
















Multiplication and Division:








Short Multiplication with Three-Digit Numbers

<p>Aim: To multiply two-digit and three-digit numbers by a one-digit number using formal written layout.</p> <p>I can use the short method of multiplication to multiply three-digit numbers by one-digit numbers.</p>	<p>Success Criteria: I can set my calculation out correctly.</p> <p>I start at the right-hand side when calculating.</p> <p>I can regroup tens, hundreds and thousands, recording this in the next column.</p> <p>I can use a calculator to check my own work and fix my mistakes.</p>	<p>Resources: Lesson Pack</p> <p>Whiteboards and pens - class set</p> <p>A sound signal, such as a bell or whistle</p> <p>Calculators</p>
	<p>Key/New Words: Partition, multiply, expanded multiplication, tens, calculation, ones, thousands.</p>	<p>Preparation: Differentiated Short Multiplication Activity Sheets - one per child Multiplication Square - as required</p>

Prior Learning: It will be helpful if the children know the multiplication and division facts up to 12×12 .

Learning Sequence

	<p>Change Direction: Children stand in small circles in groups or make a large circle in an open space. Choose a multiplication table and ask the children to recite the table round the circle. When the sound signal is played, the children must stop reciting forwards and recite backwards instead.</p>	
	<p>Short Multiplication: Use the example on the Lesson Presentation to remind children how to use this method to multiply a two-digit by a one-digit number.</p>	
	<p>Missing Numbers: Children work in pairs to solve the missing numbers problems on the Lesson Presentation by completing the short multiplication calculations.</p>	
	<p>Multiplying Three-Digit Numbers by a One-Digit Number: As a class, work through the examples on the Lesson Presentation, using short multiplication to multiply three-digit numbers by one-digit numbers, beginning with examples with no regrouping.</p>	
	<p>Regrouping into the Thousands Column: As a class, work through the examples that include regrouping and a four-digit answer.</p>	
 <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Children practise multiplying using the short multiplication method, moving onto regrouping. They must choose two cards, write the calculation, set it out correctly, then solve it.</p> </div> <div style="text-align: center;">  <p>Children practise multiplying using the short multiplication method, moving onto regrouping. They must set their calculations out correctly then solve them. This group should use a calculator to check their work and then identify and correct any errors themselves.</p> </div> <div style="text-align: center;">  <p>Children practise multiplying using the short multiplication method with regrouping. They must set their calculations out correctly then solve them. This group should use a calculator to check their work and then identify and correct any errors themselves.</p> </div> </div>		

	<p>Diving into Mastery: Schools using a mastery approach may prefer to use the following as an alternative activity. These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.</p> <p> Children complete a series of fluency activities that use visual representations to support the formal method of multiplying a 3-digit number by a 1-digit number.</p> <p> Children complete a range of questions that encourage children to explain why a statement about the multiplication of a 3-digit numbers by 1-digit number may be true or false. In this section, children are given further opportunities to use their reasoning skills to spot and explain why a calculation may be the odd one out.</p> <p> Children investigate two problem-solving tasks that require them to use and apply their knowledge of written formal methods. The first question asks the children to find a 3-digit and 1-digit number that can be multiplied together to make a certain total. The second task requires the children to identify which calculation belongs to each person by completing the calculations and deciphering the clues.</p>	
	<p>Work Backwards: Children work in pairs to complete missing number puzzles, completing short multiplication calculations with given numbers. Ask children to explain their methods using mathematical language.</p>	

Exploreit

Playit: Play Change Direction as a team game in PE. The children stand in a line and pass a ball over their heads counting forwards to practise a times table. When the whistle is blown, they change to passing it between their knees and count backwards in the given step. The team could win a point for each time they get the ball to the end of their line.

Makeit: The children make their own missing number challenge cards for their group. They do the calculation first then choose which numbers to take out. They then challenge their group to solve their problems.