विद्यया ऽ मृतमश्नुते
एन सी ई आर टी
NCERT

सत्यमेव जयते

सर्व शिक्षा अभियान
सब पढ़ें सब बढ़ें

NAS 2017
NATIONAL ACHIEVEMENT SURVEY
Class : 3, 5 and 8

BIHAR
State Learning Report

The National Achievement Survey (NAS) was conducted throughout the country on November 13, 2017 for Classes 3, 5 and 8 in government and government aided schools. The survey tools used multiple test booklets with 45 questions in Classes III and V and 60 questions in Class VIII in Mathematics, Language, Sciences and Social Sciences. The competency based test questions developed, reflected the Learning Outcomes developed by the NCERT which were recently incorporated in the RTE Act by the Government of India. Along with the test items, questionnaires pertaining to students, teachers and schools were also used.

The learning levels of 2.2 million students from 1,10,000 schools across 701 districts in all 36 States/UTs were assessed. The findings of the survey, will help guide education policy, planning and implementation at national, state, district and classroom levels for improving learning levels of children and bringing about qualitative improvements.

विद्यया ऽ मृतमश्नुते
एन सी ई आर टी
NCERT

EDUCATIONAL SURVEY DIVISION
राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
National Council of Educational Research and Training
Sri Aurobindo Marg, New Delhi - 110016

unicef

HIGHLIGHTS

In Class 3, on an average, the correct responses to the subjects were as follows:

63%	63%	67%
Mathematics	EVS	Language

In Class 5, on an average, the correct responses to the subjects were as follows:

52%	58%	57%
Mathematics	EVS	Language

In Class 8, on an average, the correct responses to the subjects were as follows:

58%	45%
Language	Mathematics
44%	47%
Science	Social Science

88%
Children could understand what the teacher says in the classroom.

30%
of the school buildings need significant repair.

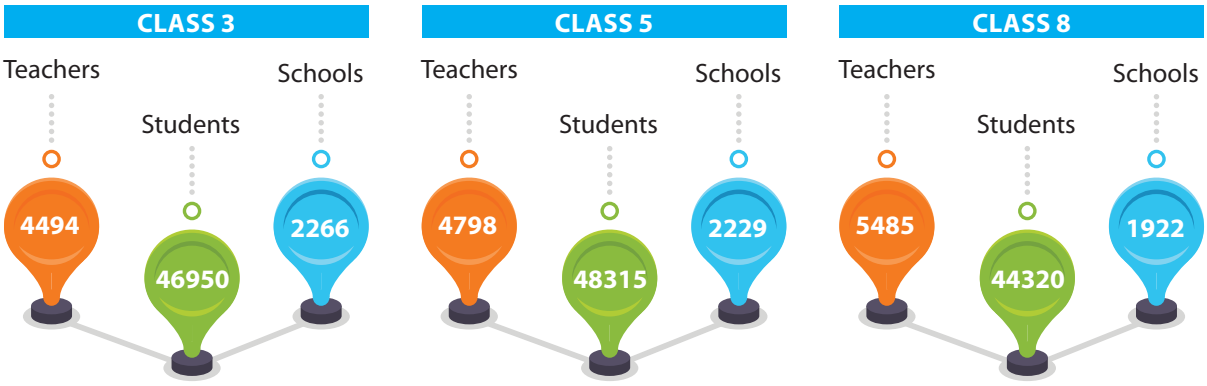
Highest Performing Learning Outcomes

- **M319:** Records data using tally marks, represents pictorially and draws conclusions (69)
- **E310:** Guesses properties, estimates quantities of materials/activities in daily life and verifies using symbols/non-standard units (70)
- **M317:** Reads the time correctly to the hour using a clock/watch (71)
- **M309:** Identifies and makes 2D-shapes by paper folding, paper cutting on the dot grid, using straight lines etc (71)
- **M302:** Compares numbers up to 999 based on their place values (75)

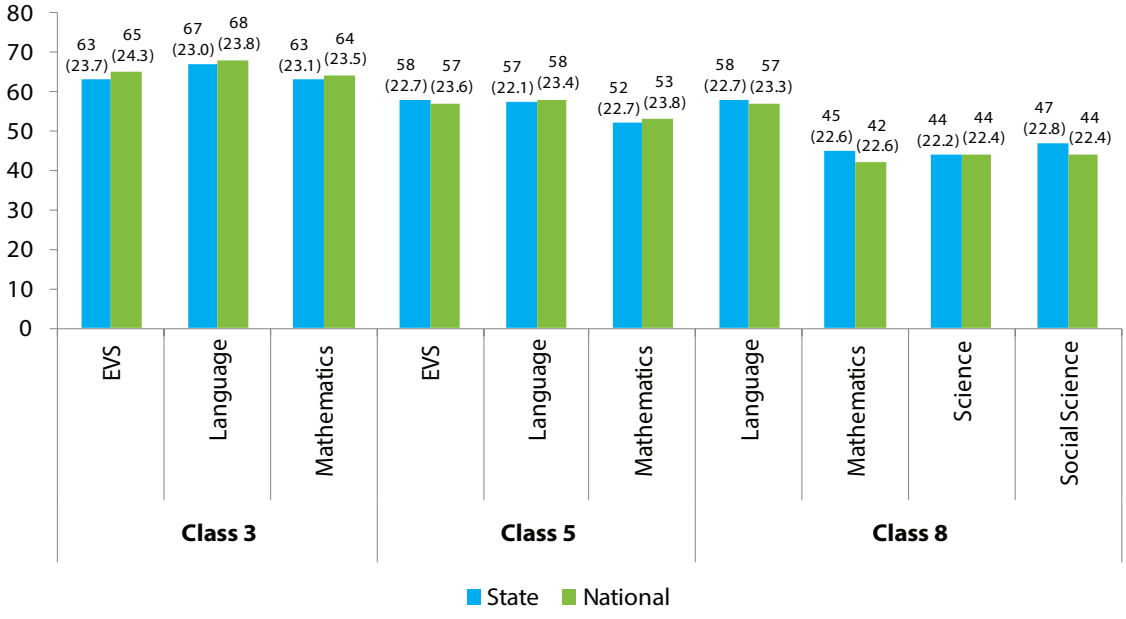
Lowest Performing Learning Outcomes

- **M818:** Finds surface area and volume of cuboidal and cylindrical object (20)
- **E313:** Observes rules in games (local indoor, outdoor) (29)
- **SST625:** Describes the functioning of rural and urban local government bodies in sectors like health and education (31)
- **SST805:** Locates distribution of important minerals e.g. coal and mineral oil on the world map (31)
- **M812:** Verifies properties of parallelogram and establishes the relationship between them through reasoning (32)

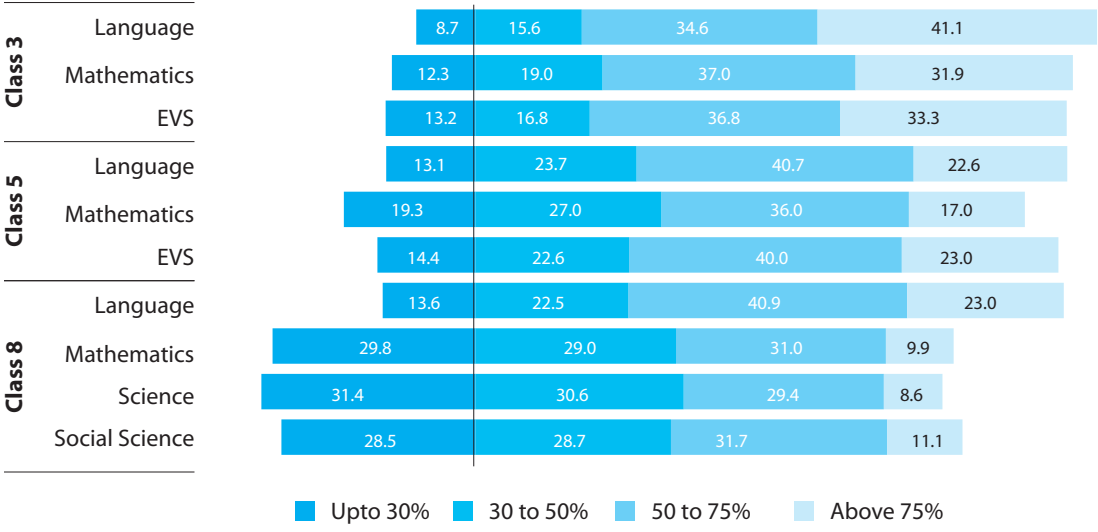
Participation



Average Achievement by Classes and Subjects



Distribution of Students Achievement by Classes and Subjects

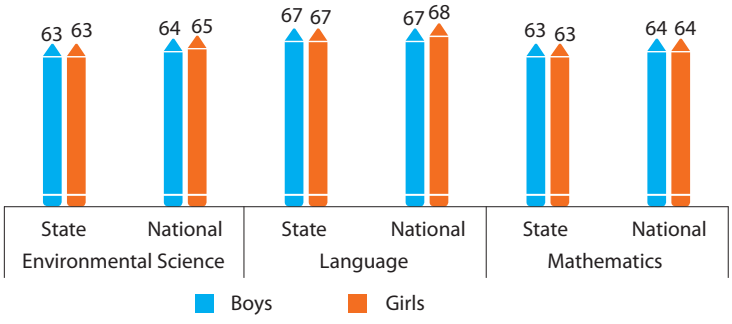


E.g. In Class 3 language, percentage of students achieving upto 30% is 8.7, between 30%-50% is 15.6, between 50%-75% is 34.6 and above 75% is 41.1.

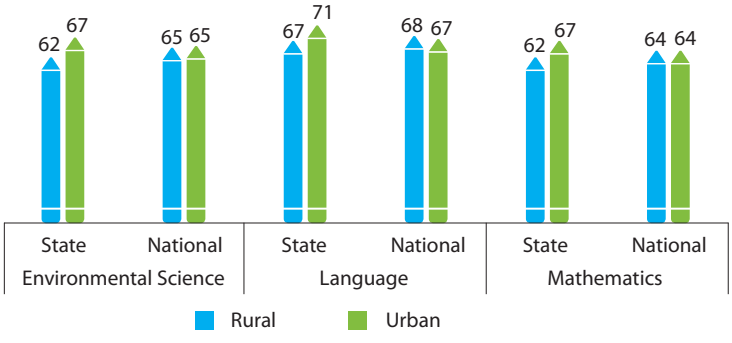
Class 3 State Results by Student Groups

PERFORMANCE

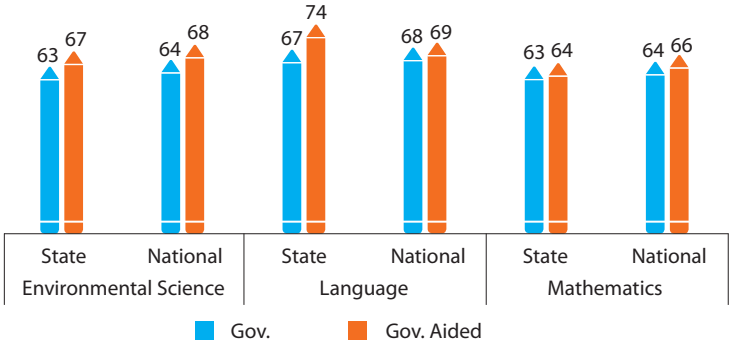
By Gender



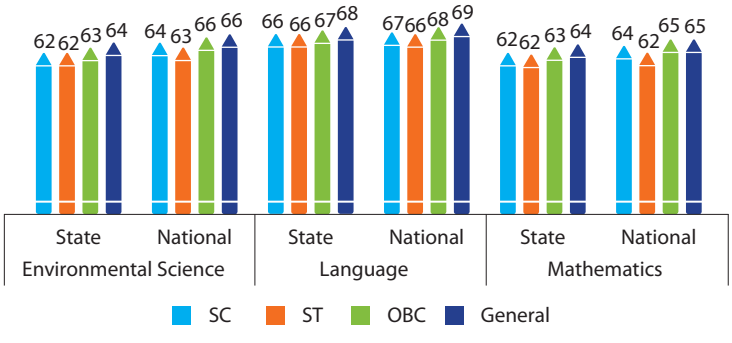
By School Location



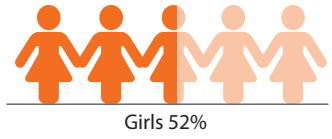
By School Management

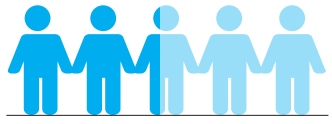


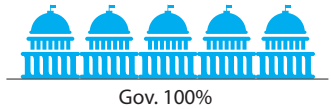
By Social Groups

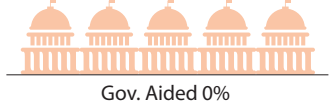


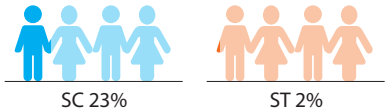
PARTICIPATION

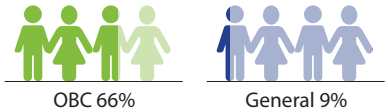








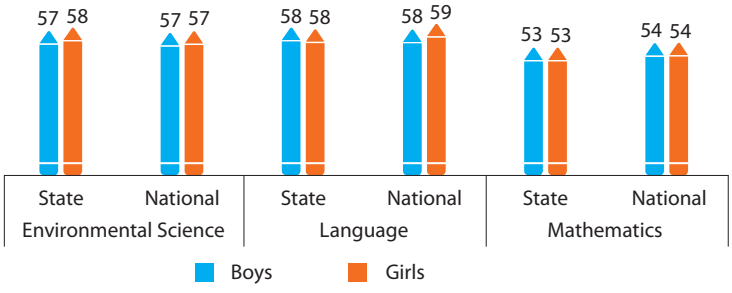




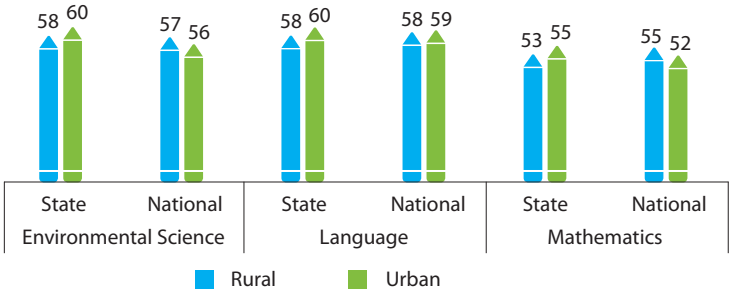
Class 5 State Results by Student Groups

PERFORMANCE

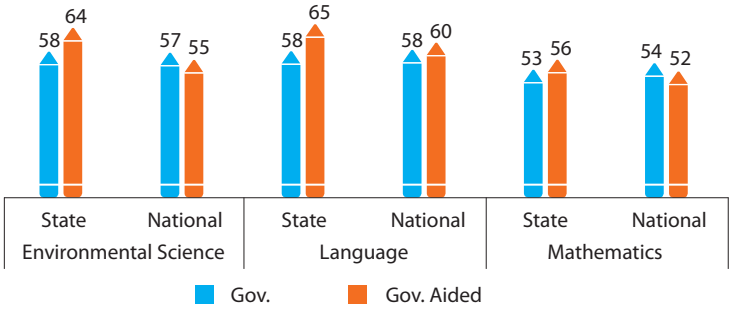
By Gender



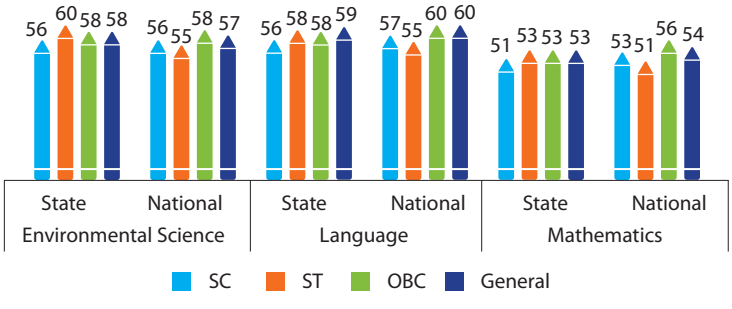
By School Location



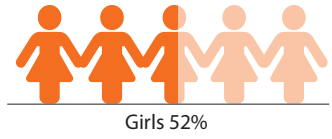
By School Management

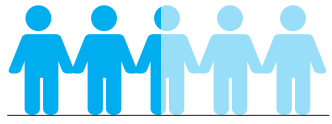


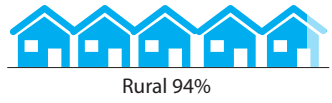
By Social Groups

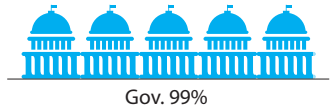


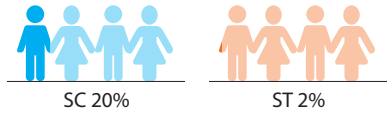
PARTICIPATION

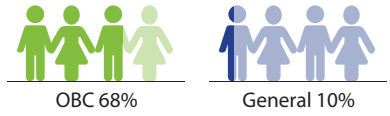








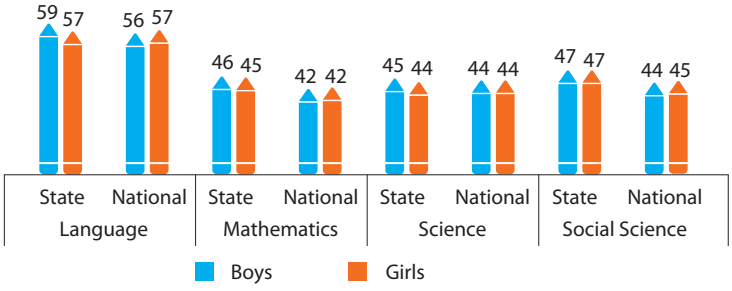




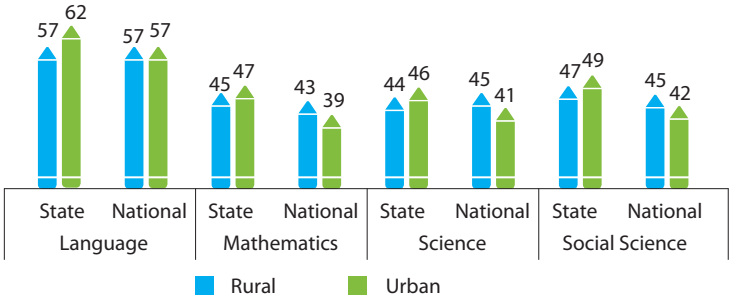
Class 8 State Results by Student Groups

PERFORMANCE

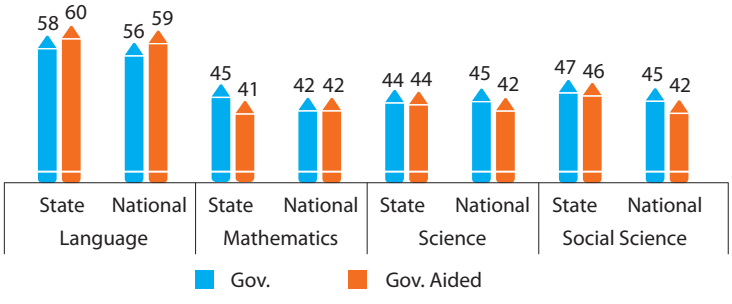
By Gender



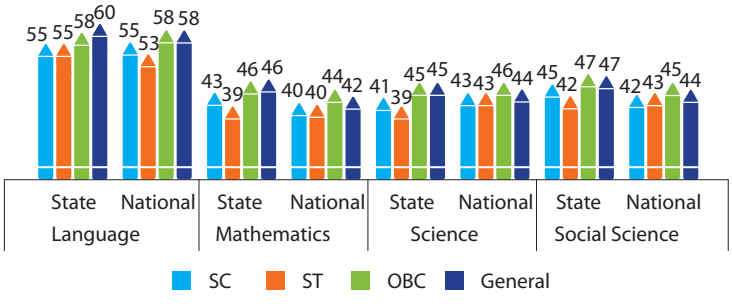
By School Location



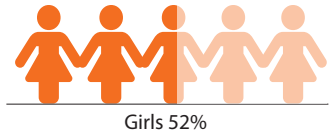
By School Management

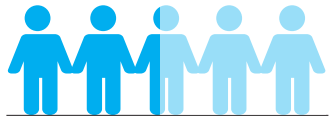


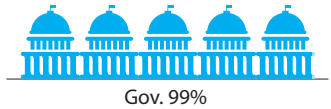
By Social Groups

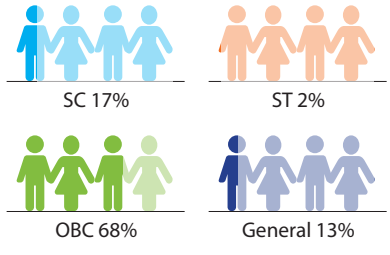


PARTICIPATION









What children say about schools?

92% children in Class 3, **94%** in Class 5 and **95%** children in Class 8 like to come to school.

23% students in Class 3, **22%** in Class 5 and **16%** in Class 8 find it difficult to travel to school.

81% children in Class 3, **83%** in Class 5 and **88%** children in Class 8 could understand what the teachers say in the classroom.

For **63%** students in Class 3, **61%** in Class 5 and **57%** students in Class 8, the language used at home and by the teachers is the same.

82% students in Class **3, 81%** in Class 5 and **78%** in Class 8 go out and play during the games period.

What teachers responded?

45% teachers in Class 3,

42% in Class 5 and

52% in Class 8 are teaching the same subjects they have pursued during their higher studies.

68% teachers in the state fully understand the curricular goals.

20%
teachers responded that there is lack of adequate toilet facilities.

14%
teachers responded that there is lack of drinking water facilities.

30%
teachers responded that the school buildings needs significant repair.

32%
teachers responded that there is lack of electricity.

28%
Teachers in the state opined that they are overloaded with work.

50%
Teachers in the state are highly satisfied with their job.

82%
Teachers in the state have adequate instructional material and supplies.

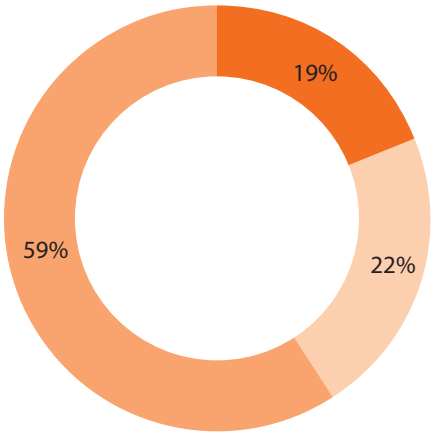
82%
Teachers in the state have adequate work space.

How do teachers assess children in the classroom?

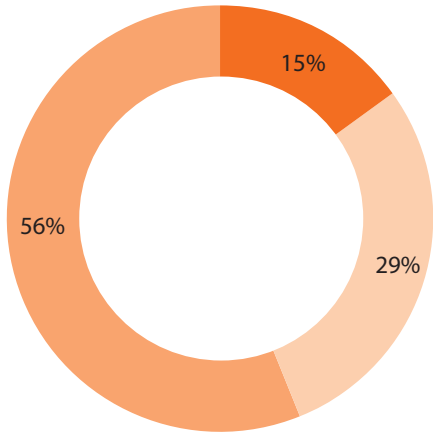
	Never (in %)	For some lessons (in %)	Almost every lesson (in %)
Oral Tests	4	25	72
Written Tests	2	28	69
Multiple choice type	5	43	52
Observation	3	17	80
Home assignments	2	26	71
Student self assessment	8	48	44
Project work	14	65	21
Peer assessment	7	66	27
Portfolio	17	48	35

What teachers say about parent's involvement?

Parental support for students' Achievement



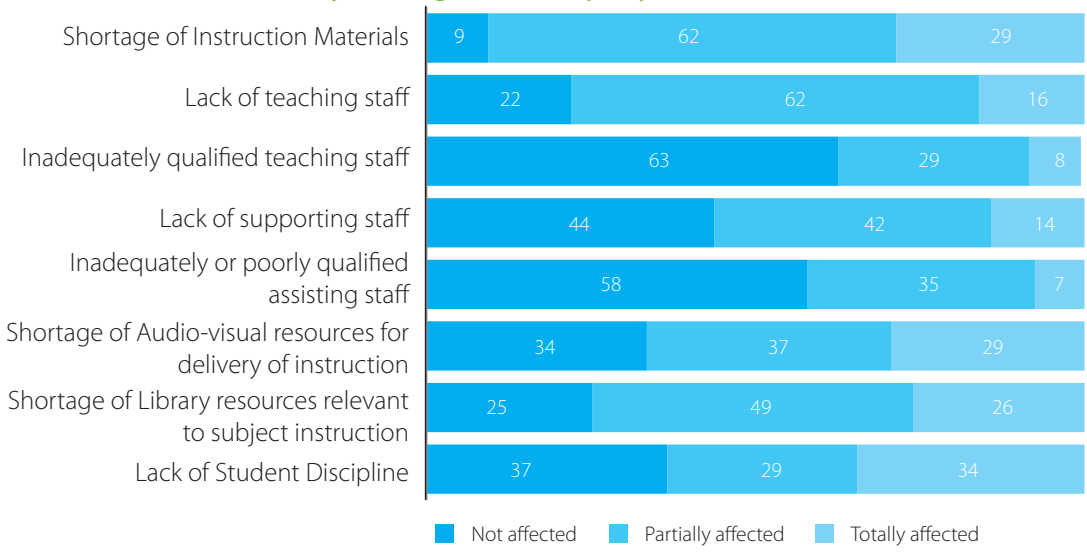
Parental involvement in school activities



Low Medium High

What the head teacher responded?

School activities affected by shortage or inadequacy



E.g. 9% of the head teacher responded that the school activities were not affected by the shortage of instructional materials.

Average Performance of the District

Class 3

District Name	District Mean
Lakhisarai	70
Nawada	70
Patna	69
Araria	68
Jamui	67
Gaya	67
Nalanda	67
Pashchim Champaran	66
Madhepura	66
Saran	66
Muzaffarpur	65
Begusarai	65
Munger	65
Aurangabad (Bihar)	65
Gopalganj	65
Buxar	65
Sheohar	65
Banka	64
Samastipur	64
Khagaria	63
Sitamarhi	63
Kaimur (Bhabua)	63
Vaishali	62
Purnia	62
Rohtas	62
Katihar	62
Supaul	61
Saharsa	61
Madhubani	61
Jehanabad	61
Siwan	60
Bhagalpur	60
Sheikhpura	60
Bhojpur	60
Arwal	60
Purba Champaran	57
Kishanganj	56
Darbhanga	50

Class 5

District Name	District Mean
Muzaffarpur	55
Siwan	60
Saran	60
Gopalganj	60
Pashchim Champaran	60
Patna	59
Lakhisarai	59
Kaimur (Bhabua)	59
Sheohar	58
Supaul	58
Aurangabad (Bihar)	58
Araria	58
Samastipur	58
Madhepura	57
Nawada	57
Begusarai	57
Purnia	57
Rohtas	57
Gaya	56
Arwal	56
Jamui	56
Bhagalpur	56
Banka	56
Nalanda	56
Khagaria	55
Madhubani	55
Katihar	54
Munger	54
Purba Champaran	53
Bhojpur	52
Sitamarhi	51
Vaishali	51
Jehanabad	50
Kishanganj	50
Saharsa	49
Buxar	49
Sheikhpura	48
Darbhanga	46

Class 8

District Name	District Mean
Begusarai	57
Lakhisarai	53
Patna	53
Supaul	53
Arwal	52
Gopalganj	52
Araria	51
Kaimur (Bhabua)	50
Sheohar	50
Saharsa	50
Nawada	50
Sitamarhi	48
Khagaria	48
Nalanda	48
Aurangabad (Bihar)	48
Madhubani	48
Jamui	48
Pashchim Champaran	48
Jehanabad	48
Munger	47
Madhepura	47
Rohtas	47
Muzaffarpur	47
Sheikhpura	47
Samastipur	47
Buxar	46
Saran	46
Katihar	46
Purba Champaran	46
Gaya	46
Bhagalpur	45
Kishanganj	45
Banka	45
Purnia	44
Vaishali	44
Siwan	43
Bhojpur	43
Darbhanga	42

Performance of the State in Learning Outcomes (LOs)

Annex-1

LO Code	Learning Outcome Class 3	Average Performance (in Percent)
EVS		
E302	Identifies simple features (e.g. movement, at places found/ kept, eating habits, sounds) of animals and birds in the immediate surroundings	55
E303	Identifies relationships with and among family members	58
E304	Identifies objects, signs (vessels, stoves, transport, means of communication, transport, signboards etc.), places (types of houses/shelters, bus stand, petrol pump etc.) activities (works people do, cooking processes, etc.) at home/school/ neighbourhood	61
E305	Describes need of food for people of different age groups, animals/birds, availability of food and water and use of water at home and surroundings	65
E307	Groups objects, birds, animals, features, activities according to differences/similarities using different senses. (e.g. appearance/place of living/ food/ movement/ likes-dislikes/ any other features)	65
E309	Identifies directions, location of objects/places in simple maps using signs/symbols/verbally	55
E310	Guesses properties, estimates quantities of materials/ activities in daily life and verifies using symbols/non-standard units	70
E311	Records observations, experiences, information on objects/ activities/places visited in different ways and predicts patterns etc	48
E313	Observes rules in games (local, indoor, outdoor)	29
E314	Voices opinion on good/bad touch , stereotypes for tasks/ play/food in family w.r.t gender, misuse/wastage of food and water in family and school	69
Language		
L304	Reads small texts with comprehension i.e., identifies main ideas, details, sequence and draws conclusions	66
L312	Reads printed scripts on the classroom walls: poems, posters, charts etc	65
Mathematics		
M301	Reads and writes numbers upto 999 using place value	56
M302	Compares numbers up to 999 based on their place values	75

LO Code	Learning Outcome Class 3	Average Performance (in Percent)
M303	Solves simple daily life problems using addition and subtraction of three digit numbers with and without regrouping	59
M304	Constructs and uses the multiplication facts (up till 10) in daily life situations	67
M305	Analyses and applies an appropriate number of operations in the situation/ context	58
M306	Explains the meaning of division facts by equal grouping/ sharing and finds it by repeated subtraction	61
M309	Identifies and makes 2D-shapes by paper folding, paper cutting on the dot grid, using straight lines etc	71
M311	Fills a given region leaving no gaps using a tile of a given shape	42
M312	Estimates and measures length and distance using standard units like centimetres or metres & identifies relationships	34
M317	Reads the time correctly to the hour using a clock/watch	71
M318	Extends patterns in simple shapes and numbers	52
M319	Records data using tally marks, represents pictorially and draws conclusions	69

LO Code	Learning Outcome Class 5	Average Performance (in Percent)
EVS		
E403	Identifies relationships with and among family members in extended family	58
E410	Records observations/experiences/information for objects, activities, phenomena, places visited in different ways and predicts patterns and activities/ phenomena	61
E501	Explains the super senses and unusual features (sight, smell, hear, sleep, sound, etc.) of animals and their responses to light, sound, food etc	49
E503	Describes the interdependence among animals, plants and humans	61
E504	Explains the role and functions of different institutions in daily life (Bank, Panchayat, Cooperatives, Police station, etc.)	68
E505	Establishes linkages among terrain, climate, resources (food, water, shelter, livelihood) and cultural life. (e.g. life in distant/ difficult areas like hot/cold deserts)	34
E506	Group objects, materials, activities for features/properties such as shape, taste, colour, texture, sound, traits etc	38
E507	Traces the changes in practices, customs, techniques of past and present through coins, paintings, monuments, museums etc. and interacting with elders	51
E508	Guesses (properties, conditions of phenomena), estimates spatial quantities (distance, area, volume, weight etc.) and time in simple standard units and verifies using simple tools/ set ups	55
E509	Records observations/experiences/information in an organized manner (e.g. in tables/ sketches/ bar graphs/ pie charts) and predicts patterns in activities/phenomena to establish relation between cause and effect	54
E510	Identifies signs, directions, location of different objects/ landmarks of a locality /place visited in maps and predicts directions w.r.t. positions at different places for a location	60
E512	Voice opinions on issues observed/experienced and relates practices /happenings to larger issues of society	58
E513	Suggests ways for hygiene, health, managing waste, disaster/ emergency situations and protecting/saving resources	68
Language		
L504	Reads and comprehends independently storybooks, news items/ headlines, advertisements etc	54
L508	Reads text with comprehension, locates details and sequence of events	58

LO Code	Learning Outcome Class 5	Average Performance (in Percent)
	Mathematics	
M401	Applies operations of numbers in daily life situations	44
M412	Explores the area and perimeter of simple geometrical shapes (triangle, rectangle, square) in terms of given shape as a unit	54
M418	Calculates time intervals/duration of familiar daily life events by using forward or backward counting/addition and subtraction	66
M421	Represent the collected information in tables and bar graphs and draws inferences from these	55
M501	Reads and writes numbers bigger than 1000 being used in her/his surroundings	63
M504	Estimates sum, difference, product and quotient of numbers and verifies the same using different strategies like using standard algorithms or breaking a number and then using operation	50
M505	Finds the number corresponding to part of a collection	54
M506	Identifies and forms equivalent fractions of a given fraction	44
M508	Converts fractions into decimals and vice versa	53
M509	Classifies angles into right angle, acute angle, obtuse angle and represents the same by drawing and tracing	48
M512	relates different commonly used larger and smaller units of length, weight and volume and converts larger units to smaller units and vice versa	60
M513	Estimates the volume of a solid body in known units	40
M514	Applies the four fundamental arithmetic operations in solving problems involving money, length, mass, capacity and time intervals	50
M515	Identifies the pattern in triangular number and square number	45
M516	Collects data related to various daily life situations, represents it in a tabular form and as bar graphs and interprets it	56

LO Code	Learning Outcome Class 8	Average Performance (in Percent)
Language		
L813	Read textual/non-textual materials with comprehension and identifies the details, characters, main idea and sequence of the ideas and events while reading	57
Mathematics		
M601	Solves problems involving large numbers by applying appropriate operations	42
M606	Solves problems on daily life situations involving addition and subtraction of fractions / decimals	59
M620	Finds out the perimeter and area of rectangular objects in the surroundings like floor of the class room, surfaces of a chalk box etc	50
M621	Arranges given/collected information in the form of table, pictograph and bar graph and interprets them	37
M702	Interprets the division and multiplication of fractions	45
M705	Solves problems related to daily life situations involving rational numbers	46
M706	Uses exponential form of numbers to simplify problems involving multiplication and division of large numbers	42
M707	Adds/subtracts algebraic expressions	61
M710	Solves problems related to conversion of percentage to fraction and decimal and vice versa	41
M717	Finds out approximate area of closed shapes by using unit square grid/ graph sheet	34
M719	Finds various representative values for simple data from her/ his daily life contexts like mean, median and mode	45
M721	Interprets data using bar graph such as consumption of electricity is more in winters than summer	37
M801	Generalises properties of addition, subtraction, multiplication and division of rational numbers through patterns	33
M802	Finds rational numbers between two given rational numbers	42
M803	Proves divisibility rules of 2, 3, 4, 5, 6, 9 and 11	54
M804	Finds squares, cubes, square roots and cube roots of numbers using different methods	55
M808	Use various algebraic identities in solving problems of daily life	35
M812	Verifies properties of parallelogram and establishes the relationship between them through reasoning	32
M818	Finds surface area and volume of cuboidal and cylindrical object	20
M819	Draws and interprets bar charts and pie charts	43

LO Code	Learning Outcome Class 8	Average Performance (in Percent)
Science		
SCI703	Classifies materials and organisms based on properties/ characteristics	40
SCI704	Conducts simple investigation to seek answers to queries	33
SCI705	Relates processes and phenomenon with causes	42
SCI708	Measures and calculates e.g., temperature; pulse rate; speed of moving objects; time period of a simple pendulum, etc	57
SCI710	Plots and interprets graphs	36
SCI711	Constructs models using materials from surroundings and explains their working	34
SCI801	Differentiates materials, organism and processes	52
SCI804	Relates processes and phenomenon with causes	42
SCI805	Explains processes and phenomenon	34
SCI807	Measures angles of incidence and reflection, etc	47
SCI811	Applies learning of scientific concepts in day-to-day life	44
SCI813	Makes efforts to protect environment	59
Social Science		
SST605	Identifies latitudes and longitudes, e.g., poles, equator, tropics, States/UTs of India and other neighbouring countries on globe and the world map	45
SST610	Locates important historical sites, places on an outline map of India	37
SST625	Describes the functioning of rural and urban local government bodies in sectors like health and education	31
SST703	Explains preventive actions to be undertaken in the event of disasters	65
SST704	Describes formation of landforms due to various factors	32
SST722	Explains the significance of equality in democracy	33
SST726	Describes the process of election to the legislative assembly	54
SST731	Explains the functioning of media with appropriate examples from newspapers	61
SST733	Differentiates between different kinds of markets	68
SST734	Traces how goods travel through various market places	59
SST802	Describes major crops, types of farming and agricultural practices in her/his own area/state	51
SST805	Locates distribution of important minerals e.g. coal and mineral oil on the world map	31
SST807	Justifies judicious use of natural resources	43
SST809	Draws inter-relationship between types of farming and development in different regions of the world	33

LO Code	Learning Outcome Class 8	Average Performance (in Percent)
SST810	Distinguishes the modern period from the medieval and the ancient periods through the use of sources	41
SST815	Explains the origin, nature and spread of the revolt of 1857 and the lessons learned from it	49
SST816	Analyses the decline of pre-existing urban centers and handicraft industries and the development of new urban centers and industries in India during the colonial period	32
SST818	Analyses the issues related to caste, women, widow remarriage, child marriage, social reforms and the laws and policies of colonial administration towards these issues	45
SST823	Applies the knowledge of the Fundamental Rights to find out about their violation, protection and promotion in a given situation	42
SST827	Describes the process of making a law. (e.g. Domestic Violence Act, RTI Act, RTE Act)	47
SST831	Identifies the role of Government in providing public facilities such as water, sanitation, road, electricity etc., and recognizes their availability	46
SST833	Draws bar diagram to show population of different countries/ India/states	52

Core Team

MHRD

Ms. Rina Ray, Secretary, School Education and Literacy (SE&L)

Shri Anil Swarup, Former Secretary, School Education & Literacy, SE&L, (till 30th June 2018)

Ms. Anita Karwal, Chairperson, CBSE and Chairperson, NCTE

Shri. Maneesh Garg, Joint Secretary, School Education and Literacy (SE&L)

Shri. Girish Chandrashekhar Hosur, Director, School Education and Literacy (SE&L)

Ms. R. Savithri, DDG, Statistics

NCERT

Prof. Hrushikesh Senapaty, Director, NCERT

Prof. Indrani Bhaduri, Head, ESD and National Coordinator NAS

Prof. Sridhar Srivastava, Professor, ESD

Prof. Veer Pal Singh, Professor, ESD

Prof. A.D. Tewari, Professor, ESD

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

Md. Arif Sadiq, Programmer

Shri Vishwa Bandhu, Programmer

UN ORGANIZATION /EXTERNAL

Dr. Rudra Sahoo, Education Specialist, UNICEF

STATE FUNCTIONARIES

State Directorate of Education, SCERTs, SIEs, DIETs, Schools

Examinations

An examination is a formal test of an individual student's knowledge or proficiency in a subject on the curriculum. The results of examinations apply to individual students, enabling them to progress through school or apply for further education or employment. Taken together, examination results provide an overall snapshot of students' performance at the end of a year of a course of learning at school. Examination results do not indicate the reasons behind high or low achievement of students.

Achievement Surveys

Achievement Surveys provide a measure of learning across a representative sample of students. They allow classification of students at a specific grade level by their ability (what students know and can do) in different subjects on the curriculum. National Achievement Surveys provide a "Health Check" to the education system by analyzing achievement based on a range of background factors (School, home, teachers). They potentially enable policy makers and practitioners to address the challenges to enhance student learning.