



NAS 2017

NATIONAL ACHIEVEMENT SURVEY

Class : 3, 5 and 8

MAHARASHTRA

State Learning Report

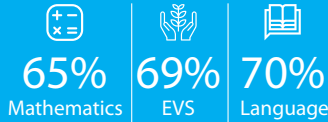


The National Achievement Survey (NAS) was conducted throughout the country on November 13, 2017 for Classes 3, 5 and 8 in government and government aided schools. The survey tools used multiple test booklets with 45 questions in Classes III and V and 60 questions in Class VIII in Mathematics, Language, 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.

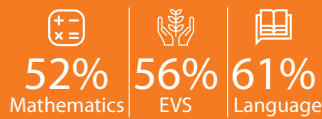
The learning levels of 2.2 million students from 1,10,000 schools across 701 districts in all 36 States/UTs were assessed. The findings of the survey, will help guide education policy, planning and implementation at national, state, district and classroom levels for improving learning levels of children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

HIGHLIGHTS

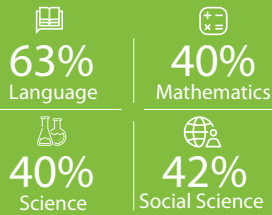
In Class 3, on an average, the correct responses to the subjects were as follows:



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



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



91%

Children could understand what the teacher says in the classroom.



12%

of the school buildings need significant repair.

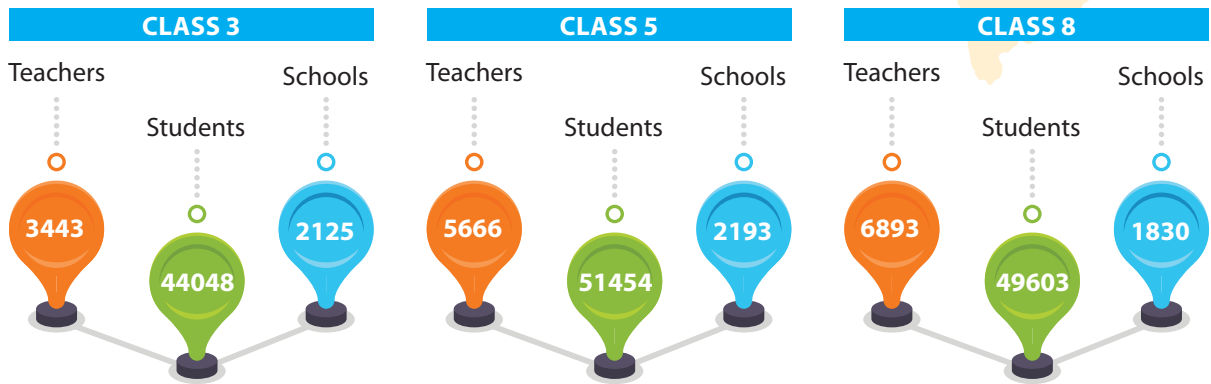
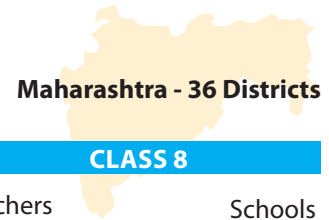
Highest Performing Learning Outcomes

- **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) (73)
- **M302:** Compares numbers up to 999 based on their place values (75)
- **M319:** Records data using tally marks, represents pictorially and draws conclusions (79)
- **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 (81)
- **M309:** Identifies and makes 2D-shapes by paper folding, paper cutting on the dot grid, using straight lines etc (82)

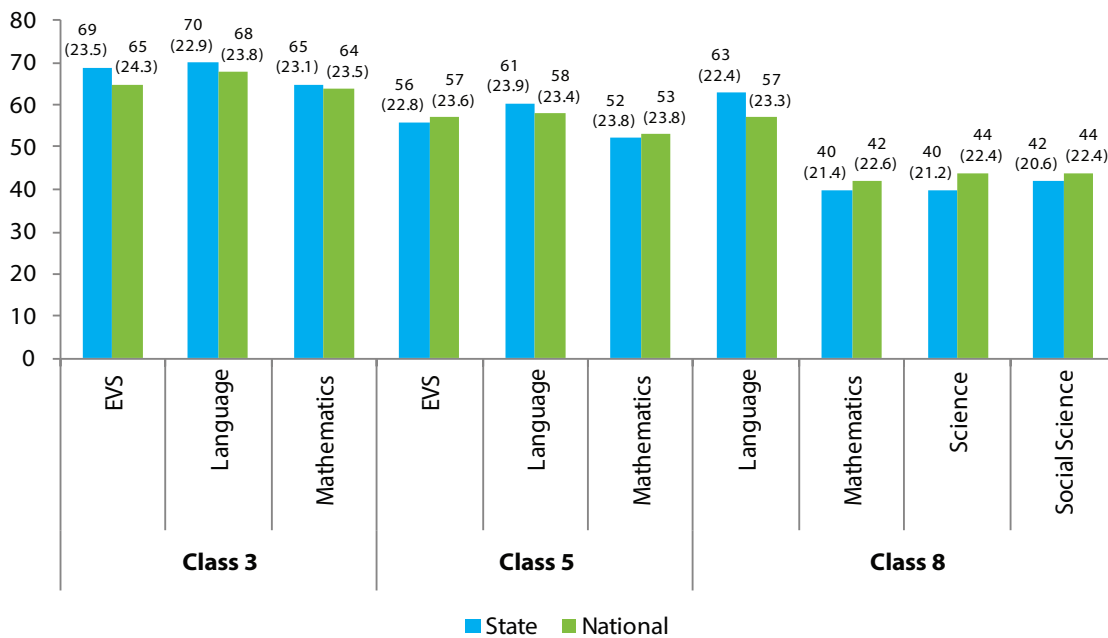
Lowest Performing Learning Outcomes

- **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 (26)
- **SST610:** Locates important historical sites, places on an outline map of India (27)
- **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) (28)
- **M710:** solves problems related to conversion of percentage to fraction and decimal and vice versa (29)
- **SST805:** Locates distribution of important minerals e.g. coal and mineral oil on the world map (29)

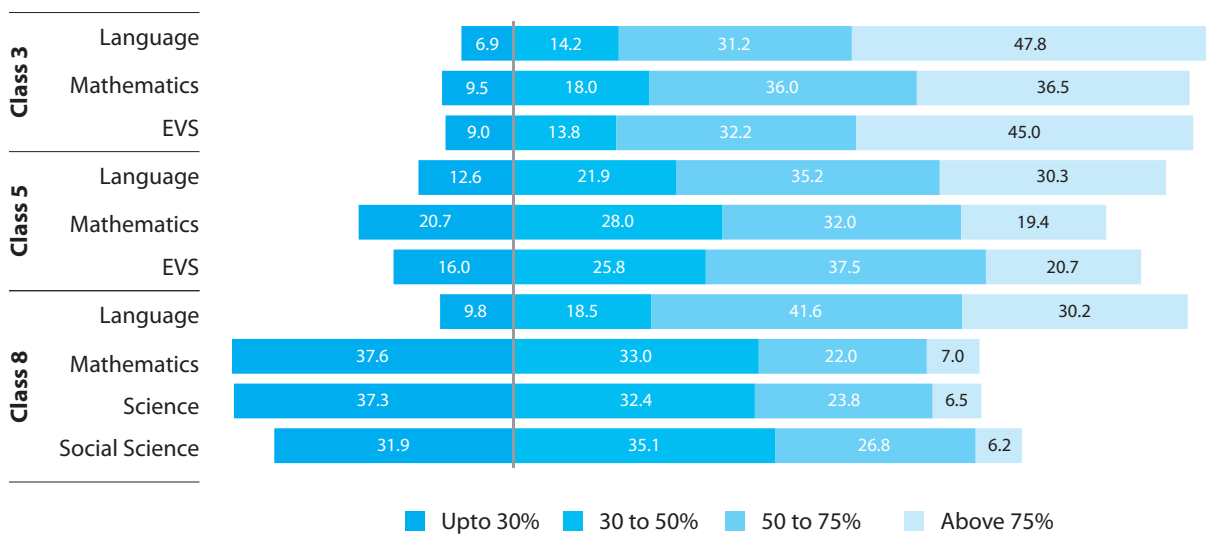
Participation



Average Achievement by Classes and Subjects



Distribution of Students Achievement by Classes and Subjects

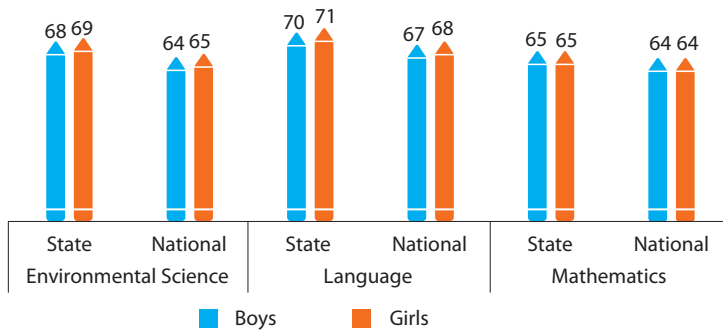


E.g. In Class 3 language, percentage of students achieving upto 30% is 6.9, between 30%-50% is 14.2, between 50%-75% is 31.2 and above 75% is 47.8.

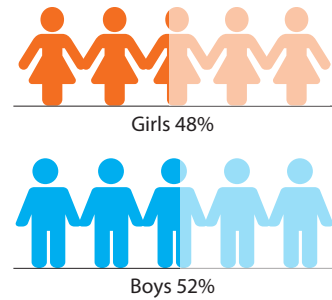
Class 3 State Results by Student Groups

PERFORMANCE

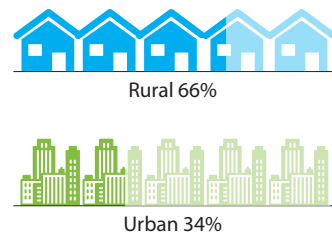
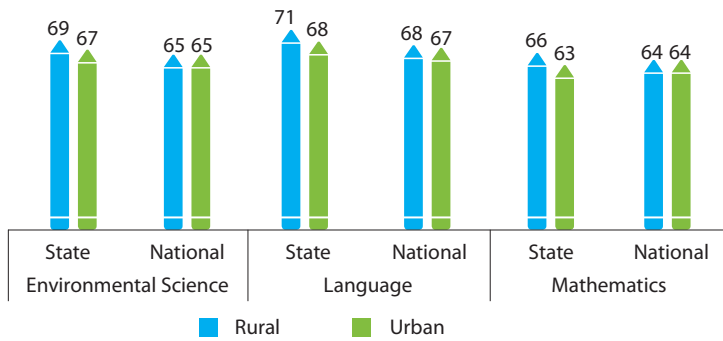
By Gender



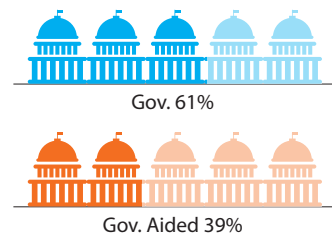
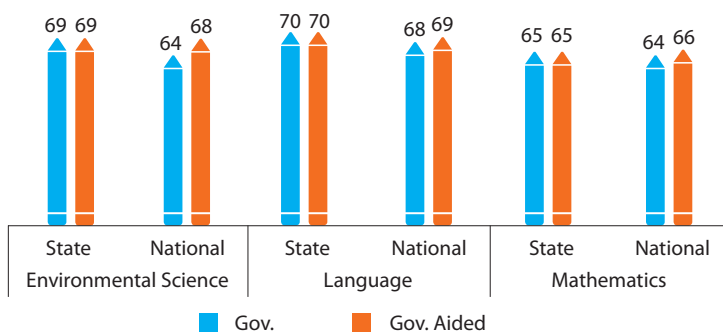
PARTICIPATION



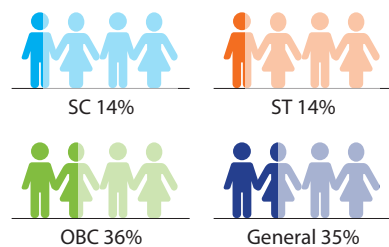
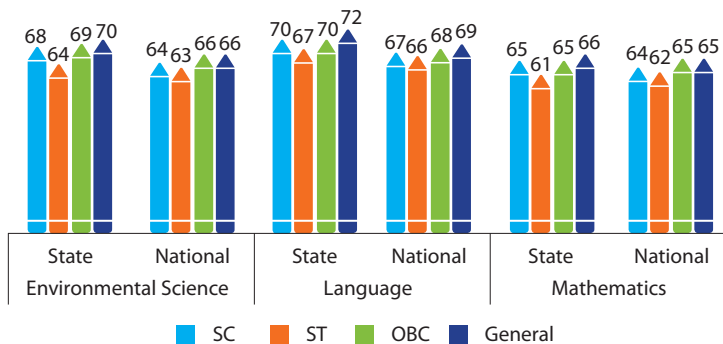
By School Location



By School Management



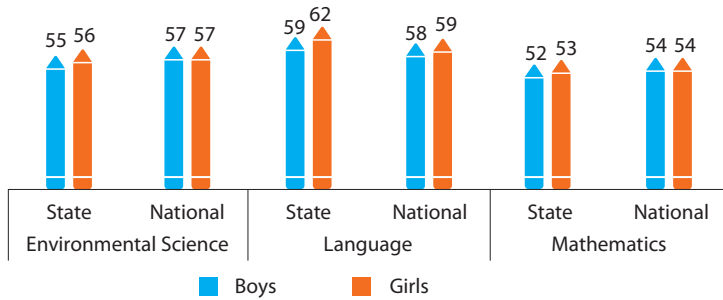
By Social Groups



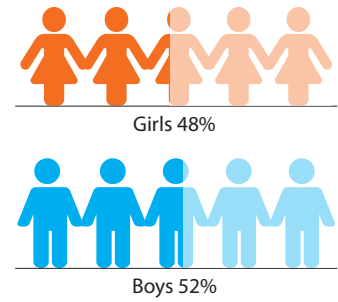
Class 5 State Results by Student Groups

PERFORMANCE

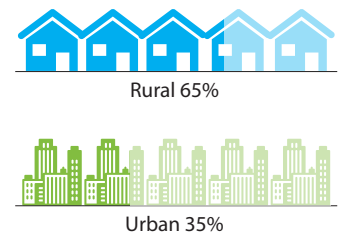
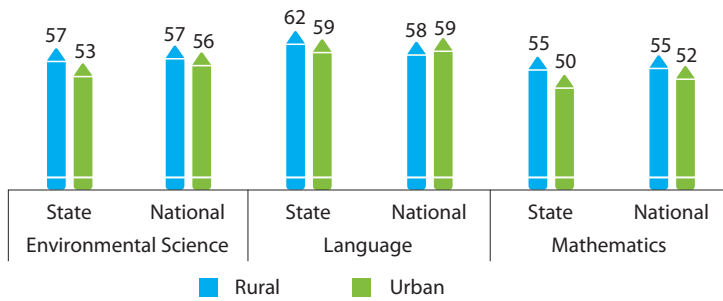
By Gender



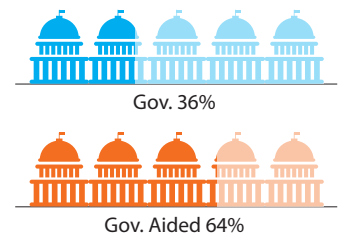
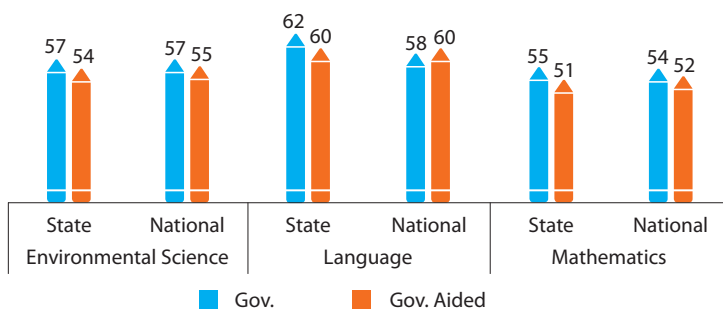
PARTICIPATION



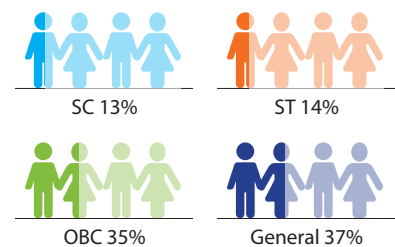
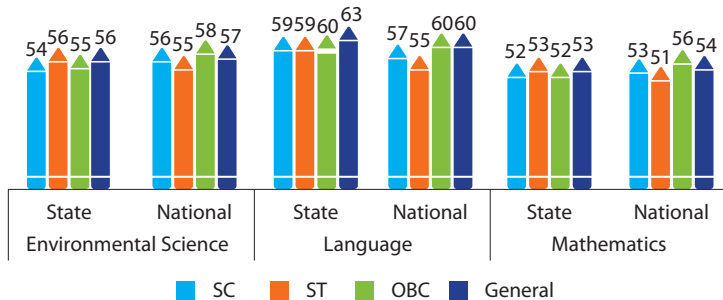
By School Location



By School Management



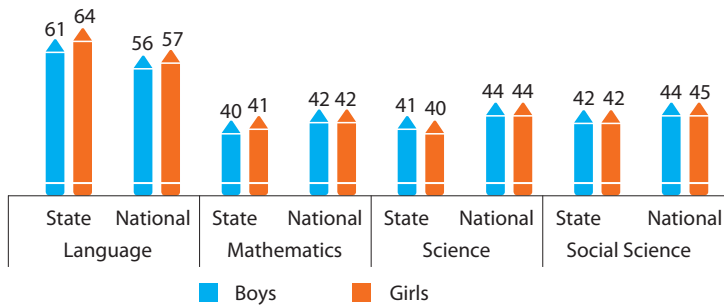
By Social Groups



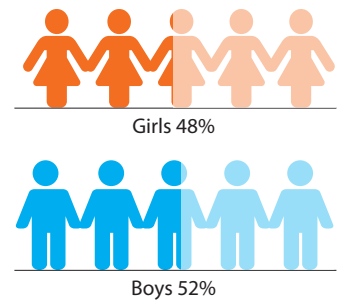
Class 8 State Results by Student Groups

PERFORMANCE

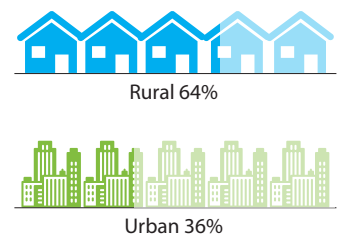
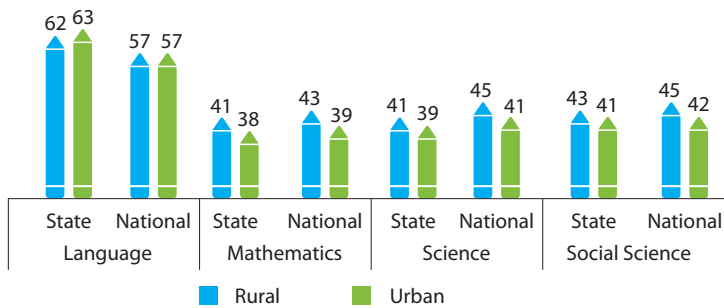
By Gender



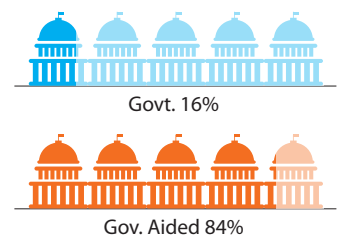
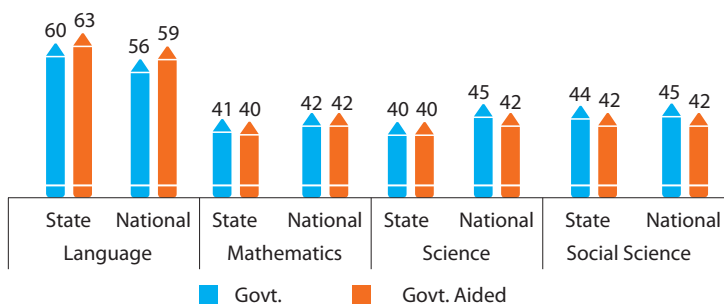
PARTICIPATION



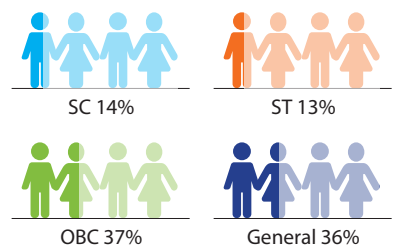
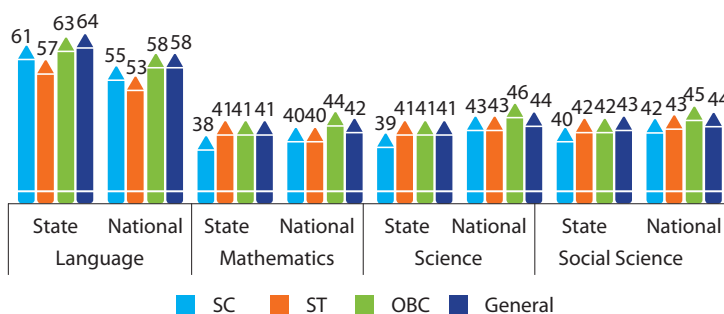
By School Location



By School Management



By Social Groups



What children say about schools?



95% children across the grades like to come to school.



18% students in Class 3, Class 5 and **16%** students in Class 8 find it difficult to travel to school.

90% children in Class 3 and **91%** in Class 5 and Class 8 could understand what the teachers say in the classroom.







For **76%** students in Class 3, **71%** in Class 5 and **68%** students in Class 8, the language used at home and by the teachers is the same.




84 students in Class 3, **83%** in Class 5 and **79%** students in Class 8 go out and play during the games period.


What teachers responded?


 **60%** teachers in Class 3,
 **68%** in Class 5 and
 **85%** in Class 8 are teaching the same subjects they have pursued during their higher studies.



67% teachers in the state fully understand the curricular goals.



7%
teachers responded that there is lack of adequate toilet facilities.



5%
teachers responded that there is lack of drinking water facilities.



12%
teachers responded that the school buildings needs significant repair.


7%
teachers responded that there is lack of electricity.


34 %
Teachers in the state opined that they are overloaded with work.


59%
Teachers in the state are highly satisfied with their job.


97%
Teachers in the state have adequate instructional material and supplies.


94%
Teachers in the state have adequate work space.

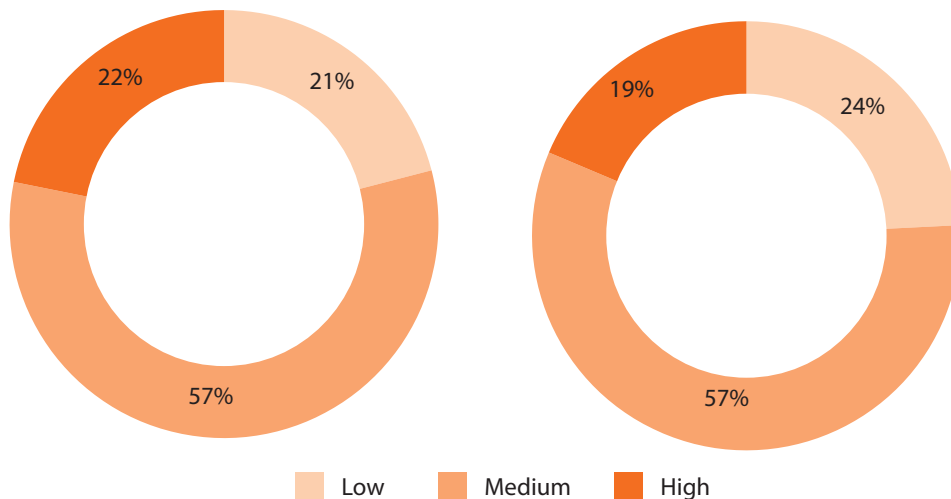
How do teachers assess children in the classroom?

	Never (in %)	For some lessons (in %)	Almost every lesson (in %)
Oral Tests	5	37	57
Written Tests	5	25	69
Multiple choice type	5	46	49
Observation	3	37	60
Home assignments	3	17	80
Student self assessment	4	51	45
Project work	2	75	23
Peer assessment	7	69	24
Portfolio	7	51	42

What teachers say about parent's involvement?

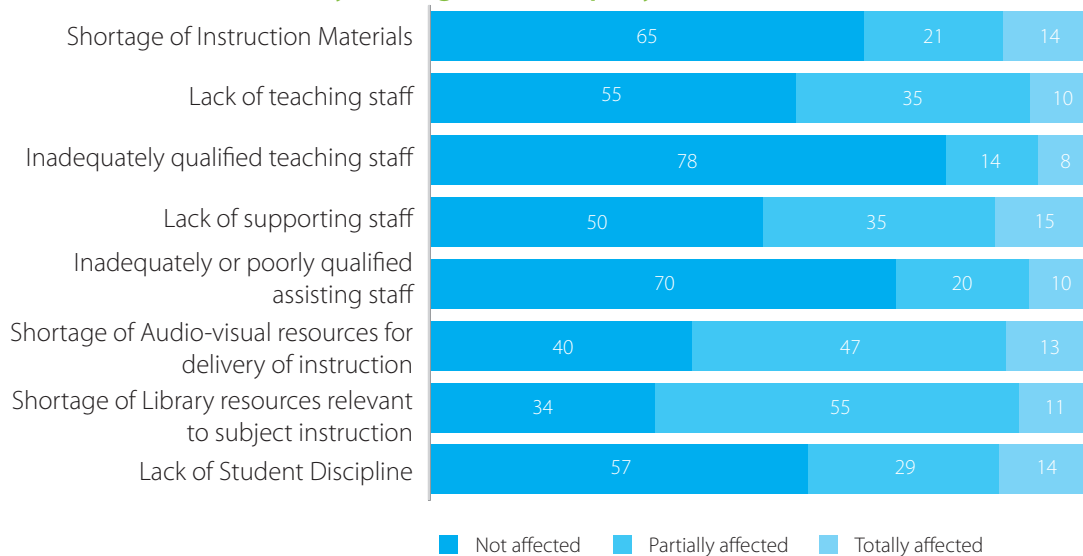
Parental support for students' Achievement

Parental involvement in school activities



What the head teacher responded?

School activities affected by shortage or inadequacy



Eg. 65% 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
Sindhudurg	80
Ratnagiri	79
Satara	78
Bid	77
Solapur	76
Ahmadnagar	76
Gadchiroli	72
Hingoli	72
Kolhapur	71
Raigarh (Maharashtra)	71
Washim	71
Latur	71
Osmanabad	71
Nanded	69
Aurangabad	69
Dhule	69
Parbhani	69
Pune	68
Sangli	67
Buldana	67
Nagpur	67
Jalgaon	66
Bhandara	65
Nandurbar	65
Jalna	64
Nashik	64
Thane	64
Akola	63
Mumbai (Suburban)	61
Gondiya	60
Palghar	60
Amravati	59
Chandrapur	58
Wardha	57
Yavatmal	56
Mumbai II	

Class 5

District name	District mean
Ratnagiri	69
Sindhudurg	67
Hingoli	66
Gadchiroli	64
Satara	61
Bid	61
Dhule	61
Osmanabad	61
Ahmadnagar	61
Washim	60
Nandurbar	59
Kolhapur	59
Solapur	58
Parbhani	58
Jalgaon	57
Buldana	57
Aurangabad	57
Latur	57
Nanded	56
Akola	56
Sangli	56
Raigarh (Maharashtra)	55
Pune	55
Nashik	54
Thane	53
Bhandara	53
Nagpur	52
Amravati	51
Palghar	50
Mumbai II	50
Jalna	49
Gondiya	47
Mumbai (Suburban)	46
Chandrapur	46
Yavatmal	45
Wardha	45

Class 8

District name	District mean
Bid	59
Nandurbar	54
Sindhudurg	54
Hingoli	53
Gadchiroli	51
Dhule	51
Buldana	50
Satara	50
Aurangabad	49
Ahmadnagar	49
Osmanabad	49
Ratnagiri	48
Solapur	48
Nashik	47
Parbhani	47
Latur	47
Sangli	46
Raigarh (Maharashtra)	46
Kolhapur	46
Nanded	46
Thane	45
Washim	45
Jalgaon	45
Mumbai II	45
Pune	45
Amravati	43
Wardha	43
Gondiya	43
Akola	42
Palghar	41
Nagpur	41
Yavatmal	39
Jalna	39
Bhandara	39
Chandrapur	38
Mumbai (Suburban)	36

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	59
E303	Identifies relationships with and among family members	67
E304	Identifies objects, signs (vessels, stoves, transport, means of communication, transport, signboards etc.), places (types of houses/shelters, bus stand, petrol pump etc.) activities (work people do, cooking processes, etc.) at home/school/ neighbourhood	69
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	64
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)	73
E309	Identifies directions, location of objects/places in simple maps using signs/symbols/verbally	66
E310	Guesses properties, estimates quantities of materials/ activities in daily life and verifies using symbols/non-standard units	69
E311	Records observations, experiences, information on objects/ activities/places visited in different ways and predicts patterns etc	57
E313	Observes rules in games (local, indoor, outdoor)	39
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	81
Language		
L304	Reads small texts with comprehension i.e., identifies main ideas, details, sequence and draws conclusions	72
L312	Reads printed scripts on the classroom walls: poems, posters, charts etc	67
Mathematics		
M301	Reads and writes numbers upto 999 using place value	60
M302	Compares numbers up to 999 based on their place value	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	57
M304	Constructs and uses the multiplication facts (up till 10) in daily life situations	65
M305	Analyses and applies an appropriate number of operations in the situation/ context	62
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	82
M311	Fills a given region leaving no gaps using a tile of a given shape	53
M312	Estimates and measures length and distance using standard units like centimetres or metres & identifies relationships	39
M317	Reads the time correctly to the hour using a clock/watch	73
M318	Extends patterns in simple shapes and numbers	58
M319	Records data using tally marks, represents pictorially and draws conclusions	79

LO Code	Learning Outcome Class 5	Average Performance (in Percent)
EVS		
E403	Identifies relationship with and among family members in extended family	56
E410	Records observations/experiences/information for objects, activities, phenomena, places visited in different ways and predicts patterns and activities/ phenomena	56
E501	Explains the super senses and unusual features (sight, smell, hear, sleep, sound, etc.) of animals and their responses to light, sound, food etc	53
E503	Describes the interdependence among animals, plants and humans	54
E504	Explains the role and functions of different institutions in daily life (Bank, Panchayat, Cooperatives, Police station, etc.)	69
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).	28
E506	Group objects, materials, activities for features/properties such as shape, taste, colour, texture, sound, traits etc.	31
E507	Traces the changes in practices, customs, techniques of past and present through coins, paintings, monuments, museums etc. and interacting with elders	61
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	48
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	53
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	51
E512	Voice opinions on issues observed/experienced and relates practices /happenings to larger issues of society	54
E513	Suggests ways for hygiene, health, managing waste, disaster/ emergency situations and protecting/saving resources	64
Language		
L504	Reads and comprehends independently storybooks, news items/ headlines, advertisements etc	58
L508	Reads text with comprehension, locates details and sequence of events	62

LO Code	Learning Outcome Class 5	Average Performance (in Percent)
Mathematics		
M401	Applies operations of numbers in daily life situations	35
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	62
M421	Represent the collected information in tables and bar graphs and draws inferences from these	63
M501	Reads and writes numbers bigger than 1000 being used in her/his surroundings	60
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	49
M505	Finds the number corresponding to part of a collection	56
M506	Identifies and forms equivalent fractions of a given fraction	41
M508	Converts fractions into decimals and vice versa	55
M509	Classifies angles into right angle, acute angle, obtuse angle and represents the same by drawing and tracing	56
M512	Relates different commonly used larger and smaller units of length, weight and volume and converts larger units to smaller units and vice versa	52
M513	Estimates the volume of a solid body in known units	41
M514	Applies the four fundamental arithmetic operations in solving problems involving money, length, mass, capacity and time intervals	46
M515	Identifies the pattern in triangular number and square number	49
M516	Collects data related to various daily life situations, represents it in a tabular form and as bar graphs and interprets it	64

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	61
Mathematics		
M601	Solves problems involving large numbers by applying appropriate operations	33
M606	Solves problems on daily life situations involving addition and subtraction of fractions / decimals	34
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	38
M621	Arranges given/collected information in the form of table, pictograph and bar graph and interprets them	40
M702	Interprets the division and multiplication of fractions	37
M705	Solves problems related to daily life situations involving rational numbers	35
M706	Uses exponential form of numbers to simplify problems involving multiplication and division of large numbers.	34
M707	Adds/subtracts algebraic expressions	48
M710	Solves problems related to conversion of percentage to fraction and decimal and vice versa	29
M717	Finds out approximate area of closed shapes by using unit square grid/ graph sheet	33
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	40
M801	Generalises properties of addition, subtraction, multiplication and division of rational numbers through patterns	31
M802	Finds rational numbers between two given rational numbers	38
M803	Proves divisibility rules of 2, 3, 4, 5, 6, 9 and 11	46
M804	Finds squares, cubes, square roots and cube roots of numbers using different methods	46
M808	Use various algebraic identities in solving problems of daily life	47
M812	Verifies properties of parallelogram and establishes the relationship between them through reasoning	35
M818	Finds surface area and volume of cuboidal and cylindrical object	33
M819	Draws and interprets bar charts and pie charts	44

LO Code	Learning Outcome Class 8	Average Performance (in Percent)
Science		
SCI703	Classifies materials and organisms based on properties/ characteristics	42
SCI704	Conducts simple investigation to seek answers to queries	31
SCI705	Relates processes and phenomenon with causes	38
SCI708	Measures and calculates e.g., temperature; pulse rate; speed of moving objects; time period of a simple pendulum, etc	49
SCI710	Plots and interprets graphs	33
SCI711	Constructs models using materials from surroundings and explains their working	35
SCI801	Differentiates materials, organism and processes	41
SCI804	Relates processes and phenomenon with causes	38
SCI805	Explains processes and phenomenon	37
SCI807	Measures angles of incidence and reflection, etc	44
SCI811	Applies learning of scientific concepts in day-to-day life	37
SCI813	Makes efforts to protect environment	60
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	47
SST610	Locates important historical sites, places on an outline map of India	27
SST625	Describes the functioning of rural and urban local government bodies in sectors like health and education	32
SST703	Explains preventive actions to be undertaken in the event of disasters	46
SST704	Describes formation of landforms due to various factors	49
SST722	Explains the significance of equality in democracy	44
SST726	Describes the process of election to the legislative assembly	52
SST731	Explains the functioning of media with appropriate examples from newspapers	40
SST733	Differentiates between different kinds of markets	49
SST734	Traces how goods travel through various market places	60
SST802	Describes major crops, types of farming and agricultural practices in her/his own area/state	44
SST805	Locates distribution of important minerals e.g. coal and mineral oil on the world map	29
SST807	Justifies judicious use of natural resources	54
SST809	Draws inter-relationship between types of farming and development in different regions of the world	37

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	49
SST815	Explains the origin, nature and spread of the revolt of 1857 and the lessons learned from it	51
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	26
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	36
SST823	Applies the knowledge of the Fundamental Rights to find out about their violation, protection and promotion in a given situation	34
SST827	Describes the process of making a law. (e.g. Domestic Violence Act, RTI Act, RTE Act)	35
SST831	Identifies the role of Government in providing public facilities such as water, sanitation, road, electricity etc., and recognizes their availability	37
SST833	Draws bar diagram to show population of different countries/ India/states	63

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 Chandrashekar Hosur, Director, School Education and Literacy (SE&L)

Ms. R. Savithri, DDG, Statistics

NCERT

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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.

