## Mathematical moments with 6-and 7-year-olds

## Number - multiplication (National Curriculum Year 2)

The children had been working on the patterns of 2,5 and 10 and were practising repeated addition. The teacher had not yet introduced the multiplication sign but was planning to do so soon.
Sophie was in the role play area, which was set up as a grocery shop. She wanted to know how much money there was. She counted the coins in the till, grouping the coins by type and creating a large pile of each denomination. The teacher noticed this and began discussing with Sophie how she would go about the task. Sophie decided to get a whiteboard and write down a sum to help her. When the teacher returned after a few minutes, Sophie had started with the 5 p coins and had written her first sum on her whiteboard:

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5+5+5+5+5+5+5+5+5+5+5+5 =
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The teacher discussed what her next steps might be, and Sophie said she would add the numbers together, but when she tried, she found it difficult to keep track. The teacher continued to discuss the problem, using phrases such as 'I can see that's tricky.' 'I wonder what else we could try? Do you remember that we counted in 5 s and 10s this morning?' Sophie quickly counted in 5 s and successfully worked out it came to 60.

The teacher counted the 5 p coins with Sophie and said, 'Brilliant, there are $12,5 p$ coins and now you know that 12, 5ps make 60p'.

Sophie decided to count the $2 p$ coins - there were a lot more - and once again she began to lose track. The teacher reminded Sophie that they counted in twos a lot and used their hundred squares to create the pattern of twos. Sophie got a hundred square and together with the teacher they placed a $2 p$ coin on each number in the pattern of 2 s . When they ran out of coins Sophie and the teacher discussed how much they had and worked out it was 56p. They counted the 2 ps and found there were 28. The teacher said, 'So now we know that $28,2 p$ coins add up to 56p'. They had a discussion that although there were a lot more $2 p$ coins than 5 ps - they added up to a lower amount.

By now other children were joining in and began to count the 10p coins and the 1 p coins using the hundred squares. There was lots of talk about the number of coins and the patterns of $2 \mathrm{~s}, 5 \mathrm{~s}$ and 10 s . One child commented that the 1 p coins go on every number because the pattern of 1 s is on every number.

The teacher wrote the following number sentence on the white board and explained that it meant. ' 12 lots of 5 are equal to 60 ' (see footnote 2 ). She explained that this was a much quicker way of writing than the sum on Sophie's whiteboard:

$$
5 \times 12=60
$$



The children counted the coins on their hundred squares and were able to accurately say how many there were and how much they added up to. They then had a go at writing their number sentence.

The child with the 1 ps on their square declared she didn't have to count them - she knew how many there were. The teacher asked her how she knew, and she explained that every square had one on up to 17 so there were 17.

The teacher left them to explore it and came back later to see the whiteboards said:
$12 \times 5=60$
$28 \times 2=56$
$17 \times 1=17$
At the end of the session the children were asked to share their learning with the class. They showed how to add up money by using a hundred square and how, by counting the coins, you can find a quick way of writing it down using the 'lots of' sign (footnote 2).

## With thanks to Maureen Hunt

For guidance on Continuous Provision and mathematics through KS1, please see our Continuous Provision pages: https://earlymaths.org/continuousprovision/

## FOOTNOTES:

1 Conventionally, the expression $12 \times 5$ is read as " 12,5 times".
2 There are limitations to using "lots of" for the $X$ sign

