ASER assessment tasks

The testing process addresses ASER's central question - are children acquiring foundational reading and arithmetic skills? The process is designed to record the highest level that each child can comfortably achieve. That is, rather than testing grade-level competencies, ASER is a 'floor test' focusing on basic learning.

Testing is conducted at home, rather than in schools, so as to include out of school children and children attending different types of schools. All children in the 5-16 age group in a sampled household are tested using the same tools, irrespective of age, grade, or schooling status. Children are assessed on basic reading and simple arithmetic. In 2018, ASER included a 'bonus tool' that tested children in the 14-16 age group on their ability to apply basic arithmetic skills to some everyday tasks.

ASER's testing process incorporates various measures to ensure that the it captures the best that each child can do. Surveyors are trained to build rapport with children to create a relaxed and encouraging environment. Testing is conducted in the local language of the child. Children are given the time they need to do each task on the assessment. The testing process is adaptive to the child's ability so that she does not have to attempt all levels. Thus, at the core of this test design is the child's comfort and a commitment to accurately record the highest level the child can perform at.

The following pages outline the ASER testing process used to assess each child on reading, arithmetic, and the bonus tool.

READING TASKS:

All children are assessed using a simple reading tool. The reading test has 4 tasks:

- **Letters:** Set of commonly used letters.

- **Words:** Common, familiar words with 2 letters and 1 or 2 *matras*.

- **Std I level text:** Set of 4 simple linked sentences, each having no more than 6 words. These words (or their equivalent) are in the Std I textbooks of the states.

- **Std II level text:** Short story with 7-10 sentences. Sentence construction is straightforward, words are common and the context is familiar to children. These words (or their equivalent) are in the Std II textbooks used in all states.

While developing the reading tool in each regional language, care is taken to ensure:

- Comparability with previous years' tools with respect to word count, sentence count, type of words and conjoint letters in words.

- Compatibility with the vocabulary and sentence construction used in Std I and Std II language textbooks of the states.

- Familiarity of words and context, established through extensive field piloting.

Sample: Reading test (Hindi)*

Std II level text
राजू नाम का एक लड़का था। उसकी एक बड़ी बहन व एक छोटा भाई था। उसका भाई गाँव के पास के विद्यालय में पढ़ने जाता था। वह खूब मेहनत करता था। उसकी बहन बहुत अच्छी खिलाड़ी थी। उसे लंबी दौड़ लगाना अच्छा लगता था। वे तीनों रोज़ साथ-साथ मौज-मस्ती करते थे।

Std I level text
हर रविवार नानी घर आती है। हमारे लिए मिठाई लाती है। मैं नानी के साथ सोता हूँ। वह मुझे कहानी सुनाती है।

Letters
ह   च   ट
ल   न
फ   म   र
स   त

Words
कुल   बड़ा
रोटी
पानी   चूना
चलो   हीरा
पैर
देर   कौन

* This is a sample. It has been shortened to a more concise layout for purposes of this report. However, the four components or 'levels' of the tool remain the same in the full version. Assessments in reading are conducted in 19 languages across the country.

How to test reading?

Std I level text (Paragraph)

Start here →

Ask the child to read either of the 2 paragraphs.
Let the child choose the paragraph herself. If the child does not choose give her any one paragraph to read.
Ask her to read it. Listen carefully to how she reads.

The child is **not** at **'Paragraph Level'** if the child:	The child **is** at **'Paragraph level'** if the child:
▪ Reads the paragraph like a string of words, rather than sentences. ▪ Reads the paragraph haltingly and stops very often. ▪ Reads the paragraph fluently but with **more than 3 mistakes.**	▪ Reads the paragraph like she is reading sentences, rather than a string of words. ▪ Reads the paragraph fluently and with ease, even if she is reading slowly. ▪ Reads the full paragraph with **3 or less than 3 mistakes.**
If the child is not at **'Paragraph Level'** then ask the child to read words.	If the child can read a paragraph, then ask the child to read the story.

Words

Ask the child to read any 5 words from the list of words. Let the child choose the words herself. If the child does not choose, then point out any 5 words one by one for her to read. The child is at **'Word Level'** if the child reads at least **4 out of the 5 words** correctly.	## Std II level text (Story) Ask the child to read the story. The child is at **'Story Level'** if the child: ▪ Reads the story like she is reading sentences, rather than a string of words. ▪ Reads the story fluently and with ease, even if she is reading slowly. ▪ Reads the full story with **3 or less than 3 mistakes**.
If the child is at **'Word Level'**, then ask her to try to read the same paragraph again and then follow the instructions for paragraph level testing. If she can correctly and comfortably read at least 4 out of 5 words but is still struggling with the paragraph, then mark the child at **'Word Level'**. If the child is not at **'Word Level'** (cannot correctly read at least 4 out of the 5 words chosen), then show her the list of letters.	If the child can read the story, then mark the child at **'Story Level'**. If the child is not at **'Story Level'**, then mark the child at **'Paragraph Level'**.

Letters

Ask the child to recognize any 5 letters from the list of letters.
Let the child choose the letters herself. If the child does not choose, then point out any 5 letters one by one for her to read.
The child is at **'Letter Level'** if the child correctly recognizes at least **4 out of 5** letters correctly.

In the Household Survey Sheet, mark the child at the highest level she can reach.

If the child is at **'Letter Level'**, then ask her to try to read the same words again and then follow the instructions for word level testing.

If she can recognize at least 4 out of 5 letters but cannot read words , then mark the child at **'Letter Level'**.

If the child is not at **'Letter Level'** (cannot recognize at least 4 out of 5 letters chosen), then mark the child at **'Beginner Level'**.

ARITHMETIC TASKS:

All children are assessed using a simple arithmetic tool. The arithmetic test has 4 tasks:

- **Number recognition 1 to 9**

- **Number recognition 10 to 99**

- **Subtraction:** 2-digit numerical subtraction problems with borrowing.

- **Division:** 3-digit by 1-digit numerical division problems with remainder.

While developing the arithmetic tool for the ASER age group, care is taken to ensure compatibility with the learning outcomes defined for number recognition, subtraction (with borrowing), division (3-digits by 1-digit) in state textbooks for Std I, II and III/IV, respectively.

Sample: Arithmetic test

How to test arithmetic?

Subtraction (2 digits with borrowing)

Start here →

The child is required to solve 2 subtraction problems. Show the child the subtraction problems. First ask the child to choose a problem. If the child does not choose, pick a problem.
Ask the child what the numbers are, then ask the child to identify the subtraction sign.
If the child is able to identify the numbers and the sign, ask her to write and solve the problem at the back of the Household Survey Sheet. Check if the answer is correct.
Even if the first subtraction problem is answered incorrectly, ask the child to solve the second question following the process explained above. If the second problem is correct, ask the child to try and do the first problem again.
If the child makes a careless mistake, then give the child another chance with the same question.

If the child **cannot do both** subtraction problems correctly, then ask the child to recognize numbers from 10-99.
Even if the child does just one subtraction problem incorrectly, give her the number recognition (10-99) task.

If the child **does both** the subtraction problems correctly, ask her to do a division problem.

Number Recognition (10-99)

Ask the child to identify any 5 numbers from the list. Let the child choose the numbers herself. If the child does not choose, then point out any 5 numbers one by one for her to read.
If she can correctly recognize at least **4 out of 5** numbers, then mark her at **'Number Recognition (10-99) Level'**.

Division (3-digits by 1-digit)

The child is required to solve 1 division problem. Show the child the division problems. She can choose any one problem. If not, then you pick one.
Ask her to write and solve the problem.
Observe what she does. If she is able to correctly solve the problem, then mark the child at **'Division Level'**.
Note: The quotient and the remainder both have to be correct.
If the child makes a careless mistake, then give the child another chance with the same question.

If the child is not at **'Number Recognition (10-99) Level'** (cannot correctly recognize at least 4 out of 5 numbers chosen), then ask her to recognize numbers from 1-9.

If the child is unable to solve a division problem correctly, mark the child at **'Subtraction Level'**.

Number Recognition (1-9)

Ask the child to identify any 5 numbers from the list. Let the child choose the numbers herself. If the child does not choose, then point out any 5 numbers one by one for her to read.
If she can correctly recognize at least 4 out of 5 numbers, then mark her at **'Number Recognition (1-9) Level'**.
If the child is not at **'Number Recognition (1-9) Level'** (cannot recognize at least 4 out of 5 numbers chosen), then mark her at **'Beginner Level'**.

The child must solve the numerical arithmetic problems at the back of the household survey sheet.

In the Household Survey Sheet, mark the child at the highest level she can reach.

BONUS TOOL TASKS:

Last year, ASER 2017 'Beyond Basics' survey tested youth in the age group 14 to 16 on their ability to apply basic reading and arithmetic skills to everyday tasks. These tasks included common calculations like counting money, adding weights, measuring length, and calculating the time; specific financial calculations like managing a budget, financial decision making using simple operations, and computing discounts and interest on loans; reading and understanding written instructions; and general knowledge.

Out of all the questions asked in 2017, four were selected to be administered to 14 to 16 year olds as a 'Bonus tool' in addition to the basic ASER assessment in reading and arithmetic in ASER 2018. These four questions involved calculating time, applying unitary method, using simple operations for financial decision making, and computing a discounted price. Each question is mapped to learning outcomes reflected in state textbooks for Std III, V or VII.

Sample: Bonus tool test

Only for children aged 14-16

If this girl sleeps at this time at night and wakes up at this time in the morning, then for how many hours does she sleep?

09:30 PM 06:30 AM

If 3 tablets are needed to purify 15 litres of water, how many tablets are needed to purify 35 litres of water?

15 Litres 35 Litres

These 5 books are available in two shops in a market. If you have to buy all 5 books, what is the least amount of money you would have to spend?

Shop 1 - Rate list		Shop 2 - Rate list	
Name of book	Price	Name of book	Price
Science	₹50	Science	Special Offer!! Set of 5 books for ₹299 Only
Math	₹80	Math	
Hindi	₹30	Hindi	
English	₹70	English	
History	₹40	History	

Sale!!! 10% Discount

M.R.P. ₹400

This is the price of this T-shirt and it is available on a discount of 10 percent. If you were to buy this T-shirt, how much money would you need to spend?

To standardize the testing process, surveyors adhered to a set of instructions while administering these questions to 14 to 16 year olds only:

- For each task, the surveyor showed the visual and read out the question. She was not permitted to change/alter the question or give the child an additional explanation, restricting the variation in oral stimulus.

- The surveyor could repeat each question only once. However, the child had the option to read it multiple times on her own.

- The exact answer given by the child for each question was recorded by the surveyor.

- The child could review each answer once.