





























Multiplication and Division: Multiplication Magic

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 multiply multiples of 10 using Multiplication Magic.	Success Criteria: I can draw the wizard's hat to join the facts. I can calculate the facts using multiplication tables.	Resources: Lesson Pack
	Key/New Words: Calculate, multiples, partition, factor.	Preparation: Differentiated Multiplication Magic Cards - cut into individual cards Multiplication Squares - as required

Prior Learning: It will be helpful if the children knew the multiplication and division facts for the 2x, 3x, 4x, 5x, 8x, 10x multiplication tables.

Learning Sequence

	Beat the Clock: Give each child a Beat the Clock Grid , with three columns circled for each child to complete. You could just give them the whole grid and circle the three you'd like them to do if this is easier. Using a stopwatch or online timer, start the clock. The children complete their three columns. When they've finished (and checked their answers) they shout 'finished' and you read out their time. They write their time on the top of their sheet. When five minutes is up, everyone stops and 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.							
	Multiplication Magic: Introduce children to the 'Multiplication Magic' method. Explain how it works, modelling the steps. <ul style="list-style-type: none"> • Draw the hat to find the multiplication facts to calculate e.g. 6×4 • Use your multiplication facts to calculate the answer e.g. $6 \times 4 = 24$ Discuss that 6 really means 60, not just 6, and model how to multiply the answer by 10 using place value (numbers 'jump' to the left) and adding a zero as a place holder. Discuss what happens if the number already has a zero on the end - the use of place value to multiply the answer by 10 does not change.							
	Now It's Your Turn: Children try the examples, working independently, in pairs, or with the support of an additional adult. Children who finish quickly can attempt one of the questions marked 'challenge'.							
	Multiplication Magic Activity: Children use the differentiated Multiplication Magic Cards to multiply multiples of 10 using Multiplication Magic. 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. <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; text-align: center;">  <p>Children work in pairs or with an additional adult, turning over one of the Multiplication Magic Cards and using the steps to answer the question.</p> </td> <td style="width: 33%; text-align: center;">  <p>Children put the Multiplication Magic Cards face down in the middle of the table, turn a card over, one at a time, and use the steps to answer the question.</p> </td> <td style="width: 33%; text-align: center;">  <p>Children put the Multiplication Magic Cards face down in the middle of the table, turn a card over, one at a time, and use the steps to answer the question.</p> </td> </tr> </table>	 <p>Children work in pairs or with an additional adult, turning over one of the Multiplication Magic Cards and using the steps to answer the question.</p>	 <p>Children put the Multiplication Magic Cards face down in the middle of the table, turn a card over, one at a time, and use the steps to answer the question.</p>	 <p>Children put the Multiplication Magic Cards face down in the middle of the table, turn a card over, one at a time, and use the steps to answer the question.</p>				
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	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. <table style="width: 100%; border: none;"> <tr> <td style="width: 10%; text-align: center;">  </td> <td>Children use known times tables facts, arrays and understanding of place value to multiply a single digit by a multiple of ten.</td> </tr> <tr> <td style="width: 10%; text-align: center;">  </td> <td>Children reason about others' calculations, explaining errors and giving reasons for their opinions.</td> </tr> <tr> <td style="width: 10%; text-align: center;">  </td> <td>Children explore and solve problems related to multiplying a single digit by a multiple of ten. They find all possible solutions to a given problem.</td> </tr> </table>		Children use known times tables facts, arrays and understanding of place value to multiply a single digit by a multiple of ten.		Children reason about others' calculations, explaining errors and giving reasons for their opinions.		Children explore and solve problems related to multiplying a single digit by a multiple of ten. They find all possible solutions to a given problem.	
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What is Multiplication Magic?: Children explain to their partners how to perform Multiplication Magic to show that they have achieved the success criteria.



Explore it

Explain it: Children demonstrate how to do Multiplication Magic and film their explanation to use as a tool to teach others.

Display it: Make a display of the children's annotated examples of their use of Multiplication Magic.

Write it: Write an instruction leaflet to explain the Multiplication Magic method to others.

Make it: Ask children to make Star Number challenge cards of their own, thinking of some other calculations they could do involving the Star Number.

