

Addition

CBSE, Maths, Class - I, Unit -3

Fluidity and flexibility with number

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Objectives:

- Adding two numbers, the sum not exceeding 9
- Add a single digit number with zero
- Solving problems involving single digit addition

Prior knowledge

Counting, numbers and number names.

Teaching process

Build on prior knowledge

Kanitha Mala: I used “kanitha malai” to check how comfortable students are with basic counting before we take up addition with numerals. I found that most of them are good at it. I noticed that one of the students was able to count but was not able to recognize numerals. Another student missed some numbers in-between while counting. So, I gave her another activity for counting using a



TLM.

Matching number of objects with the numeral: I gave them a number strip and bindis (stickers) and asked them to paste bindis corresponding to the number in the box. E.g. paste 1 bindi in the column with number 1, three bindis in the column with number 3 and so on. While designing this activity I was not sure if this will be interesting for first grade kids. But when I saw them doing it with great zeal, I felt very happy and motivated. I also gave them a project based on this as homework. This helped me to reinforce the concept of counting and numbers.

One of the students continues to struggle with counting. It was very challenging for me to handle and teach her with patience. I am now spending time with her separately and starting from one to one correspondence.



Exploring on their own:

I divided the class into two groups of five. I gave them picture cards, each having a different number of objects / animals. When a number is called out, the teams have to hold up 2 or more cards that add up to that number. E.g. When the number 7 is called out, they could hold up two

cards of 5 and 2 cows. They cannot use just one card, since the idea of the activity is to add numbers.

Students did this activity without any difficulty since they had good understanding and practice in counting. Some students even showed 7 using three cards. Working in groups helped in collaborative learning. They discussed with each other, observed their own mistakes and helped their friends.

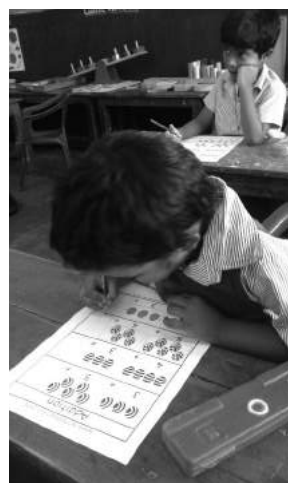
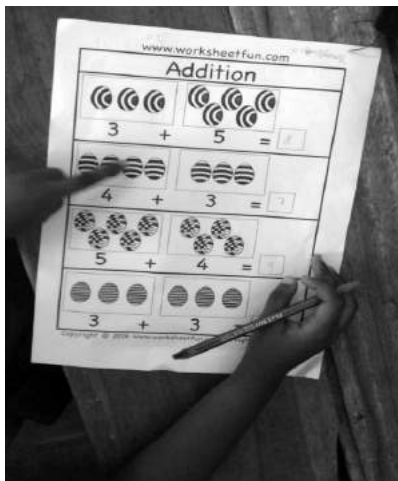


using pictures or dots or lines and some are using their fingers. Our role is to support and channelize them.

Learning addition using picture worksheets:

I did this activity as an individual activity. I gave worksheets to students and count the number of objects in each collection and then count the objects in both the collection. There are two concepts involved here - 'Count all' and 'Count on'

Count all: While adding 4 and 2 students will take four objects and two objects then they start



counting the two collection from 1,2,3,4,5 and 6 and say the answer as 6.

Count on: In this method the students don't start their counting from 1 instead they start with 4

and add on the fifth and the sixth one to the four objects such that making the collection as 6.

At the beginning level it is easy for the children to do 'count all'. One of the students struggled with this. For example on seeing the number 5, she started counting from 6...7...which gives her the wrong answer. I think if students were exploring addition on their own, each one of them would come up with their own strategies e.g. some were using materials and some were

A few places where children struggled:

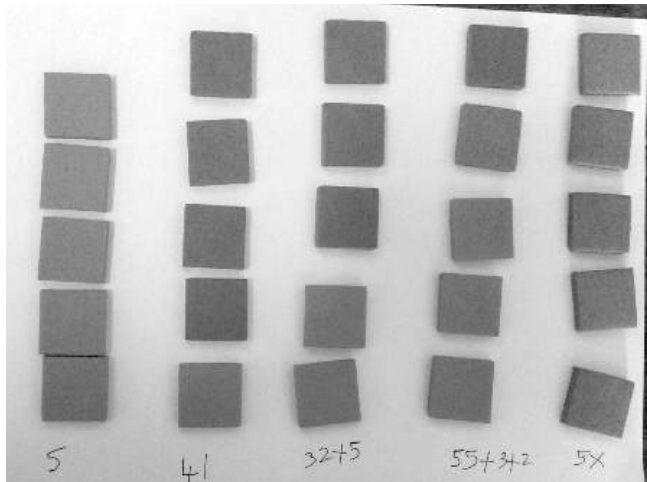
- Though it is good to do addition using 'count all' method at the beginning, I wanted my students to move on to the 'count on' method. But all of them didn't move on to this method. They need more practice in it.
- Another problem is again the identification of the numeral. One girl is having difficulty in this. She knew to count and even do addition orally. While writing the answer she was struggling. So, again I gave practice in reading and writing the numerals. I need to spend time with two such girls. I am spending time with them when the others have moved on to their worksheets.

Elaboration:

Different ways of adding up to 5: This is an open ended exercise. Here the students were asked to arrive at different ways of arranging 5 counters – in two different colors. This activity is a higher order thinking activity for their level. Here are two samples made by students.

Student 1: She has arrive at 5 using different formats: 4+1, 3+2, 2+3, 5+0. Students were able to arrange the counters as we expected. But they weren't always able to write it as an equation.

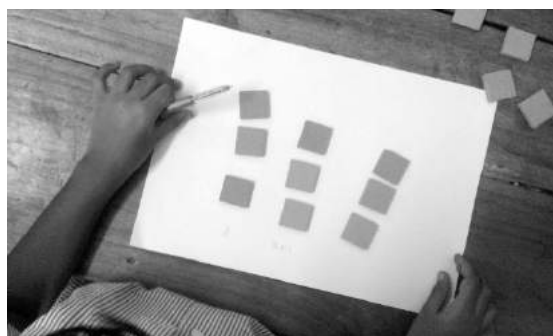
e.g. this student here has arranged the counters correctly, but has written the equation as $4 + 1 = 5$ instead of $4 + 1 = 5$. Here I am putting a question to the readers: Is it important for the grade 1 students to write a meaningful addition fact or just understanding the concept is enough?



Student 1

Student 2: Not everyone was able to get this right. Here is a sample of student 2's work. She has started off arranging the counters, but is not able to arrange it into groups of 5.

This activity also helped reinforce the concept of zero. They were able to use the concept of zero but could not explain it in a formal manner.



Student 2

Missing Addend worksheet: I see this worksheet as a follow up worksheet of the previous activity. The colour differentiation given helped the

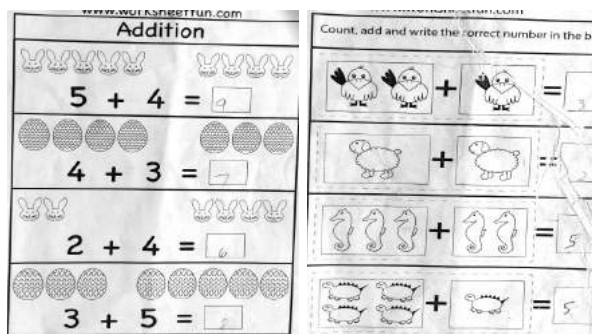
students to fill up the missing addend. Some students were able to do this without any questions but some asked me how to do this. I asked them to take the first one as the model and do the rest sums.

Missing addend	
●●○○○○○ $2 + \boxed{5} = 7$	●●●○○ $3 + \boxed{5} = 8$
●●●●●○○ $6 + \boxed{2} = 8$	●●●●○○○○○ $5 + \boxed{4} = 9$
●●●●○○○ $4 + \boxed{3} = 7$	●●●●●○ $5 + \boxed{1} = 6$
●●○○○○○○○ $2 + \boxed{7} = 9$	●○○○○○○○ $1 + \boxed{6} = 7$

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Evaluation

Worksheet for assessment: Worksheet were given to student to assess their understanding. They were able to do single digit addition expect one girl. She was in the process of learning counting.



Summary: It took me a week (6 periods) to do all these activities. Even though my students were able to do addition using materials and pictures, I can't say that my students had learnt addition. There are some students who need more help.

Going forward, I am planning to create some situations (like shopping games) and some self-learning materials for addition. This would help my children to strengthen the concept they have learned.



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