Multiplication and Division:
Expanded Multiplication with Three-Digit Numbers

Aim: To multiply two-digit and three-digit numbers by a one-digit number using formal written layout. I can multiply larger numbers using expanded multiplication.	**Success Criteria:** I can set out the calculation correctly. I can partition the calculation and multiply the ones, then the tens and finally the hundreds. I can add the three calculations together to find the answer.	**Resources:** **Lesson Pack**
	Key/New Words: Partition, multiply, expanded multiplication, tens, ones, hundreds, calculation.	**Preparation:** Differentiated **Expanded Multiplication Activity Sheet** – 1 per child **Times Table Loop Cards** – 1 per class **Multiplication Square** – as required

Prior Learning:	It will be helpful if the children know the multiplication and division facts up to 12 × 12, and can use expanded multiplication to multiply a two-digit by a one-digit number (covered in Expanded Multiplication (1): Expanded Multiplication with Two-Digit Numbers).

Learning Sequence

	**Loop Cards:** Complete the **Times Table Loop Cards Activity**. Each child has a card with an answer and a question on it. When a child's answer matches another child's question, they need to ask the question on their card. Give all of the cards out even if some children have more than one, or there will be a break in the loop.	
	**Expanded Multiplication (1):** Revisit expanded multiplication of a two-digit number by a one-digit number, reminding children of the steps to follow to use this method. Use the example on the **Lesson Presentation** to model the method for two-digit numbers by one-digit numbers. Ask the children to solve the second calculation on whiteboards before working through the answer step by step.	
	**Expanded Multiplication (2):** When we multiply three-digit by one-digit numbers, we need to add a third row to the calculation. Use the example on the **Lesson Presentation** to model this. Ask the children to solve the second calculation on whiteboards before working through the answer step by step.	
	**Expanded Multiplication Activities:** Children complete the differentiated **Expanded Multiplication (2) Activity Sheets**, multiplying larger numbers using expanded multiplication.  Children consolidate using the expanded method by multiplying two and three-digit numbers by one-digit numbers. Provide a **Multiplication Square** for support if required.  Children practise expanded multiplication to multiply a three-digit numbers by a one-digit numbers setting out their calculations independently.  Children practise expanded multiplication to multiply three-digit numbers by one-digit numbers, setting out their calculations independently. They then use expanded multiplication to solve word problems.	
	**Who Has the Most?** The children use expanded multiplication to solve a problem by finding which calculation has the largest total.	

Masterit

Filmit: Children could make a short film about expanded multiplication, explaining the method clearly.

Writeit: Ask children to write their own set of multiplication word problems. Can their partner solve them using expanded multiplication?