

Year 5 – Cakes and Calculations

Number - multiplication and division

Pupils should be taught to:

- identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers
- know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
- establish whether a number up to 100 is prime and recall prime numbers up to 19
- multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
- multiply and divide numbers mentally, drawing upon known facts
- 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
- multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000
- recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
- solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes
- solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
- solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates

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)

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Factors and Multiples Game:

5. The first player chooses a positive even number that is less than 50, and crosses it out on the grid.
6. The second player chooses a number to cross out. This number must be a factor or multiple of the first number.
7. Players continue to take it in turns to cross out numbers, at each stage choosing a number that is either a factor or a multiple of the number just crossed out by the other player.
8. **The first person who is unable to cross out a number loses.**

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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Multiplying a 4-digit number by a 1-digit number:

1. Roll a 9-sided dice and place a digit in each of the **yellow** cells.
2. Multiply them together step by step.
3. Add up the ones column, tens column, hundreds column, thousands column and ten thousands column. Place your answer in the **green** cells.




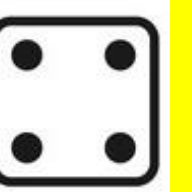
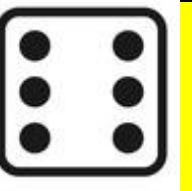
Example:

$$6 \times 4 = 24$$

$$6 \times 30 = 180$$

$$6 \times 500 = 3,000$$

$$6 \times 6,000 = 36,000$$

				
				
			2	4
		1	8	0
	3	0	0	0
3	6	0	0	0
3	9	2	0	4
		1		

Countdown Numbers Game:

<http://happysoft.org.uk/countdown/numgame.php>