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

TAMILNADU

PARTICIPATION

2560	85398	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**

Subject	State average	National average
Mathematics	31	34
Science	34	34
Social Science	39	39
English	36	36
MIL	47	49
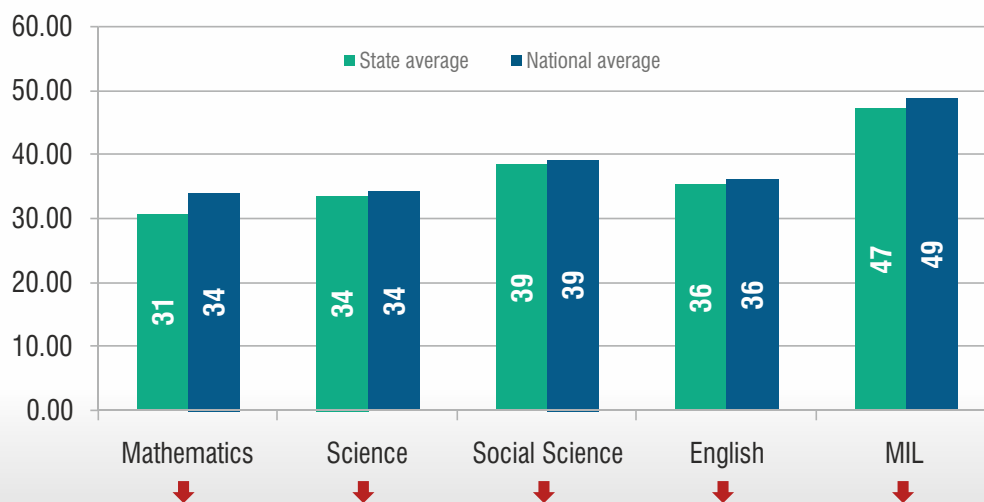
KEY

▲ 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	76	18	5	1
	National	67	20	11	2
Science	State	63	32	4	1
	National	62	27	10	1
Social Science	State	41	47	11	1
	National	44	38	17	1
English	State	63	22	14	1
	National	61	21	15	3
Modern Indian Language (MIL)	State	24	35	39	2
	National	27	27	39	7

Performance by: LOCATION

Subjects	Rural (% Correct)	Urban (% Correct)	Significant Difference
Mathematics	30	31	⬇
Science	33	34	⬇
Social Science	38	39	⬇
English	34	38	⬇
MIL	47	48	⬇

Performance by: GENDER

Subjects	Girls (% Correct)	Boys (% Correct)	Significant Difference
Mathematics	31	30	⬆
Science	35	32	⬆
Social Science	40	38	⬆
English	37	34	⬆
MIL	50	45	⬆

Performance by: SOCIAL GROUP

Subjects	SC (% Correct)	Others (% Correct)	Significant Difference	ST (% Correct)	Others (% Correct)	Significant Difference	OBC (% Correct)	Others (% Correct)	Significant Difference
Mathematics	29	34	⬇	28	34	⬇	31	34	⬇
Science	32	35	⬇	33	35	⬇	34	35	⬇
Social Science	37	40	⬇	37	40	⬇	39	40	⬇
English	32	42	⬇	31	42	⬇	37	42	⬇
MIL	45	48	⬇	43	48	⬇	48	48	⬅➡

Student participation: **PERCENT**

State sample		
Group	**Number of students**	**%**
Girls	43748	51
Boys	41650	49

State sample		
Group	**Number of students**	**%**
Rural	54622	64
Urban	30776	36

Group	**Number of students**	**%**
SC	21137	25
ST	851	1
OBC	59753	70
Others	3657	4

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

Mathematics	76
Science	63
Social Science	41
English	63
MIL	24
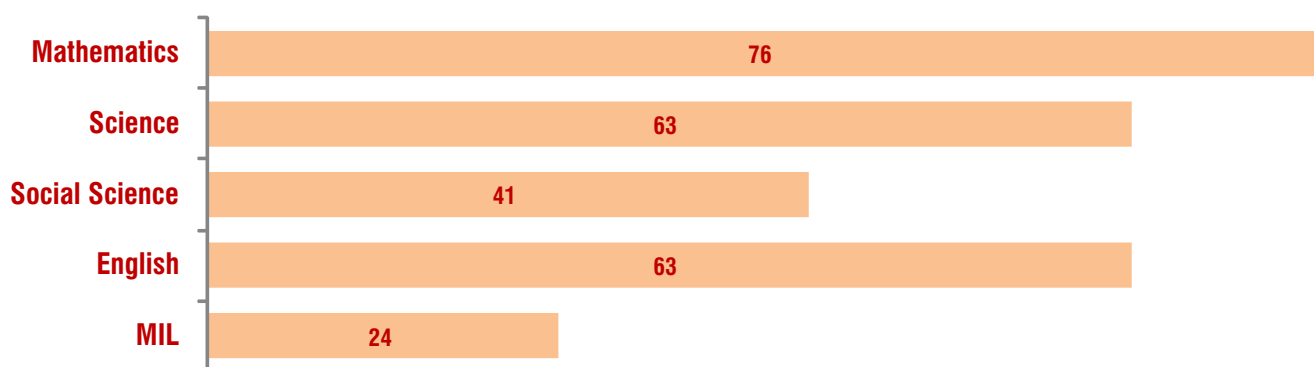
Skill-wise performance: (ITEM % CORRECT)

Subjects	Skill 1 (% correct)	Skill 2 (% correct)	Skill 3 (% correct)
Mathematics	30	31	30
Science	38	31	34
Social Science	42	38	36
English	44	34	31
MIL	52	40	44

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)**	**31**	**34**	⬇
	Algebra	30	35	⬇
	Geometry	31	35	⬇
	Mensuration	32	34	⬇
	Trigonometry	31	37	⬇
	Coordinate geometry	34	29	⬆
	Number system	22	30	⬇
	Statistics	29	33	⬇
	Probability	36	35	⬆
SCIENCE	**Science (overall)**	**34**	**34**	⬇
	Food	40	35	⬆
	Materials	32	33	⬇
	The living world	37	38	⬇
	Moving things, people and ideas	36	35	⬆
	How things work	21	22	⬇
	Natural phenomena	24	27	⬇
	Natural resources	39	40	⬇
SOCIAL SCIENCE	**Social science (overall)**	**39**	**39**	⬇
	History	37	38	⬇
	Geography	38	39	⬇
	Economics	40	40	⬌
	Political science	40	41	⬇
ENGLISH	**English (overall)**	**36**	**36**	⬇
	Reading comprehension	37	37	⬇
	Language element	34	35	⬇
MODERN INDIAN LANGUAGE (MIL)	**Modern Indian Language (overall)**	**47**	**49**	⬇
	Reading comprehension	52	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

50%
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%

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%

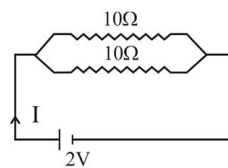The image of an object formed by your eye lens on the retina is

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.

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

47%
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%**

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

80%
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%

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 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

94% of schools have a science laboratory.
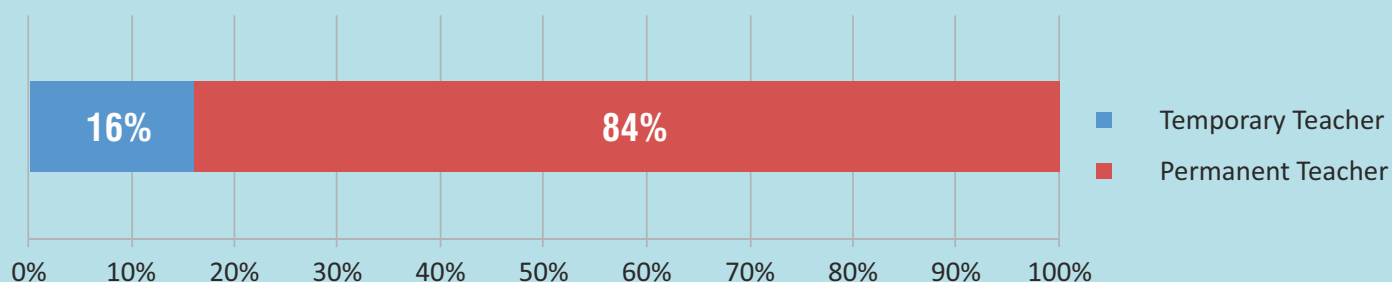
35% of schools have a mathematics laboratory.

93% of schools have a library.

SELECTED TEACHER CHARACTERISTICS

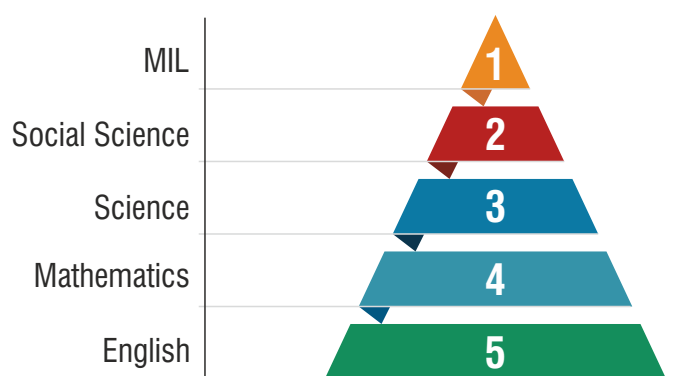**39%** of teachers sometimes make use of projects for assessing Class X students.

79% of teachers always make use of written tests or examinations.
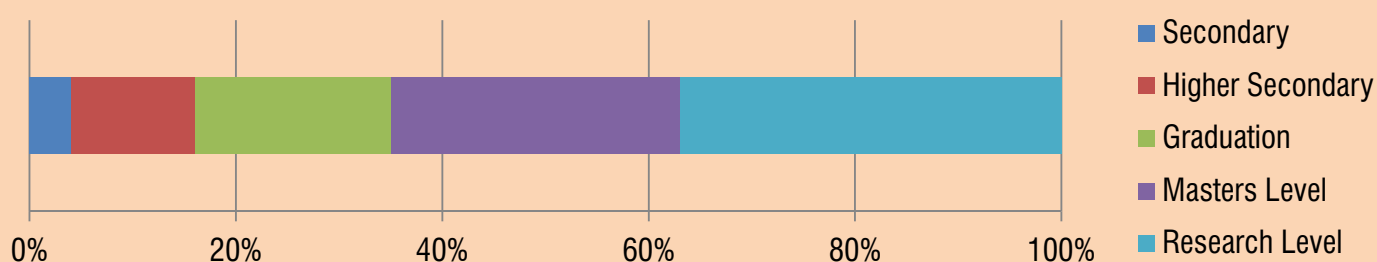
Employment Status

| Temporary Teacher | 16% |
| Permanent Teacher | 84% |

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

SELECTED STUDENT CHARACTERISTICS IN YOUR STATE

Student preference for subjects:

MIL	1
Social Science	2
Science	3
Mathematics	4
English	5

29% of students travel more than 5km to school.

How far students wish to study

Legend:
- 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

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NAS for Transforming School Education