एन सी ई आर टी
NCERT

पढ़े चलो, बढ़े चलो
RASHTRIYA MADHYAMIK SHIKSHA ABHIYAN

NATIONAL ACHIEVEMENT SURVEY – CLASS X
CYCLE 2 (2017-18)

STATE REPORT CARD

RAJASTHAN

PARTICIPATION

| 2634	89844	100%
Participating School	Participating Students	School Response Rate

This State Report Card (SRC) of National Achievement Survey (NAS) Class X (Cycle 2) provides an overview of students' academic performance in the state. The NAS surveyed a representative sample of all school types in each state and measured students' performance in five subjects – Mathematics, Science, Social Science, English and Modern Indian Languages (MIL) — Reading Comprehension.

Performance of students in your state: Average Percent Correct

	Mathematics	Science	Social Science	English	MIL
State average	38	38	44	37	57
National average	34	34	39	36	49
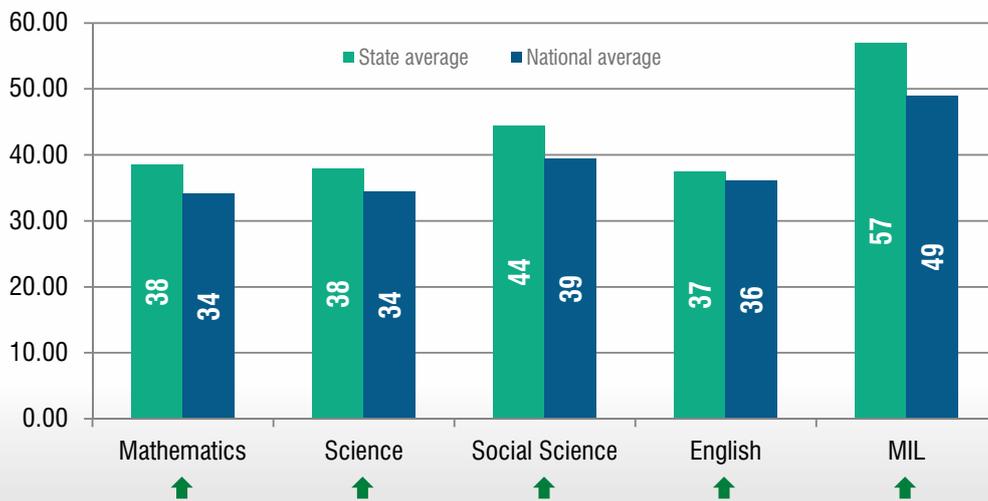
KEY

⬆ State average score is significantly ABOVE National average score

↔ No significant difference between State and National average scores

⬇ State average score is significantly BELOW National average score

Distribution of students by range (percent correct)

SUBJECTS		0 – 35 (%)	36 – 50 (%)	51 – 75 (%)	76 – 100 (%)
Mathematics	State	54	24	18	4
	National	67	20	11	2
Science	State	52	28	18	2
	National	62	27	10	1
Social Science	State	32	35	30	3
	National	44	38	17	1
English	State	55	23	19	3
	National	61	21	15	3
Modern Indian Language (MIL)	State	17	20	44	19
	National	27	27	39	7

Performance by: LOCATION

Subjects	Rural (% Correct)	Urban (% Correct)	Significant Difference
Mathematics	38	38	⬌
Science	38	37	⬆
Social Science	45	43	⬆
English	37	38	⬌
MIL	56	58	⬇

Performance by: GENDER

Subjects	Girls (% Correct)	Boys (% Correct)	Significant Difference
Mathematics	38	39	⬌
Science	38	38	⬆
Social Science	45	44	⬌
English	38	37	⬆
MIL	57	57	⬌

Performance by: SOCIAL GROUP

Subjects	SC (% Correct)	Others (% Correct)	Significant Difference	ST (% Correct)	Others (% Correct)	Significant Difference	OBC (% Correct)	Others (% Correct)	Significant Difference
Mathematics	38	41	⬇	34	41	⬇	39	41	⬇
Science	38	40	⬇	36	40	⬇	38	40	⬇
Social Science	44	46	⬇	41	46	⬇	45	46	⬇
English	37	41	⬇	34	41	⬇	38	41	⬇
MIL	56	61	⬇	50	61	⬇	58	61	⬇

Student participation: **PERCENT**

State sample		
Group	**Number of students**	**%**
Girls	39542	44
Boys	50302	56

State sample		
Group	**Number of students**	**%**
Rural	68056	76
Urban	21788	24

Group	**Number of students**	**%**
SC	15867	18
ST	15195	17
OBC	43764	48
Others	15018	17

MAXIMUM INTERVENTION REQUIRED (% of Students score below 35%)

Subject	Value
Mathematics	54
Science	52
Social Science	32
English	55
MIL	17
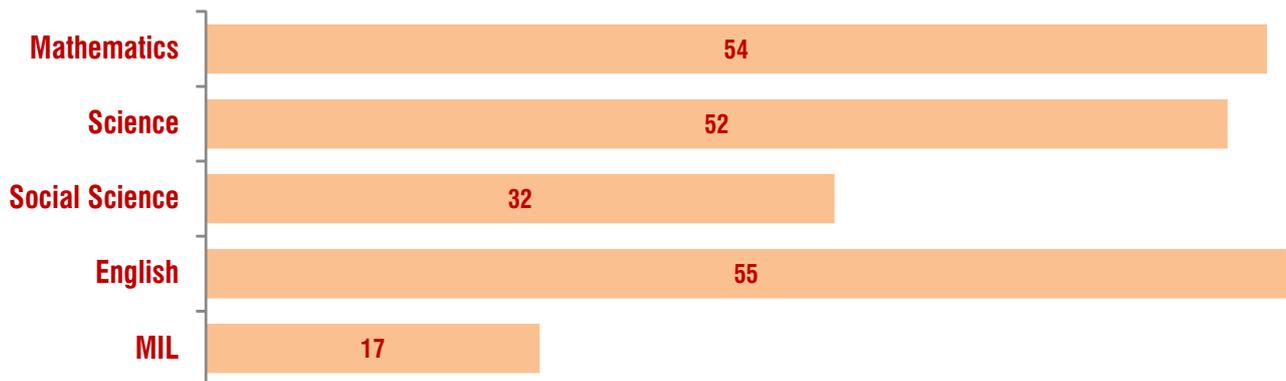
Skill-wise performance: (ITEM % CORRECT)

Subjects	Skill 1 (% correct)	Skill 2 (% correct)	Skill 3 (% correct)
Mathematics	42	38	34
Science	43	36	37
Social Science	47	46	42
English	43	34	35
MIL	50	60	56

Skill 1	**Remembering:** Recognizing or recalling knowledge from memory.
Skill 2	**Understanding:** Constructing meaning from different types of functions be they written or graphic messages.
Skill 3	**Applying:** Carrying out or using a procedure through executing, or implementing.

Performance of Students: CONTENT WISE

Subjects	Content domain	State average (percent correct)	National average (percent correct)	Significant difference
MATHEMATICS	**Mathematics (overall)**	**38**	**34**	⬆
	Algebra	37	35	⬆
	Geometry	39	35	⬆
	Mensuration	38	34	⬆
	Trigonometry	45	37	⬆
	Coordinate geometry	30	29	⬌
	Number system	34	30	⬆
	Statistics	40	33	⬆
	Probability	41	35	⬆
SCIENCE	**Science (overall)**	**38**	**34**	⬆
	Food	38	35	⬆
	Materials	37	33	⬆
	The living world	42	38	⬆
	Moving things, people and ideas	38	35	⬆
	How things work	23	22	⬆
	Natural phenomena	31	27	⬆
	Natural resources	41	40	⬆
SOCIAL SCIENCE	**Social science (overall)**	**44**	**39**	⬆
	History	44	38	⬆
	Geography	43	39	⬆
	Economics	45	40	⬆
	Political science	47	41	⬆
ENGLISH	**English (overall)**	**37**	**36**	⬆
	Reading comprehension	37	37	⬇
	Language element	38	35	⬆
MODERN INDIAN LANGUAGE (MIL)	**Modern Indian Language (overall)**	**57**	**49**	⬆
	Reading comprehension	56	52	⬆

More difficult

20% of students answered this item correctly

If $ax^2+bx+c=0$ has equal roots, then c is equal to

1. $\dfrac{-b}{2a}$

2. $\dfrac{b}{2a}$

3. $\dfrac{-b^2}{4a}$

4. $\dfrac{b^2}{4a}$

Skill: Skill 3 item
Content Domain: Algebra

% Answers:
1. 30.0%
2. 25.1%
3. 19.5%
4. **19.8%**

If the nth term of an A.P. is (3n + 1), then its 30th term is

1. 31

2. 91

3. 90

4. 94

Skill: Skill 2 item
Content Domain: Algebra

% Answers:
1. 25.8%
2. **32.0%**
3. 27.8%
4. 8.9%

32% of students answered this item correctly

AOB is a sector of a circle of radius 4 cm subtending an angle of 45. .at the centre 'O' of the circle. Area of the sector, in cm^2, is

1. π

2. 2π

3. 3π

4. 4π

Skill: Skill 1 item
Content Domain: Mensuration

% Answers:
1. 17.4%
2. **49.6%**
3. 11.2%
4. 17.5%

50% of students answered this item correctly

If $\Delta ABC \cong \Delta PQR$, then which of the following is true?

1. $B \leftrightarrow R$

2. $C \leftrightarrow Q$

3. $A \leftrightarrow R$

4. $A \leftrightarrow P$

Skill: Skill 1 item
Content Domain: Geometry

% Answers:
1. 11.1%
2. 13.2%
3. 15.8%
4. **56.5%**

57% of students answered this item correctly

71% of students answered this item correctly

If $\tan \theta = \dfrac{3}{4}$, then $\cot \theta$ is equal to

1. $\dfrac{4}{3}$

2. $\dfrac{3}{7}$

3. $\dfrac{4}{7}$

4. $\dfrac{7}{4}$

Skill: Skill 1 item
Content Domain: Trigonometry

% Answers:
1. **71.1%**
2. 11.4%
3. 9.2%
4. 5.5%

Less difficult

KEY

NAS items

This ladder shows the percentage of students answering selected NAS items correctly.

It provides a snapshot of what students know and can do in Mathematics.

More difficult

18%
of students answered this item correctly

The current I in the circuit shown in the figure is

Skill: Skill 3 item
Content Domain: Physics

1. 0.1A
2. 0.2A
3. 0.3A
4. 0.4A
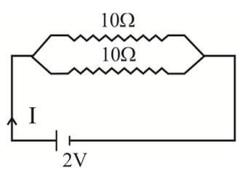
% Answers:
1. 20.2%
2. 38.0%
3. 17.9%
4. **18.2%**

The image of an object formed by your eye lens on the retina is

1. erect and real
2. inverted and real
3. erect and virtual
4. inverted and virtual.

Skill: Skill 2 item
Content Domain: Physics

% Answers:
1. 33.1%
2. **31.7%**
3. 21.7%
4. 10.9%

32%
of students answered this item correctly

53%
of students answered this item correctly

Packets of potato chips are filled with nitrogen gas in order to avoid

1. Rusting
2. Rancidity
3. Reduction
4. Decomposition

Skill: Skill 2 item
Content Domain: Chemistry

% Answers:
1. 11.3%
2. **53.4%**
3. 19.0%
4. 14.1%

The unit of work is

1. joule
2. newton
3. newton / meter
4. watt

Skill: Skill 1 item
Content Domain: Physics

% Answers:
1. **61.5%**
2. 12.0%
3. 11.5%
4. 12.4%

62%
of students answered this item correctly

71%
of students answered this item correctly

The fluid secreted in our mouth that mixes with food making it slippery and easy to swallow is

1. gastric juice
2. hormones
3. saliva
4. bile

Skill: Skill 1 item
Content Domain: Biology

% Answers:
1. 11.1%
2. 10.0%
3. **71.0%**
4. 5.6%

Less difficult

KEY

NAS item

This ladder shows the percentage of students answering selected NAS items correctly.

It provides a snapshot of what students know and can do in Science.

6

More difficult

20% of students answered this item correctly

The legislative powers for the Union List in India does not include

1. Foreign affairs
2. Banking
3. Defence
4. Police

Skill: Skill 1 item
Content Domain: Political Science

% Answers:
1. 43.6%
2. 19.5%
3. 14.6%
4. **19.9%**

Observe the table regarding hypothetical data of educational achievement of rural population of a state is given below. Choose one option and fill in the blanks.

Educational Achievement of Rural Population of a State		
Category	Male (%)	Female (%)
Literacy rate for rural population	54	21
Literacy rate for children in age group 10-14 years	69	41
Percentage of rural children aged 10-14 attending school	64	34

_____ of rural girls are not attending school

1. 66%
2. 64%
3. 54%
4. 34%

Skill: Skill 2 item
Content Domain: Economics

% Answers:
1. **30.1%**
2. 15.4%
3. 14.6%
4. 35.5%

30% of students answered this item correctly

Which of the following is **NOT** money?

1. Currency Notes
2. Deposits
3. Coins
4. Credit Card

Skill: Skill 2 item
Content Domain: Economics

% Answers:
1. 11.2%
2. 29.9%
3. 8.8%
4. **47.4%**

47% of students answered this item correctly

Which of the following statement is incorrect?

1. People make deposits in banks
2. People take loans from banks
3. People receive interest from banks
4. People repay loans without interest

Skill: Skill 1 item
Content Domain: Economics

% Answers:
1. 10.7%
2. 9.1%
3. 17.2%
4. **60.5%**

61% of students answered this item correctly

India is an example of which of the following system?

1. Monarchy
2. Autocracy
3. Democracy
4. Anarchy

Skill: Skill 1 item
Content Domain: Political Science

% Answers:
1. 8.4%
2. 5.8%
3. **79.6%**
4. 4.3%

80% of students answered this item correctly

Less difficult

This ladder shows the percentage of students answering selected NAS items correctly.

It provides a snapshot of what students know and can do in Social Science.

Read the chart given below and answer the following questions.

A school decided to celebrate Book Week. The chart below shows the schedule of activities planned. Study the chart carefully and answer the questions that follow.

DAY	CLASS / ACTIVITY IN SCHOOL	VENUE	CLASS / OUTDOOR ACTIVITIES
MONDAY	Class 1 - 2 : Designing bookmarks	Classrooms	Class 8 Visit to National Library
	Class 3 - 4 : Role play	Hall -1	
	Class 5 - 6 : My favourite book--talk	Library	
TUESDAY	Class 3 - 4 : Chain story telling	Auditorium	Class 5 · 6 Film : The Jungle Book
	Class 7 - 8 : Theatre workshop by Barry John	Hall -1	
WEDNESDAY	Class 1 - 2 : Meet the fairy tale characters	Auditorium	
	Class 3 - 4 : Show and tell	Hall -1	
	Class 5 - 6 : Poetry recitation	Hall -2	
	Class 7 - 8 : Designing a bookcover, by Santosh Rai	Art room	
THURSDAY	Class 7 - 8 : Quiz: conducted by Mandeep Kaur	Hall -2	Class 3 - 4 Visit to National Book Trust
	Class 9 -10 : Meet the author-- Ruskin Bond	Library	
FRIDAY	Class 5 - 6 : Book reading by students	Classrooms	

More difficult

30% of students answered this item correctly

The school has invited _____ experts for different events.

1. Two
2. Six
3. Four
4. Five

Skill: Skill 2 item
Content Domain: Reading Comprehension

% Answers:
1. 19.9%
2. 24.5%
3. 29.7%
4. 21.5%

Which classes will go to see 'The Jungle Book' and when?

1. Class 7 and 8, Tuesday
2. Class 3 and 4, Wednesday
3. Class 9 and 10, Thursday
4. Class 5 and 6, Tuesday

Skill: Skill 1 item
Content Domain: Reading Comprehension

% Answers:
1. 12.4%
2. 16.9%
3. 16.6%
4. 51.0%

51% of students answered this item correctly

62% of students answered this item correctly

On which day can the children meet Ruskin Bond?

1. Monday
2. Wednesday
3. Thursday
4. Friday

Skill: Skill 1 item
Content Domain: Reading Comprehension

% Answers:
1. 13.3%
2. 10.8%
3. 62.4%
4. 10.9%

Less difficult

KEY

NAS items

This ladder shows the percentage of students answering selected NAS items correctly.

It provides a snapshot of what students know and can do in English.

SELECTED SCHOOL CHARACTERISTICS

52% of schools have a science laboratory.
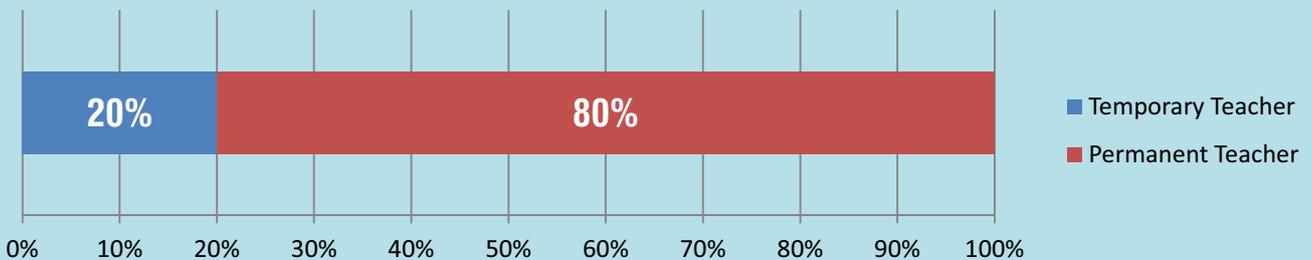
26% of schools have a mathematics laboratory.

85% of schools have a library.

SELECTED TEACHER CHARACTERISTICS

41% of teachers sometimes make use of projects for assessing Class X students.

63% of teachers always make use of written tests or examinations.
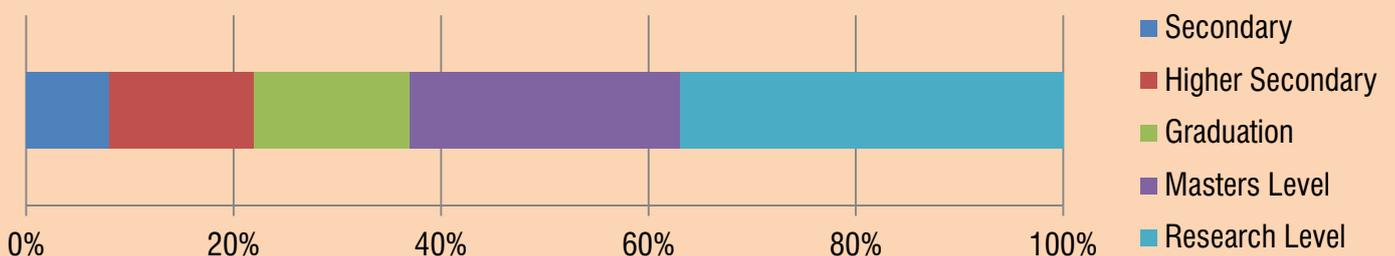
Employment Status

20% Temporary Teacher
80% Permanent Teacher

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

SELECTED STUDENT CHARACTERISTICS IN YOUR STATE

Student preference for subjects:

Science — 1
Social Science — 2
MIL — 3
English — 4
Mathematics — 5

20% of students travel more than 5km to school.

How far students wish to study

- Secondary
- Higher Secondary
- Graduation
- Masters Level
- Research Level

0% 20% 40% 60% 80% 100%

CORE TEAM

MHRD

- **Ms. Rina Ray**, IAS, Secretary School, Education and Literacy (SE&L)
- **Shri. Maneesh Garg**, Joint Secretary, School Education and Literacy (SE&L)
- **Ms. Nigar Fatima Husain**, Director (RMSA-I)
- **Ms. Nazli Jafari Shayin**, Director (RMSA-II)
- **Dr. Letha Ram Mohan**, Chief Consultant, Quality and Innovation, (TSG)
- **Mr. Muktar Alam**, Sr. Consultant, Quality and Innovation, (TSG)

NCERT

- **Prof. Hrushikesh Senapaty**, *Director,* NCERT
- **Dr. Indrani Bhaduri**, *Professor & Head*
- **Dr. Sridhar Srivastava**, *Professor*
- **Dr. Veer Pal Singh**, *Professor*
- **Dr. A.D. Tewari**, *Professor*
- **Dr. Pratima Kumari**, *Associate Professor*
- **Dr. Sukhvinder**, *Assistant Professor*
- **Dr. Vishal D. Pajankar**, *Assistant Professor*
- **Dr. Satya Bhushan**, *Assistant Professor*
- **Dr. Gulfam**, *Assistant Professor*
- **Shri N. L. Srinivas**, *Sr. System Analyst*
- **Shri Md. Arif Sadiq**, *Programmer*
- **Shri Vishwa Bandhu**, *Programmer*

EXTERNAL

- **World Bank,** India

STATE FUNCTIONARIES

- School Boards, CBSE, ICSE, State Directorate of Education, SCERTs, SIEs, Schools

विद्यया ऽमृतमश्नुते

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NAS for Transforming School Education