

Fun with Number

CBSE, Grade 3, Maths

UNDERSTANDING NUMERALS THROUGH DRAWING REPRESENTATION

The article discusses the idea of which is more important? - The written **structure** of the number or the **quantity** it signifies?

Objectives:

Students will be able to

- Read and write 3-digit numbers
- Expand a number with reference to place values
- Compare numbers

When children are asked to write 'three hundred and forty' in numeral form, they write it as 340. If we probe them into asking the number of tens in the numeral 340, the expected answer is four tens. Even as teachers, we instinctively come up with the same answer. In real there are thirty-four tens in 340. When we consider the question on how many ones are there in 340, the usual response is zero, which is incorrect. In fact, there are 340 ones in 340. This is the case because we teachers had been taught in this manner and we continue the same with our students.

It's time we reconsider our approach of teaching children about the concepts of place value and face value. Consider the example 340, if there are just four tens in the numeral 340, how did it add to three hundred? Although we teachers realise that it is an essential concept to be aware of, many of us believe that it is difficult to present this idea to children. There are many

easy methods to make children understand and one of them is representing a number through drawing.

For instance, write a two-digit number say 18 on the black board and ask children about the number of tens and ones in it. Students of Class 3, generally give the expected answer as 1 ten and 8 ones. They can be guided to represent the numeral through drawing. The concept can also be explored through the use of physical blocks and arranging them suitably.

Examples of 'drawing representations' for the numeral 18 is shown in figure 1

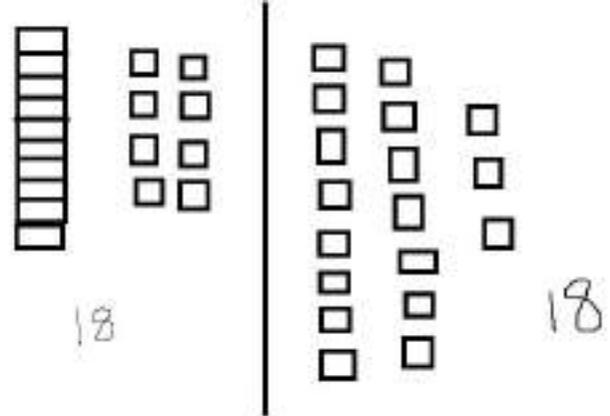


Figure 1

After getting a variety of representations from students, we can once again ask them about the number of tens and ones in the numeral 18. This enhances the learner's understanding of tens and ones. In figure 1, the first representation is expected when blocks of ten are available. The students would come up with the second representation when there are no blocks of ten available. Eventually the learner starts using

only 'ones' to represent the entire number. At this stage, the learners understand that the numeral 18 has 18 ones.

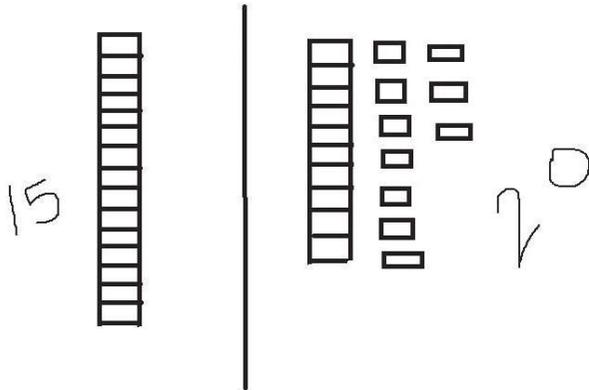


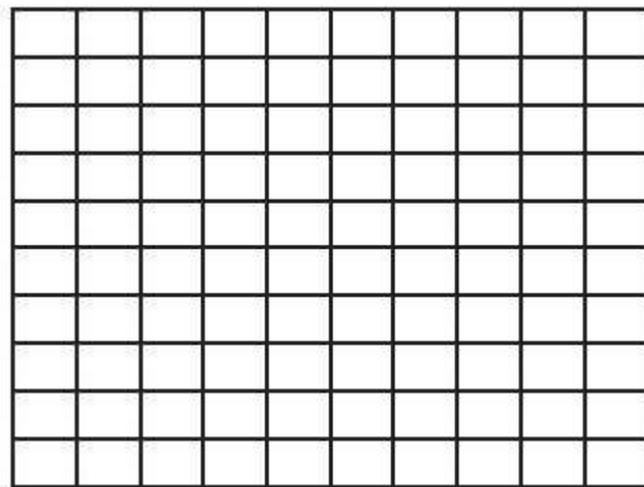
Figure 2

When I attempted this method with my students of Class 3, they presented different

kinds of representations. Some of them were interesting. When the number 15 was given, two students represented the numeral as single column of 15 ones. For 20, I asked them to use only one 'tens' representation. Refer figure 2.

After the children drew the representation, they were asked to justify how the drawing represents the number. The discussion helped both the learners and the teachers become aware of the level of learning. This activity can be used to represent 3 digit numbers using hundreds.

The teacher may suggest the following representation for hundreds, tens and ones as given below.



Hundreds



Tens



Ones



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