

Lesson Plan Chapter 6

In practice

The following lesson plan and evaluation describe a lesson taught to a group of pupils who have been introduced to pencil and paper procedures. The particular focus was developing skills in multiplying and dividing using mental methods to support their use of pencil and paper methods for more complex procedures. The program 'Grid Multiplication' was used to introduce the idea of multiplying by partitioning to the whole class. This program is available on the companion website that accompanies the book.

Topic: Multiplying 2 digit numbers

Age Group: upper primary

Objectives: Develop and use written methods to record, support and explain multiplication of two-digit numbers by one-digit numbers		
Key vocabulary: Digit, multiply, product, estimate	Context: This is the second lesson exploring the grid method for multiplication. The group worked on differentiated examples using the grid method in the last lesson. The children who needed extra support found the concept of the grid difficult although they were able to carry out the individual calculations	
Resources: Two-nine-digit cards	Starter activity: Working in pairs use any operation with one two-digit number and a one-digit number to make 100	
Main activity	Teacher Use the 'grid multiplication' program to explore multiplying through partitioning. Use the examples 13×6 ; 18×4 ; 24×7 and 32×5 . Partition using the 10s. So $24 \times 7 = 20 \times 7 + 4 \times 7$ and so on	Pupil activity Before carrying out the calculation ask pairs to estimate to the nearest 10 using individual whiteboards
Group activity: Children operating above expected levels	This group can work with four digits and carry out TU \times TU as well as HTU \times U	Pupils should estimate before carrying out the calculation. They should try to explain why a particular arrangement of digits gives the largest answer, drawing on their understanding of place value

<p>Group activity: Children operating at expected levels</p>	<p>The group should pick any three cards from the two-nine-digit cards and write down all the multiplication calculations that can be formed from these numbers. Working in pairs within the group they should carry out these calculations and see which gives the largest product</p>	<p>Pupils should estimate before carrying out the calculation. They should try to explain why a particular arrangement of digits gives the largest answer drawing on their understanding of place value</p>
<p>Group activity: Children operating below expected levels</p>	<p>This group should be supported by the teacher. The group should just work on two-digit multiplied by one-digit numbers. The teacher should model each calculation on a whiteboard</p>	<p>Estimate which calculation will give the smallest answer and which will give the largest. Pupils should 'tell' the teacher how to proceed throughout the calculation</p>
<p>Plenary: Each group feed back one of their calculations - the core group and the extension group explain why the particular arrangement of digits gives the largest answer</p>		