Multiplication and Division: Divide 4 Digits by 1 Digit (With Exchanging)

Aim:	Success Criteria:	Resources:
Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. DfE Ready-to-Progress Criteria: Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context (5MD–4). To divide 4-digit numbers by 1-digit numbers with exchanging.	I can set out the written method of short division correctly. I begin with the place value column of the greatest value, when dividing. I can exchange remainders.	Lesson Pack Place value counters - as required
	Key/New Words: Divide, division, divisor, dividend, exchange, exchanging, remainder.	**Preparation:** Differentiated Divide 4 Digits by 1 Digit (With Exchanging) Activity Sheets – one per child Diving into Mastery Activity Sheets – as required

Prior Learning: It will be helpful if children have completed the previous lesson in this series: Multiplication and Division: Divide 4 Digits by 1 Digit (Without Exchanging).

Learning Sequence

	Remember It: This slide of the Lesson Presentation can be used as a static slide to allow children time to complete the task individually or in pairs to solve the calculation ladders. You may wish for children to use mini whiteboards to support their learning or request that the task be done mentally, recording only their answers to share in a class discussion.	
	Dividing With Exchanging: Use these slides of the Lesson Presentation to remind the children of the language of dividend/divisor and introduce them to the concept of dividing with exchanging. Use the prompts to demonstrate how to correctly exchange place value counters and represent exchanges, using the written method of short division. The children may like to use mini whiteboards to record their ideas. Can the children set out the written method of short division correctly?	
	Division Challenge: Use this slide of the Lesson Presentation to allow children the opportunity to put the skills learnt during the previous section into practice. It may be helpful to provide children with place value counters and mini whiteboards for this section to record their ideas and to solve the question correctly. Can the children set out the written method of short division correctly? Do they begin with the place value column of the greatest value, when dividing? Can they exchange remainders?	
	Division With Zero: Use these slides of the Lesson Presentation to focus on the written method of short division, when there is a zero in the dividend or where the first digit in the dividend is smaller than the divisor. Can the children exchange remainders?	
	Exchanging Correctly: In this slide of the Lesson Presentation, children must identify where a mistake has been made and offer an explanation as to why it is a mistake. This will allow for greater depth thinking and is an excellent opportunity for partner talk. Mini whiteboards would be beneficial here. Can the children exchange remainders?	

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Dividing 4 Digits by 1 Digit (with exchanging): Using the Dividing 4 Digit Numbers Differentiated Activity Sheets, the children complete the tasks given using place value charts to support and work systematically. It might be helpful to supply counters or blocks to help children who may need manipulatives to support their learning.

⭐ To support children working towards expected level, children must complete the divisions on the sheet and find the matching answer. Children will have some 3-digit numbers as dividends to use as consolidation practise in addition to 4-digit numbers. The divisors will generally be 2 to 5, with two exceptions to support children so that their knowledge of the multiplication table will not hinder their progress.

⭐⭐ Children working at expected level, children must complete the divisions on the sheet and find the matching answer. Children will be given more answers than necessary. They will use these remaining answers to create their own questions. Children's learning will be extended by solving missing-digit division calculations. All numbers on this sheet are 4 digits; divisors will range from 2 to 6 with a few exceptions to support multiplication table knowledge.

⭐⭐⭐ To challenge children working at greater depth, children must complete the divisions on the sheet and find the matching answer. Children will be given more answers than necessary. They will use these remaining answers to create their own questions. Children's learning will be extended by solving missing-digit division calculations. All numbers on this sheet are 4 digits; divisors will range from all single digit multiplication tables.

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 fluency activities related to dividing 4 digits by 1 digit.

Children answer reasoning questions related to dividing 4 digits by 1 digit, ensuring to explain their reasoning.

Children work individually or collaboratively on problem-solving questions related to dividing 4 digits by 1 digit.

Missing Digits: Children use the corresponding slide of the Lesson Presentation to identify the digits missing from both divisor and dividend. They need to use their understanding of remainders to complete the challenge. **Can the children exchange remainders?**

Exploreit
Makeit: Make a large scale place value grid with chalk on the playground and use various classroom items (or even the children themselves!) to represent place value counters for division on a large scale!