

Year 6 – Cakes and Calculations

Number - addition, subtraction, multiplication and division

Pupils should be taught to:

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
- divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
- divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers
- use their knowledge of the order of operations to carry out calculations involving the 4 operations
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- solve problems involving addition, subtraction, multiplication and division
- use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

[Countdown Numbers Game:](http://happysoft.org.uk/countdown/numgame.php)

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Rapid Mental Multiplications:

1. Roll three 6-digit dice
2. Multiply them together in your head.
3. Who can say the correct answer first? You get a point!
4. Winner = the first person to get ten points!

(Challenge yourself by using 9-sided dice or 12-sided dice)

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Multiplying a 3-digit number by a 2-digit number:

Method 1:

x	200	30	2
20	4,000	600	40
4	800	120	8



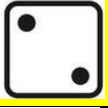


4	0	0	0
	6	0	0
+		4	0
	8	0	0
	1	2	0
			8

5	5	6	8
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1

Method 2:

Roll a 6-sided dice (or 9-sided dice) and place a digit in each of the **yellow** cells.



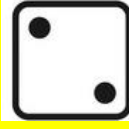


			
x			
			8
	1	2	0
	8	0	0
		4	0
	6	0	0
4	0	0	0
5	5	6	8

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Method 3:

1. Roll a 6-sided dice (or 9-sided dice) and place a digit in each of the **yellow** cells.
2. Multiply them together step by step.
3. Add these together putting your answer in the **green** cells.

1

			
X			
	9	2	8
4	6	4	0
5	5	6	8

1

[Multiplying by 10,100,1000 and Dividing by 10,100,1000:](#)

<https://www.topmarks.co.uk/Flash.aspx?f=MovingDigitCards>

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Challenge – All the Digits:

The whole calculation uses each of the digits 0–9 once and once only. Can you solve the challenge?

$$\begin{array}{r} \square \square \square \square \\ \times \square 3 \\ \hline \square \square \square \square \square \end{array}$$

