

Place value I

The teacher started off the lesson by explaining the idea of place value through some images on the interactive whiteboard: a series of two-digit numbers were displayed and clicking on each of the digits in the number produced pop-up images of the requisite numbers of tens or units.

The children were then given worksheets that had a list of two-digit numbers: they had to fill in two columns specifying the number of tens and ones in each number. So given, say, 67 they would write 6 in the column headed T and 7 under U, although some children were recording 60 and 7. When they finished that worksheet they went onto a 'harder' one involving HTU.

continued ...

The teacher had asked me to take the plenary part of the lesson, so I decided to put what the children had been working on into a simple context. I told a story of a friend, Jo, who ran a fruit stall in a market. She sold her fruit in bowls of ten pieces of fruit, rather than by weight. If she had a carton of 67 apples, how many bowls of ten apples would she be able to put out on her stall?

I asked the children to turn and talk to the person they were sitting next to. Despite only minutes before having been recording how many tens there were in a number, it was clear from their talk and accompanying hand actions that nearly all of the class were having to figure out the answer from first principles, counting up or back in tens to see how many bowls of ten apples could be made. Several children appeared to find it difficult to know where to start. Only two quickly made the connection to what they had just been doing. I asked this pair how many bowls Jo would be able to make from a large carton of 236 apples. They were confident that she would be able to make 203 bowls of ten: three from the 30 and another 200 bowls from the other 200 apples.

Taken from:

Askew, M. (2012) *Transforming Primary Mathematics* Routledge Oxon

Place value 2

I began by talking about market stalls and so forth, just as described in the other lesson. Having set it up that Jo puts her fruit into bowls of ten, we asked the children to work in pairs and figure out how many bowls of ten Jo could make from a box of 67 apples. From the experience in the parallel class I did not expect them to quickly know that 67 would allow for six bowls of ten apples. The children were given plain paper and we asked them to work together to figure out the answer. Most of them could do this, but one of the things that became clear was how few of them organized their work in ways that would help them find the answer easily. For example, some children simply drew long lines of apples, until they had drawn 67 and then marked off groups of 10, sometimes getting confused over what would happen at the end of lines.

As they completed the first example, we gave the pairs of children other numbers to work on and when everyone had done two or three 'boxes of fruit', we brought the class together to share some of their work in progress. We looked in particular at the representations of those children who had organized the images into distinct groups of ten. We sent the children off again in their pairs to figure out the numbers of bowls of ten for other totals that we had listed on the board, with everyone now being tuned in to being more organized in their recording.

As the children found the number of bowls that could be made from their boxes of fruit I listed the number of pieces of fruit in the box, the number of bowls and the 'left-overs' in a table on the board. Could the children see any patterns? In pairs the children talked about what they noticed and the class discussed the relationship between the total number of pieces of fruit and the groups of ten and 'left-overs'. This led into a discussion of how our way of recording numbers allows us to easily know the number of groups of ten in a number.

Fruit	Bowls	Left-overs
63	6	3
24	2	4
37	3	7
52	5	2
71	7	1