

Counting in Groups

CBSE, Grade 2, Maths

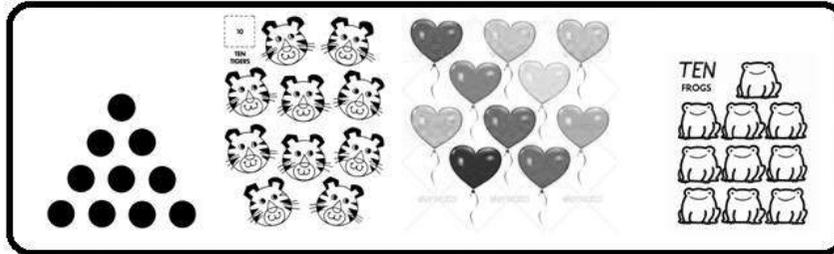


Figure 1



Figure 2

Objectives:

The student is able to

- Count objects in groups.
- Count in multiple ways starting from any object (Understanding cordiality).
- Number in order.
- Estimate the number of objects in a group without counting.

To involve students into activities, I asked them to form groups. I used to divide students into groups myself, but this time I gave them freedom to club with their friends. Students were willing to help other groups whenever necessary thus allowing interaction between groups.

Conducting a class test in reading and writing numbers from 1 to 100 at the beginning of the month made children familiar with two digit numbers. Hence, it was easy for me to engage them in the activities.

Activity 1:

I gave a picture showing ten objects to each group and asked them to count it. Each group counted and gave answers. After

finishing the task, I asked the students to explain their counting. It was amazing and surprising to see children come up with a wide variety of strategies to perform a simple activity of counting. The sample pictures used in the activity are in Figure 1

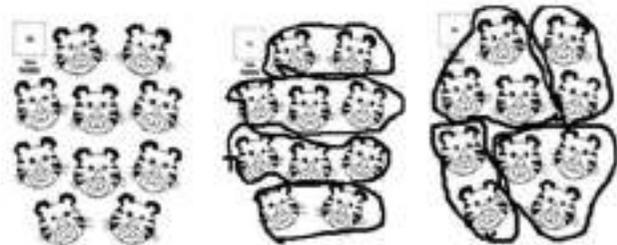


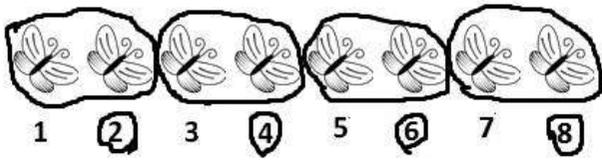
Figure 3

One of the students used the strategy of grouping to count the ten dots. (Figure 2) The explanation given by her was: $3 + 3$ is 6 ; $6 + 4$ is 10. Another student described her counting as $1+2+2+2+3$. Likewise I got a variety of interpretations for all the pictures.

Here is another example of counting through grouping by children. (Figure 3)

Activity 2:

In this activity, students in each group were asked to count objects in 2s. Initially, students focused on grouping the counters in twos. They



could not immediately recognize the pattern- i.e. 2, 4, 6, 8, 10, 12, 14.... Children counted the objects in singles before arriving at the pattern. Some of them recognised the pattern quickly and managed to count. One child found the task very challenging. Although she was able to group the objects in two's, she was unable to recognize the pattern. Other children explained their counting as $2+2$ is 4, $4+2$ is 6, $6+2$ is 8.. It was observed that children either counted in 2's or added 2 to the previous number in the series. Some of them skip counted. They assigned numbers to each picture and skip counted the objects as shown below.

One student counted the first two objects and didn't proceed further. When I nudged her to continue, it made her cry. I realised my mistake and comforted her by telling that she can count them one by one. The next day, I called her again and asked her to count the objects one by one. She was able to do it. I recalled the activity of skip counting they had done in the previous class and asked her to try it again. She managed after 2-3 attempts. Later she was also able to count objects in 2s.

Activity 3:

As an extension of the previous activity, children were assigned the task of grouping objects of 2s in an orderly manner like: One group of 2; two groups of 2; three groups of 2... etc. After arranging they have to find the total number of objects in the row. Children did well. Later I asked them to repeat the same activity by drawing pictures, with the wordings _____ groups of 2 is _____. After counting in 2s, it was time for counting in 3s. I asked the children to bring two packets of bindies each for the next activity.

Although in my opinion, grouping in 3s was similar to the previous activity, the children found the task challenging compared to the previous one. But the use of 'Bindies' kept them excited. In addition to counting they were also familiar with the sentence "_____ group of 3 is _____". But students started writing them as a pattern rather than understanding its meaning.

When I questioned children while they were involved in the activity, I was able to decipher their thinking process. The questions posed to children were:

- What does 3 in this sentence denote?
- Why are you writing 2 groups of?
- How many groups are there in this row?



- How many bindies are there in each group?

The thinking process of children were - "If we write 1 in the first sentence, we should write 2 in the next sentence, 3 in the next after it and so on. 3 is common in all the sentences; in the second blank we have to write the total number of bindies in the row".

I realised the importance of asking questions during the activity as it channelizes their learning. Once again I explained to each group about the sentence they were writing. Similarly, I asked children to do the counting in 5s. All these activities help children in learning multiplication tables. In my opinion, memorising the tables and reciting them with a tune or writing them using symbols are meaningless. Introducing multiplication through tables would have limited their learning to '10 times 2', but with this activity, they were able to go



beyond, which is a remarkable difference from the traditional approach.

Activity 4:

Next, we moved to an open ended, individual activity. Children were asked to draw any picture and group them in the ways they preferred.



After grouping, they have to conclude with an addition statement corresponding to the picture drawn by them.

Some students were drawing and interpreting correctly but they struggled with symbols while writing the addition statement. This made me realise that children struggle with mathematical symbols rather than mathematics itself.



Activity 5:

Children were asked to close their eyes and I sought the help of another teacher to keep a watch over them. I drew some pictures on the board. Students were asked to open their eyes and guess the number of objects drawn. The student who said the answer first was asked to come forward to group and count the stars on the board to verify.

First, I drew 16 stars. One of the girls guessed it as 16, came forward and grouped it on the board. She shared her interpretation as $3+3+3+1$ is 10; $2+3$ is 5 and $5+1$ is 6. So $10+6 = 16$. It was



amazing that she made a huge calculation within a minute and explained it with a reason. Next, I wanted to go for a number greater than 20. I drew 25 stars, with the pattern $10+10+5 = 25$. A student guessed it as 23. When I asked her to explain, she immediately started grouping into 2s. I realised that each individual uses a strategy in which they are familiar, comfortable and confident. Hence I didn't drill my idea on

her, but rather let her do it, in her own way. When she counted 25 stars, she was sheepishly amused at her miscalculation.

The 'guessing game' turned out to be a playful and interesting methodology to strengthen these concepts. Class room objects like pencils, erasers, ice sticks and beads can also be used for this activity.



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