NIPUNN – II Mathematics

ANNEXURE A

NIPUNN- II is an endeavour for assessing and consolidating the learning levels of class II students of the Academic Session 2019-20 and to improve their preparedness for the upcoming session of 2020-21. The essence of the programme is to strengthen the conceptual understanding of the students by recognising any possible learning gaps and by working with **all the students** in a concentrated manner during the month of March 2020. It is important to note that this programme is **not to label/segregate** any student based on his/her performance in the assessment. However, the central idea is to enhance their preparedness for the next class such that the learning gaps do not trail.

The entire programme is divided into three phases:

Phase I- Baseline assessment Phase II- Work with the students Phase III- Endline assessment

Phase I- Baseline assessment

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Class ka Naksha (Baseline) assessment shall be undertaken by doing the suggested activities provided in the Annexure D. Teachers' may note their observations as students engage in the activities. While observing, teachers may kindly note that giving correct answer to a task is not the sole criterion for assessing the student's understanding. It is essential to observe how the student approaches the problem, his/her level of confidence and the reasoning given by the student. These observations shall be then filled in the Class Ka Naksha as provided in the ANNEXURE B by using the codes given below:

Codes for Class ka Naksha

- ✓✓ If the student is able to complete the task comfortably every time and without support
- ✓ If the student is able to complete the task with support
- If the student faces challenges in doing the task

Kindly Note - If the student faces challenges in doing the task then assessment of further stages need not be conducted.

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2. Record the Stage of each student in the Class ka Naksha (ANNEXURE B, Column 8)

There are 7 stages in all – Beginners and Stage I to Stage VI to determine the highest level of students' achievement. Kindly note that each stage is cumulative, i.e. parameters of stage 1 are included in the parameters of stage 2 and parameters of both stage 1 and stage 2 are included in stage 3 and so on.

Stage of the student may be determined by looking at the double ticks $\checkmark \checkmark$ recorded in each stage. For example: If a student is able to do the tasks of Stage I and Stage II with $\checkmark \checkmark$ and does the tasks of Stage III with the single tick \checkmark , then the student's highest achievement in this case would be considered as Stage II.

While observing, teachers may come across students who are yet to reach Stage I, these students shall be recorded as 'Beginners'.

3. Consolidated report (Baseline) - After recording the observations and Stage for each student in Class ka Naksha, a consolidated report shall be made in the format given in the ANNEXURE E. The report shall have the details of total number of students in each Stage at the beginning of NIPUNN - II. Any long absentee student who missed the assessment may be recorded too in the consolidated report.

Phase II- Work with the students

- 1. Recognising the possible reasons for Learning Gaps: Before starting the learning module teachers are expected to identify the possible reasons for learning gaps. ANNEXURE C is to be filled to understand the difficulties faced by the students such that teachers address those difficulties and plan their learning programme accordingly.
- 2. Work with the students During the NIPUNN II programme, teachers will work with all the students for improving their preparedness for the next class and for strengthening their conceptual understanding. However, one to one interaction should be made with the students with learning gaps. Individual learning plans should be made for these students and wherever needed, the help of Special Educator should be taken to re-enforce the learning.

A suggested weekly plan of activities is provided in the learning module attached as ANNEXURE F. Teachers are encouraged to incorporate their innovative and creative ideas to the suggestive activities such that students enjoy the process of learning. They may also revisit or modify the activities as per the level of each student's understanding.

3. Assessment points have been included in the Plan of activities to support teachers in deciding when to move from one activity to the next. They may also revisit or modify the activities as per the level of students' understanding.

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Phase III- Endline Assessment

- Class ka Naksha (Endline) After working with the students, an Endline assessment shall also be conducted through the similar activities as done during the Baseline assessment (ANNEXURE D). The same Class ka Naksha that was filled for the Baseline Assessment will be updated as per the student's performance in the Endline assessment. For Example: If a student had got √in any parameter in the Baseline, he/she will be assessed again and the improvement will be recorded by updating the ✓ to ✓ ✓. In case there is no significant improvement observed in the student's performance, teachers may refer to ANNEXURE C once again and work specifically on the limitations with the help of a Special Educator.
- Consolidated report (Endline) After updating the Class ka Naksha, the consolidated report will also be updated in the same format as done in the Baseline assessment.

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NIPUNN Mathematics Class ka Naksha- Class II

ANNEXURE B

	1.	2.	3.	4.	5.	6.	7.		8.
Refer	Annexure E for details 🗖	Stage I	Stage II (includes Stage 1 as well)	Stage III (Includes Stage 2 as well)	Stage IV (Includes Stage 3 as well)	Stage V (Includes Stage 4 as well)	Stage VI (Includes Stage 5 as well)		
S.No.	Name of the student	1. Counting objects up to 100	2.Comparing numbers	3. Structuring (Able to count using pattern of 10) up to 100	4. Splitting 10 into 2 numbers in different ways	5. Recognising and writing numbers with number sense Up to 100 (Symbols)	6. Solves day to day problems related to addition and subtraction	Stage of eac (to be filled o Class ka N	c h student after filling aksha)**
		Up to 100	Up to 100	Up to 100	Up to 100	Up to 100	Up to 100	Baseline	Endline
**Not	e:- For filling the stag	e in column 8, te	achers may no	te that the stag	e should be dete	rmined based or	n the highest lev	el of achiev	ement for
each s	tudent. For example,	if a student has	√√ in columns	2 and 3 and \checkmark	in column 4 the	n she will be co	nsidered in Stag	e II, corresp	onding to

the Stage of highest level of achievement.

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ANNEXURE C

					P	ossible reas	ons for	Learning	Gaps						
		Attendance a relate	and Experience ed Fact	Any obse	erved physical of	difficulty				Any other o	observation				
S. No.	Name of the Student	No prior pre- primary experience	Irregular Attendance - Medical (Fits/ Epilepsy/ any illness) /Non- Medical family reasons - migrant population/ orphans/ dysfunctional families/ Alcoholism etc)	Limb related - any deformity or functional physical limitation	Coordinati on related - any difficulty in fine or gross motor activity	Nourishm ent related - underweig ht/ overweigh t; under height; small frame/bod y; any skin/ hair related issue/ protruding stomach	Any difficu Ity in seeing	Any difficult y in hearing	Any difficulty in speaking or expressing	Student shows difficulty to sit independ ently for age appropria te length of time (at least 10 minutes)	Student shows difficult y in socializi ng	Student shows difficulty to attend to a task in an age appropri ate manner	Student shows difficulty in managing self-care activities independe ntly/with support	Student shows difficul ty in managi ng self- care activiti es indepe ndently / with support	Any other behaviour you may have noticed
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ANNEXURE D

Guidelines for Observation

S. No.	Learning Outcome	Activities during which	How and What to observe
	pointers	observations can be done	
1	Can count objects and say how many upto 100	Kadam Naapna, Idhar se udhar tak, Stop taali game on Ganitmala, Drawing a mathematical painting	Teacher observes whether the - student is able to count comfortably without making any mistakes ✓ ✓ - student is able to count but needs support only in transition numbers like going from 69 to 70 and 79 to 80 ✓ - student has difficulty in counting (-)
2	Comparing numbers Up to 100	Within the context of making designs with Rangometry or any other material.	Teacher asks comparison questions orally within the context of making designs with Rangometry or with other materials. For instance she can ask, "In another school, two students Akhila and Pooja were making designs with different coloured seeds. Akhila made an elephant with 42 pieces and Pooja made an aeroplane with 39 pieces. Who do you think used more pieces?" Teacher observes whether the -student is able to compare numbers based on her number sense (\checkmark) -student is not able to compare numbers (-)
3	Structuring (Able to count using pattern of 10) up to 100	Sher Haathi	 Teacher observes how students count and take out numbers on small Ganitmala during Sher Haathi activity with the whole class. For example if students have to take out 38 beads, teacher observes whether student puts the clip on the specified number directly (38 beads at once). ✓✓ to put the clip at 38 student moves step by step for example 10,20,30 and then 38 (✓) student puts the clip by counting 38, beads one by one (1-1) ✓ has difficulty in taking out the required number of beads (-) The teacher can observe how the student takes out 2-3 numbers to understand the level of the child.

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4	Splitting 10 into 2 numbers in different ways	Ticket to ride, <i>Mutthi ka khel</i> ,	 Teacher observes whether student is able to tell the combination immediately (√√) counts on fingers or mentally and then says the combination (1-1) √ is not able to think of the combination (-)
5	Recognising numbers with number sense Up to 100 (Symbols)	Maan Card with Ganitmala	 During Maan Card activity with whole class teacher can observe 4-6 students at a time. Makes the correct number immediately ✓√ Checks on the Class Ganitmala and then makes the correct number – Takes time to make ✓ Has difficulty in making the number (-)
6	Writing down numbers with number sense Up to 100	Postman 2, Clip 4 with Empty number cards and <i>Ganitmala</i>	 Teacher observes whether student is able to write any number without making any mistakes. ✓✓ student is able to write numbers in sequence ✓ student is not able to write numbers in sequence or not able to write any number. (-)
7	Solves day to day problems related to addition and subtraction	Through word problems	 Teacher develops the context and asks the student the question orally. Teacher observes whether the students is able to - understands the question herself and thinks mentally to find the answer √√ - understand the question herself and counts on fingers, or using lines to find the answer √ - is not able to understand the question herself (-)

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ANNEXURE E

Consolidated report - Class 2

	Aspects of Number sense	Number of students in a particular stage as on (Baseline NIPUNN - II) √√ only	Number of students in a particular stage as on (Endline NIPUNN - II) √√ only
Stage I	Is able to count objects up to 100		
Stage II	Stage I and Is able to compare numbers up to 100		
Stage III	Stage II and Is able to count with structure up to 100		
Stage IV	Stage III and Is able to split 10 into 2 numbers in different ways		
Stage V	Stage IV and Is able to recognise and write numbers with number sense		
Stage VI	Stage V and Solves day to day problems related to addition and subtraction		
Beginners	Students who are yet to reach Stage I		
Students w	ho were not assessed for any unavoidable reason		
Total nu	mber of students		

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ANNEXURE F

NIPUNN II Mathematics

Plan of activities - A Reference guide for Teachers

Week 1 – Counting objects up to 50				
Kadam napna up to 30/40/50 – 3-4 students stand at the same starting point and are each asked to take 30 (or 40 or 50) steps but keeping one foot in front of the other. Will they reach the same point? students find out by doing it.	1-2 times			
Making 20 - A pair of students come from each team. One student throws the dice and puts as many balls in a basket. Then the second student gets a turn. Each team has to collect 20 balls. The first team to complete the target wins.	1-2 times			
<i>Idhar se udha rtak</i> – From this end of the board to that end, how many Rangometry <i>barfi</i> pieces can we arrange in a straight line? Students estimate and then find out. Later there can be discussion about whose estimate was closest or farthest etc.	1-2 times	Sankhyabodh Manual, page no. 73		
<i>Mutthi me kitne</i> – One student picks up as many beads/seeds (<i>imli</i> seeds, <i>rajma</i>) as she can in her fist. Other students guess how many could be in her fist. Then they count and find out. Can also be played in pairs.	1 time	Math Magic Page no. 9-11		

• Sankhyabodh Manual for Mathematics has been uploaded along with the Teacher Workshop Circular No. 1.54/ET/SCERT/201819/PRTMathInset/5732-37 dated 21.08.2019.

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Week 2 - Counting objects up to 100	Week 2 - Counting objects up to 100				
Stop taali game on Ganitmala	Daily	Sankhyabodh Manual, page no. 77			
Kadam napna up to 30/40/50	1-2 times				
Dice game – Who will collect 20 balls first ?	1-2 times				
Drawing a mathematical painting – Students may draw a picture using shapes and colour them later. At the end they find out number of times a particular shape was used. (student can also count in her friend's painting – they can work in teams) In each team, students compare the number of times each shape has been used. *Teacher can show the shapes to be included.	1 time	Math Magic Page no. 17			
Idhar se udhar tak kitne tukde	1-2 times	Sankhyabodh Manual, page no. 73			
Assessment point : Can count objects and say how many up to 100					

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Week 3 - Towards structured counting	g	
Stop taali game on Ganitmala	Daily	Sankhyabodh Manual, page no. 77
 Ganitmala Clip 1 - Teacher puts the clip on Ganitmala and asks, "how many beads from beginning till the butterfly?" One student counts and finds outs. Activity is repeated with 2-3 numbers. Ganitmala Clip 2 - Teacher asks the students to put the clip at a specified number. Can be repeated with 2 -3 numbers. 	2-3 times	Sankhyabodh Manual, page no. 76, 79
<i>Sher haathi</i> with Small <i>Ganitmala</i> – Students take turns to put the clip at the number specified by the teacher on the small <i>Ganitmala</i> .	2-3 times	Sankhyabodh Manual, page no. 79
<i>Kamra napna</i> - Similar activity can also be done to measure desk/blackboard using hand span. In each case students get to estimate the length of different objects.Discussion on why is there a difference when different students measure.	1 time	Sankhyabodh Manual, page no. 69
Two design activity for Number combinations of 10 - Students work in teams of 2. Each student makes a figure of their choice using Rangometry pieces, but together they can use only 10 pieces. Later the name of the two figures made by each team and the number of pieces used to make them can be noted.	1 time	
Assessment point: Can compare numbers up to 100 with number	r sense	1

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Week 4 - Structured counting up to 100		
Stop activity with number cards on Ganitmala	Daily	Sankhyabodh Manual, page no. 86
Sher hathi activity with small Ganitmala.	3-4 times	Sankhyabodh Manual, page no. 79
Two design activity for Number combinations of 10	1 time	
Mutthi ka khel for number combinations of 10 - Can be played for few minutes daily	1-2 times	Sankhyabodh Manual, page no. 61

Week 5 - Structured counting up to 100		
Simple word problems orally can be done daily for few minutes	Daily	
Sher hathi activity with small Ganitmala.	3-4 times	Sankhyabodh Manual, page no. 79
Mutthi ka khel for number combinations of 10 - Can be played for few minutes daily	1-2 times	Sankhyabodh Manual, page no. 61
Postman – Teacher involves students in a story. The postman needs help in delivering the letters. The desks in the class become the houses in the street. On some of the 'houses' (desks), the house number is written, but some of them are missing. Will the students help the postman by writing the house numbers on the other desks? Then the student who is the Postman picks up the letters finds the correct street and delivers it to the correct house.	1 time	Math Magic Page no. 12-13
Assessment point:		
Can count using structure of 10 up to 100		
Can split 10 into two numbers in different ways		

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Week 6 - Structured counting up to 100		
Simple word problems can be done daily for few minutes orally.	Daily	
<i>Maan</i> card with <i>Ganitmala</i> – Each pair of students are given a set of Maan cards. Teacher puts the clip on the <i>Ganitmala</i> and all the students make the number at which the clip is located using their Maan cards.	3-4 times	Sankhyabodh Manual page no. 82
Market situation - Enact a market situation like fruit shop, stationary shop etc. Different items are displayed with price tags (up to 20). Students are given set of cards with numbers from 1 to 10. Students have to give one or more cards on which the dots together sums up to the amount on the price tag to buy a particular item. For example to buy a item with price tag 12, the student can give cards with 5 and 7 on them or cards with 8 and 4 on them etc.	1 time	
Tickets for train – Students have to board trains named as train no. 7, train no. 8, train no. 9 and so on by showing 2 cards which together make that number. For this, teacher keeps set of cards with numbers up to 10. For ex. Students can show 6 and 2, or 5 and 3, or 4 and 4 to board the train no. 8. Students holding placards of 7, 8, 9 and 10 are standing and after showing their 'tickets' students board the train and then the train and the students get a chance to move around together as well.	1 time	Math Magic Page no. 81-83
Postman activity can be revisited. This time the teacher draws the houses in different streets on the blackboard. The streets can start with different house numbers like 26, 32, 38 etc. One student helps the Postman by writing the numbers of the other houses in the street. Then the student who is the Postman picks up the letters finds the correct street and delivers it to the correct house.	1 time	
Assessment point: Writing down numbers with number sense up to 100 Solves day to day problems related to addition and subtraction	1	

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Word problems

1. Maitri has started going for music classes. Eight (8) students were taking the classes with her. She convinced 4 more friends also to join along with her. How many students are taking the classes together now?

Later, 3 students who lived a little further decided to leave the music classes with Maitri. Now how many students are taking music classes in Maitri's group?

2. A Drawing Mela was organized for students at Gandhi Park on Sunday. 22 students reached there by 10 AM. They had got crayon packets for 15 students. How many more crayon packets do they need to get?

After some time, 14 more students joined them. How many students participated in the Drawing Mela this Sunday?

3. Suhail is a juice vendor. He is popular for his 'Ganne ka ras'. He opened his shop on the very first day of the season. People usually come in the morning and evening on their way to work or back to have the juice in his shop.

On the first day, 25 people had juice in the morning. In the evening, 27 people had juice. So how many glasses did he sell on the first day?

The next day it rained heavily so less people came. On that day he sold 20 glasses less than the day before. How much did he sell on that day?

4. Mahi and Saloni were playing bouncing ball game. Mahi bounced 39 times in one go and Saloni bounced 45 times in one go. How many more times did Saloni bounced the ball as compared to Mahi?

In the next round, Mahi bounced the ball 60 times and Saloni bounced the ball 48 times. How many more times does Saloni have to bounce the ball so that she matches Saloni's record?

5. Sahil is reading a book of 52 pages. He has read 45 pages. How many pages does he need to read to complete the book?

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