REPORT OF CAPACITY bUILDING VISIT TO AAVISHKAAR CENTER FOR SCIENCE MATH ARTS AND TECHNOLOGY, PALAMPUR

Details of the Programme Name of Programme: Capacity Building Visit of Mentor Teachers to Aavishkaar,Palampur Coordinator: Dr Amit Sharma, Assistant Professor/Nodal Officer,Exposure Visit SCERT Delhi Date : 25TH JUNE – 1ST JULY 2023 No. of Participants: 27 mentor teachers of MCD



Objective of the Programme: The objective of this National Exposure trip to Aavishkaar, was to observe, explore and learn innovative pedagogical approaches practiced by educators in the teaching learning situations for Mathematics and Science at Primary Level.

<u>Day-0</u> 25 June, 2023

On 25 June, 2023, a team of 27 Mentor Teachers led by the Group Coordinator & team landed at Kangra airport and started on a 2-hour journey by road to Aavishkaar Palampur. On the way and afterwards, the team was briefed about the schedule for the upcoming days.

<u>Day-1</u> <u>26 June, 2023</u> Today was our first day at Aavishkaar, Palampur. Our Cordinator from SCERT Dr Amit Sharma started the day with an Energiser Bingo. It was an interesting game and all the participants enjoyed the Energiser.

After that Prapti Ma'am from Aavishkaar gave us a brief introduction about the Five day Capacity Building workshop and it's work flow and their expectations from the participants.

The first session was taken by Sandhya Ma'am about mathematical mindset and the common mistakes we do in using mathematics as a language. It was a wonderful session in which the facilitator made the participants think about same problem with different perspective it was an enriching experience for all the participants.

The second session was taken by Sarit Sir and it helped the us understand the process of learning science with scientific temperament and attitude. A problem was given and solutions were discussed.Then the participants had to practically test their hypothesis and find the solution.

The problem was about Light and it's applications.

The second problem given to us was about Life Science. In this session, snake skin was shown and the participants had to give two questions related to the snake skin and also had to devise a process for finding it's answers After that we had a final Recapitulation Session to collect what was learnt during the day.



<u>DAY-2</u> 27 June, 2023

The second day at Aavishkaar was dedicated to Mathematics. Today Sandhya ma'am took all the sessions and gave us a visual presentation of 5 frame and 10 frame and explained how it helped in building concrete number concept.

A 5 frame is a visual aid that can be used to help children learn about numbers and operations. It is a long, narrow strip of paper that is divided into 5 equal sections.

5 frame can be used for a variety of mathematical activities, including:

- <u>Counting</u>: Children can use 5 frame to count objects or to practice counting by 5s.
- <u>Addition</u>: Children can use 5 frame to add numbers together. For example, to add 2 and 3, children would place 2 dots in the first section of the strip and 3 dots in the second section. The total number of dots (5) would represent the answer to the addition problem.
- <u>Subtraction</u>: Children can use 5 frame to subtract numbers. For example, to subtract 3 from 5, children would place 5 dots in the first section of the strip and then remove 3 dots. The remaining 2 dots would represent the answer to the subtraction problem.
- <u>Multiplication</u>: Children can use 5 frame to multiply numbers. For example, to multiply 2 by 5, children would place 2 dots in the first section of the strip and then draw 5 copies of the strip. The total number of dots (10) would represent the answer to the multiplication problem.

10 Frame

A 10 frame is a visual aid that is similar to a 5 Frame, but it is divided into 10 equal sections.

10 frame can be used for all of the activities as 5 frame, but they can also be used to teach more advanced mathematical concepts, such as place value and division.

For example, to teach place value, children can use 10 frame to represent different numbers. For example, the number 25 can be represented by placing 2 dots in the first section of the strip and 5 dots in the second section.

To teach division, children can use 10 frame to divide numbers. For example, to divide 10 by 2, children would place 10 dots in the first section of the strip and then divide the strip into 2 equal parts. Each part would have 5 dots, which represents the answer to the division problem.

Benefits of using 5 frame and 10 frame

5 frame and 10 frame are a valuable tool for teaching Mathematics to primary school children. They are easy to use and understand, and they can help children to visualize Mathematical concepts.

In addition, 5 frame and 10 frame can help children to develop their Mathematical skills, such as counting, addition, subtraction, multiplication, and division. They can also help children to develop their problem-solving and analytical skills.



DAY-3 28 June, 2023

The third day of our journey at Aavishkaar had Multiplication and Exploring the Multiplication chart .

We found interesting facts about Multiplication and the common mistakes we make in using Mathematics as a language.

We corrected the use of 'into' in multiplication.

We also found out interesting Patterns in Multiplication Chart.

- <u>Look for patterns</u>: There are many patterns to be found in the multiplication chart. For example, the multiples of 2 are always even numbers, and the multiples of 5 always end in a 5 or a 0.
- <u>Make predictions</u>: You can use the patterns in the multiplication chart to make predictions about what the product of two numbers will be. For example, if you know that the product of 2 and 5 is 10, you can predict that the product of 3 and 5 will be 15.

- <u>Learn the multiplication facts</u>: The multiplication chart can be a helpful tool for learning the multiplication facts. You can start by learning the basic facts, such as 2 x 2 = 4 and 3 x 3 = 9. Then, you can gradually work your way up to the more challenging facts.
- <u>Use the multiplication chart for problem solving</u>: The multiplication chart can be used to solve a variety of math problems. For example, you can use it to find the area of a rectangle or the volume of a box.
- <u>Have fun!</u> The multiplication chart can be a lot of fun to explore. There are many different ways to use it.

Here are some additional tips for exploring the multiplication chart:

- <u>Start with the basics</u>: If you are new to multiplication, start by learning the basic facts. You can find these facts in many different places, such as multiplication tables, flashcards, and online resources.
- <u>Use a variety of resources</u>: There are many different resources available to help you learn multiplication. You can use books, websites, apps, and even games.
- <u>Practice regularly</u>: The more you practice, the better you will become at multiplication. Try to set aside some time each day to practice your multiplication facts.
- <u>Make it fun</u>: There are many ways to make learning multiplication fun. You can play games, sing songs, or use manipulatives.

DAY-4 29 June, 2023

The day 4 had interesting options for us. We explored the topic how to make Exploration tasks in Maths and Science. <u>Steps for creating an Exploration chart.</u>



• <u>Start with a question or problem</u>: The first step is to come up with a question or problem that students can explore. This question or problem should be open-ended and allow for multiple solutions.

- <u>Provide resources</u>: Once you have a question or problem, you need to provide students with the resources they need to explore it. This could include books, articles, websites, or even data sets.
- <u>Encourage creativity</u>: Exploration tasks should be open-ended and allow students to be creative. There is no one right answer, so students should be encouraged to explore the problem in their own way.
- <u>Provide guidance</u>: While exploration tasks should be open-ended, it is important to provide students with some guidance. This could include providing them with questions to answer or tasks to complete.
- <u>Allow time for exploration</u>: Exploration tasks take time. Students need time to think, experiment, and make mistakes. Be patient and allow them to explore the problem at their own pace.
- <u>Celebrate successes</u>: When students make progress, be sure to celebrate their successes. This will help them stay motivated and engaged in the exploration process.

Here are some examples of exploration tasks in math and science:

- In math, students could explore the patterns of numbers in the Fibonacci sequence.
- In science, students could explore the effects of different variables on the growth of plants.
- In both math and science, students could explore the properties of different shapes.

These are just a few examples, and there are many other possibilities. The most important thing is to come up with a question or problem that is interesting and engaging for students.

<u>DAY-5</u> <u>30 June, 2023</u>

Today is our last day of fun-filled learning at Aavishkaar. A mela was organised by the Aavishkaar Team and all the Mentors tried their hand at solving various Math and



Science puzzles. The day ended with a closing Ceremony. A lot of myths about Math were busted and it was understood that any Mathematical problem can be

approached in various ways, Math can be visual, process is more important, asking 'why' and 'how' improves understanding.

To conclude the journey at Aavishkaar it can be said that 'गणित एक भाषा है जिसका सही प्रयोग हमारे जीवन को सटीक बनता है। '



