7 are just beginning to be able to express ideas in writing. They can compose pieces of written text of one or two sentences. They express their ideas in a way that is comprehensible, if not necessarily correct. If asked to write a description of a person or place, they use appropriate forms of language such as verbs and adjectives; for a task that requires instructional writing, they use an appropriate register, such as the imperative form. They use the present tense correctly. Basic words are spelled correctly.

Exhibit 41 shows *Scenes we see – Bird over mountains*, a short descriptive writing task. Students were asked to write two sentences to describe the picture.

Exhibit 41: Scenes we see – Bird over mountains

Write two sentences to describe this picture.



1.
.....
2.
.....

Students' writing on *Scenes we see – Bird over mountains* was assessed on syntax and sentence structure, and on use of vocabulary.

Students proficient at Level 7 who were administered this task produced writing with the following features:

- A single, simple, correctly formed sentence, or a longer sentence or two but with some errors, although still comprehensible (Students performing **above** Level 7 who were administered this task produced two simple sentences, correctly formed, or at least one correct and more complex sentence.)
- Use of at least three relevant content words – nouns, verbs or adjectives.



Level 6 – 192 to less than 200

Students performing at Level 6, just below the average level of performance of Class 6 Afghan students, are emerging as writers.

Over two-thirds of Class 6 students, about 69%, performed at Level 6 or above.

Students at Level 6 are able to write single words to label an everyday object, or one or two words to describe a feeling. They can convey a word's meaning in writing, sometimes spelling it correctly, in either Dari or Pashto.

One of the easiest tasks in the writing literacy assessment was *Objects we see*, a word labelling task. Students were presented with four pictures of common objects and were asked to write the correct word next to each object pictured. Exhibit 42 shows one of the four parts of *Objects we see*, a picture of a foot.

Exhibit 42: Foot



Each response to *Objects we see* was scored on two criteria: vocabulary and spelling. Students proficient at Level 6 who were administered this task in either Dari or Pashto were able to label the object as a foot with correct spelling.

Level 5 and below – less than 192

There were not enough items in the writing literacy assessment below 192 on the scale to create a general description of what students at this level can do in writing, but a few tasks appear below 192 on the scale. For example, students performing at Level 5 who were administered the *Foot* task in Pashto were able to spell the word correctly. (Students proficient at level 5 who were administered the test in Dari, however, were unlikely to be able to spell 'Foot' correctly.) In both Dari and Pashto, students performing at Level 5 could produce a 'word' that was recognisable as 'Foot', even if it was not spelled correctly.

Almost one-third of Class 6 students – 31% – could only produce this kind of writing, or less.



Suggestions for teaching writing

There are many strategies that can be used to improve students' writing. One important approach is to use classroom activities that mix reading with writing. Look at the suggestions for teaching in the reading literacy example items above: there are many ideas for such mixed activities, where students talk about their ideas or listen to stories or discussions before writing.

It is important to get students to read aloud what has been written – words as well as sentences. Encourage students who have difficulty with the task to be involved, as well as stronger students.

To prepare students for writing, ask several students to tell stories or recount events from their lives to the class. Try to ensure that every student has an opportunity at some stage to contribute something (on different occasions, as conditions allow). Ask students to write their own versions of these events.

Give students a set of several sentences that describe a procedure, and ask them to put them in order (use an example of a procedure that will be familiar to students).

Set tasks that involve writing a variety of different text types: narratives (such as stories), recounts of events (such as diary entries), persuasive writing and opinions, procedures (instructions) and descriptions (places, people, objects).

Look at good models of published writing, such as newspapers, magazines and children's fiction, and of everyday texts such as letters, notes, public notices, and sets of instructions.

Use group writing, where the class contributes ideas, and the teacher writes the text.

Using the MTEG assessment tasks:

More ideas can be generated by looking at the criteria on which writing is assessed in MTEG, referring to the example tasks above in Exhibit 40 to Exhibit 42, and the scoring criteria used for them.

When planning your teaching of writing, focus on different aspects of writing, including:

- *Development of ideas and Text organisation:* elicit multiple suggestions from students for telling a story. Then ask them to decide which idea should be written first, which should come last, and which ideas come in between. Write down a story on a piece of paper, then cut it into pieces with one sentence on each piece of paper and ask students to put the pieces of paper in the right order. This idea can be used with other text types, such as a set of instructions, or a text persuading someone about an idea, or a text where someone is expressing an opinion about an event.
- *Vocabulary:* show students an object, and ask them first to say the word that describes it. Then write it somewhere so the students can see it, and then ask the students to write the word themselves.
- *Sentence structure:* ask students to write one sentence to describe a picture or an event or part of a story. Ask students to read their sentence aloud. Discuss with the students whether the sentence is well structured, easy to understand, or whether, for example, the word order or some other feature needs changing. Ask students to say the sentence again, with improvements. Students can then write the revised sentence down themselves.

Students may need a lot of practise in identifying individual words, and the sounds and letters that make words, as well as in writing these words. The low level of performance of a large proportion of Class 6 students in writing literacy (31% at or below Level 5) indicates that many students are not yet able to link the meaning of words to written symbols. Lessons dedicated to recognition of the relationship between graphic symbols (letters) and sounds clearly need to be a substantial part of reading and writing literacy pedagogy for these students. It is important that teaching is targeted at the right level for the student.

Concluding remarks

The focus of this report has been the mathematical, reading and writing literacy of Class 6 students. Other reports in this series will look at the relationship between these proficiencies and characteristics of students and schools that were collected in questionnaires accompanying the learning assessments, with topics including the age of the students, their gender, their socio-economic background, their attitudes to school and learning, and where students live. In many cases, the background characteristics of students (such as gender) and schools (such as location) are not normally alterable. Other characteristics, such as availability of textbooks and school infrastructure, can be changed by policy and system-level action.

Background characteristics that may have associations with students' learning outcomes will be considered in future publications, and will include multivariate analysis.

The MTEG results on student achievement examined in this report provide an important baseline for Afghanistan to build upon. Policy makers, curriculum developers and teacher trainers can compare Class 6 results in 2013 with future Class 6 results. Furthermore, the Class 3 and Class 9 components in MTEG Afghanistan are currently under development and will reveal useful information on growth in educational outcomes from Class 3 through to Class 6 and on to Class 9.

The MTEG 2013 Class 6 results indicate three major points:

- A wide range of abilities is demonstrated by the Class 6 population, in mathematical, reading and writing literacy.
- The majority of students are demonstrating 'basic proficiencies' such as the ability to

do basic mathematical operations; identify directly stated information in short texts on familiar topics; and write one or two very basic sentences.

- There is a substantial minority of Class 6 students in Afghanistan who did not demonstrate these 'basic proficiencies'.

As a point of reference, results from international studies on mathematics and reading in Class 4 have been examined alongside the Class 6 MTEG results. These international studies include results from the Islamic Republic of Iran, Kazakhstan and Azerbaijan. It appears that, in general, greater proportions of Class 4 students in these countries are performing at or above the proficiency levels demonstrated by Afghanistan's Class 6 students.

A more direct comparison between other Class 6 populations in the region would be highly desirable and could help the establishment of appropriate benchmarks of proficiency for Class 6 in Afghanistan.

The setting of appropriate benchmarks usually involves a discussion between educational policy makers and academics. The MTEG results reported here and in future reports can inform any benchmark setting exercise. Subsequent rounds of MTEG could report on progress towards benchmark goals.

Underlying the described proficiency levels of MTEG and other similar described proficiency scales is a conception of mathematical, reading and writing literacy as continua of learning – beginning from early stages of schooling and developing across the class levels and even beyond school education. Given their continuous and wide-ranging nature, and their orientation towards authentic use of knowledge, these

scales can be powerful tools for tracking student progress towards the attainment of a set of skills that enable them to participate fully both in education and in life beyond the classroom.

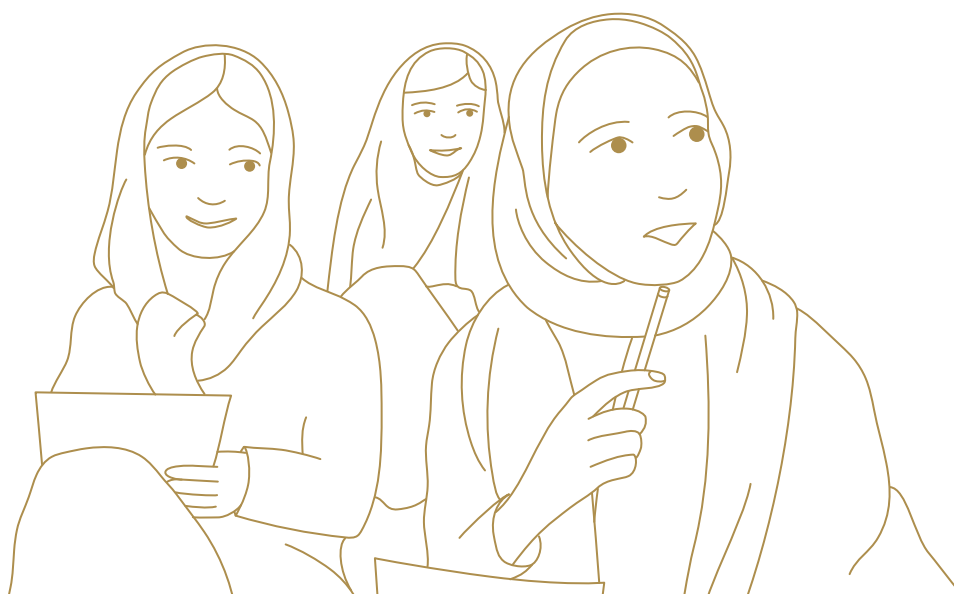
A large amount of how, and how much, children learn is directly in the hands of teachers. In fact, research shows that the quality of teaching has the biggest association with the quality of student learning of any identifiable variable (Hattie, 2009). This suggests that what is needed is a focus on the quality of teaching, both through policy and planning at the wider level, and through the professional practice of individual teachers in classrooms.

As has been outlined above, teaching should be targeted a little beyond students' current level of proficiency, as this is where the most effective instruction and learning are likely to take place. This approach has informed the suggestions for teaching included with the illustrative tasks. For example, in mathematics, students performing around Level 5 or just below are likely to benefit from teacher-led discussions of the characteristics of shapes (see *Team Games Q1*, pg 29); while students proficient at or just below Level 10

are likely to benefit from lessons on estimation of quantities in everyday contexts (see *Buying Walnuts*, pg 23).

In the suggestions for teaching in reading and writing literacy, there is an emphasis on combining the two, and on moving from oral discussion to written language. More specifically, at the lowest levels of reading proficiency, students may usefully be asked to find and orally identify objects in their environment, then write and read the names of those objects, first as individual words and then in sentences (see *Wheel*, pg 40). For Class 6 students with higher levels of proficiency (Levels 9 and above), activities such as analysing the features of tables and how they are organised (see *Country Fact File Q4*, pg 35), and discussing how characters interact with one another in stories (see *The Hole Q2*, pg 33) are likely to be appropriate.

It is hoped that this report, with its focus on what students know, understand and can do at different stages of development, will be of interest and use to teachers, teacher educators, and those working in the area of curriculum development in Afghanistan.



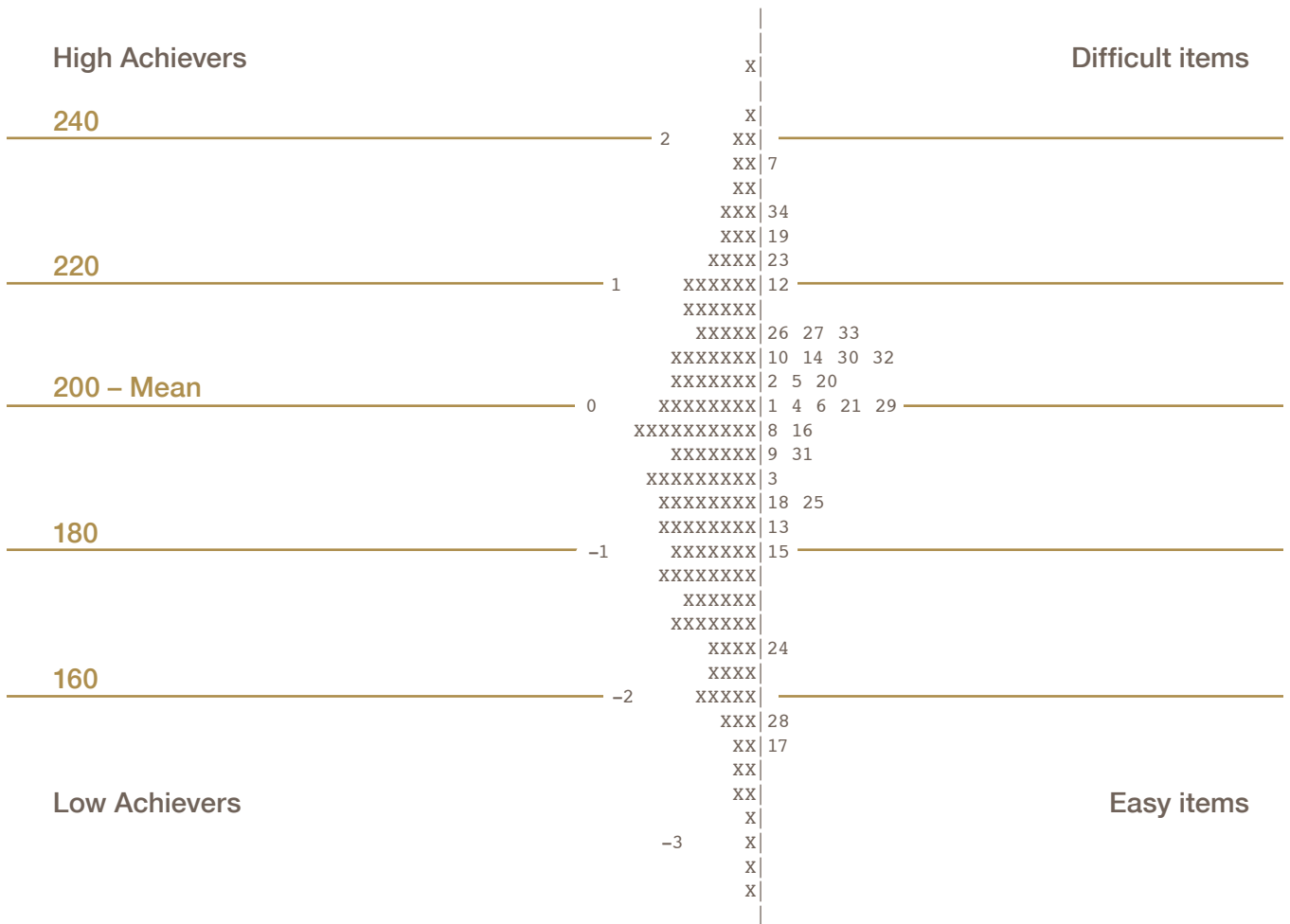
Appendix A: Main Assessment Framework variables

Literacy	Context	Process	Content
Mathematical Literacy	Personal; Local; Wider world; Intra-mathematical	Translate; Apply; Interpret and review	Number and algebra; Measurement and geometry; Chance and data
Reading Literacy	Personal; Local; Wider world	Locate; Interpret; Reflect; Recognise words	Text format: Continuous; Non-continuous; Composite
			Text type: Narrative; Descriptive; Persuasive; Instructional; Transactional; Label
Writing Literacy	Personal; Local; Wider world	Generate ideas; Control text structure and organisation; Manage coherence; Use vocabulary; Control syntax and grammar; Other, language-specific features	Narrative; Descriptive; Persuasive; Instructional; Transactional; Label

For more detailed information on the context, process and content categories, please refer to *An Assessment Framework for Monitoring Trends in Educational Growth* (ACER, in press).

Appendix B: Example calibrated scale

Simplified calibrated scale of student ability and item difficulty



On this map, each X on the left represents a number of students who took the assessment (34, for example, in reading) and each number on the right represents a task (or a score point) that was in the assessment.

Similarly, tasks that are the most difficult (that is, few students were able to do them) appear at the top of the scale; and tasks that are the easiest (that is, many of the students succeeded on them) appear at the bottom of the scale.

The most proficient students (that is, the students who succeeded on many of the tasks) are represented at the top of the scale; and the least proficient students (that is, students who succeeded on very few of the tasks) are represented at the bottom of the scale.

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