Multiplication and Division: Short Multiplication

Aim: To write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. I can solve multiplication problems using short multiplication.	**Success Criteria:** I can set my calculation out correctly in columns. I can start at the right hand side when calculating. I check my answers using another method.	**Resources:** Lesson Pack Whiteboards and pens - class set place value counters and/or base 10 equipment
	Key/New Words: Calculation, column, multiply.	**Preparation:** Beat the Clock Grid - per child, differentiated Differentiated Grid Method, Expanded Multiplication and Short Multiplication Activity Sheets - per child Answer Sheets - as required Multiplication Square - as required

Prior Learning:	This lesson is included as an extension lesson for children who have mastered mental multiplication, the grid method and expanded multiplication first.

Learning Sequence

	**Beat the Clock:** Give each child a Beat the Clock Grid, with three columns circled for each child to complete. Using a stopwatch or online timer, start the clock. The children complete their three columns. As each child finishes, they shout 'finished' and you read out their time for the child to write on top of their sheet. When five minutes is up, any child that has not yet finished writes five minutes as their time. Mark the grids. Write the score on the top and support children to set themselves a target for next time. The target should be full marks for **score** before **time** is considered. If children are getting nearly full marks then they could set themselves a time target e.g. to complete in four minutes. Choose more difficult multiplication tables or give more columns to complete in five minutes to increase the level of challenge.	
	**Short Multiplication:** Read the information on the Lesson Presentation to demonstrate how to set this method out. Start by multiplying the ones, then the tens. Model how to carry tens and hundreds under the line. Encourage children to check their work using another method e.g. the grid method.	
	**Your Turn Now:** Children work through some examples with a partner, then check each other's work and identify and correct errors before viewing the answers.	
	**Multiplication Activities:** Children complete the Grid Method, Expanded Multiplication and Short Multiplication Activity Sheets. Choose which activity is most appropriate for each child in your class, ensuring that children have a secure understanding of each method before moving on to the next.  Children complete the Grid Method Activity Sheet or Expanded Multiplication Activity Sheet with support. Children who are not secure in their multiplication facts for the 2x, 5x, 10x, 3x, 4x and 8x tables may wish to use Multiplication Squares for support.  Children complete the Short Multiplication Activity, by choosing a card (TO x O) and working out the answer using the short method. Children could work in pairs or individually.  Children complete the Short Multiplication Activity Sheet, using the short method to solve TO x O and HTO x O problems and identifying errors in worked examples.	

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.

Children complete short multiplication calculations, using representations of manipulatives to support their working.

Children identify mistakes in calculations and explain their reasoning and methods.

Children investigate finding calculations to match statements using choices from a set of given numbers.

Check Your Answers: Working in pairs, children use the grid method to check their answers. Can they identify where they went wrong, highlight and correct their own mistakes?

Exploreit

Displayit: Display these **Multiplication Strategy Posters** to remind your class of different multiplication methods.

Researchit: Try this **Colour by Multiplication Activity Worksheet** for a rainy break time activity.

Learnit: Use number facts from the 3, 4 and 8x tables to fill in the gaps on these **Multiplication Triangles Activity Sheets.**