Multiplication and Division: Build It

Aim:	Success Criteria:	Resources:
Multiply and divide numbers mentally drawing upon known facts. I can use known facts to multiply and divide mentally.	I use factors to make multiplication and division calculations easier. I can multiply by 9 and 11 by multiplying by 10 and adjusting. I can multiply by 5 by multiplying by 10 and halving. I can multiply by 50 by multiplying by 100 and halving.	**Lesson Pack** Whiteboards and pens – class set Calculators (optional)
	Key/New Words: Divide, multiply, partition, adjusting, factors, halving, product.	**Preparation:** Differentiated **Build It Activity Cards** – one per child

Prior Learning: It will be helpful if the children can multiply by 10 and 100 and can identify the factors of numbers to 50.

Learning Sequence

	**The Fifteen Times Table:** The children work out and learn the fifteen times table using the counting stick on the **Lesson Presentation**. Emphasise the relationship between the facts, e.g. 5 × 15 is half of 10 × 15, 2 × 15 is double 1 × 15, 9 × 15 is (10 × 15) – (1 × 15).	
	**Multiplying by Nine:** Using the examples on the **Lesson Presentation**, demonstrate how to multiply by 9 by multiplying by 10 and subtracting to adjust.	
	**Multiplying by Eleven:** Using the examples on the **Lesson Presentation**, demonstrate how to multiply by 11 by multiplying by 10 and adding to adjust.	
	**Multiplying by Five and Fifty:** Using the examples on the **Lesson Presentation**, demonstrate how to multiply by 5 and 50 by multiplying by 10 or 100 and halving the product. Children then work through some examples of these calculations on individual whiteboards.	
	**Fantastic Factors:** Show the children how to use known facts to make calculations easier, e.g. 15 x 6: 15 x 3 = 45, 45 x 2 = 90 so 15 x 6 = 90	
	**Build It Activities:** Children sort differentiated **Build It Activity Cards** by the most appropriate strategy and then calculate the answers, using known facts to multiply and divide mentally.  Children sort **Build It Activity Cards** by the most appropriate calculation strategy and then calculate the answers (two-digit by one-digit numbers).  Children sort **Build It Activity Cards** by the most appropriate strategy and then calculate the answers (two and three-digit by one-digit numbers).  Children sort **Build It Activity Cards** by the most appropriate strategy and then calculate the answers (three and four-digit by one-digit numbers).	
	**Next Steps:** Children work with a talk partner to discuss their learning in this lesson and their next steps, using the question prompts on the **Lesson Presentation**.	

Masterit

Timesit: Ask children to use some of the strategies practised in today's mental and oral starter to work out a new multiplication table between 15 and 20. Once they have learnt the facts, they can ask a partner to test them.