
















Multiplication and Division: Doubling and Halving

<p>Aim: To use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.</p> <p>I can use halving and doubling as a strategy for mental multiplication and division.</p>	<p>Success Criteria: I can halve numbers by dividing them by 2. I can double numbers by multiplying them by 2. I can use partitioning to halve and double larger numbers. I can create and continue halving and doubling sequences.</p>	<p>Resources: Lesson Pack Minute timers or stopwatches</p>
	<p>Key/New Words: Multiply, divide, halving, doubling, partitioning, recombining, sequences.</p>	<p>Preparation: Differentiated Doubling and Halving Activity Sheets – 1 per pair Digit Cards 0–9 – 1 per pair</p>

Prior Learning: It will be helpful if the children can halve and double numbers to 20 and can relate halving and doubling to multiplying and dividing by two.

Learning Sequence

	<p>Darts: Split the class into two teams, or pair children up so they can play against a partner. Each team or child chooses a colour; red or blue. Look at the darts board on the Lesson Presentation. The children add up the score from their three darts by doubling and trebling numbers up to 20. Who will be the winner?</p>	
	<p>Doubling: Looking at the Lesson Presentation, remind the children that when we double something, we multiply it by two. When we need to double larger numbers, we can partition, double each number, then recombine. Model this strategy.</p>	
	<p>Doubling by Partitioning: Children work in pairs on whiteboards to double numbers by partitioning and recombining. The numbers on the Lesson Presentation are differentiated into bronze, silver and gold. Encourage children to choose their own level of challenge. After, reveal answers. If children were not correct, can they identify their errors?</p>	
	<p>Halving: Looking at the Lesson Presentation, remind the children that when we halve something, we divide it by two. When we need to halve larger numbers, we can partition, find half of each number, then recombine. Model this strategy.</p>	
	<p>Doubling and Halving: Children work in pairs, following the instructions on the differentiated Doubling and Halving Activity Sheets to use halving and doubling as a strategy for mental multiplication and division.</p>	
	<p> Children use the Digit Cards 0–9 to practise halving and doubling two-digit numbers and complete halving and doubling sequences.</p> <p> Children use the Digit Cards 0–9 to practise halving and doubling three-digit numbers and complete halving and doubling sequences.</p> <p> Children use the Digit Cards 0–9 to generate sequences by halving and doubling. They partition, halve and double numbers up to four digits.</p>	
	<p>In a Minute: Using a minute timer or stopwatch, children work with a talk partner to reflect upon their learning in this lesson, following the prompts on the Lesson Presentation. If the child hesitates or repeats, the turn passes to their partner.</p>	

Masterit

Practiseit: These _____ will help children to develop confidence in doubling two-digit numbers.

Explainit: Ask children to write a set of instructions for a younger child explaining how to halve and double large numbers by partitioning, calculating and recombining.