



Year 5 – Maths – Multiplication and Division

Key vocabulary

multiply

groups of

lots of

times

divide

share

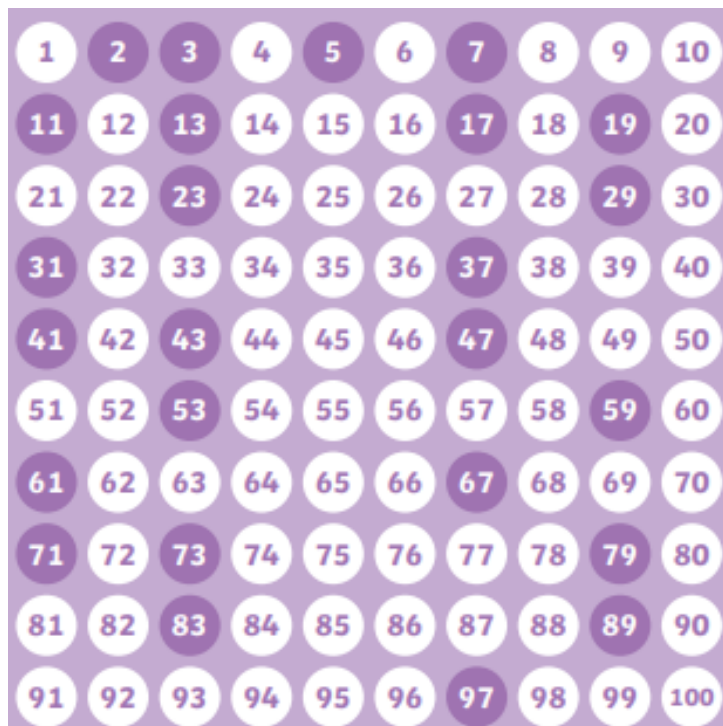
remainder

factor

multiple

product

Prime numbers



Related calculations

$$8 \times 9 = 72$$

$$9 \times 8 = 72$$

$$80 \times 9 = 720$$

$$90 \times 8 = 720$$

$$72 \div 9 = 8$$

$$72 \div 8 = 9$$

$$720 \div 9 = 80$$

$$720 \div 8 = 90$$

Key questions

Find the prime numbers between 15 and 20.
What is ___ cubed?
Multiply ___ by ____.
Would you use long or short division to solve the following...explain why.

Squared and cubed numbers



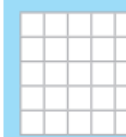
$$2^2 = 4$$

$$2 \times 2 = 4$$



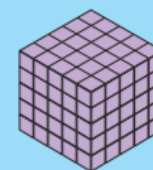
$$2^3 = 8$$

$$2 \times 2 \times 2 = 8$$



$$5^2 = 25$$

$$5 \times 5 = 25$$



$$5^3 = 125$$

$$5 \times 5 \times 5 = 125$$

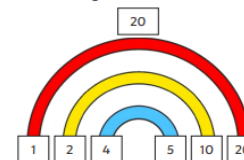
Links to other learning

Year 4 - Recall multiplication and division facts for multiplication tables up to 12×12 ; Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers; Recognise and use factor pairs and commutativity in mental calculations; Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.

Year 6 - 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; identify common factors, common multiples and prime numbers.

Factors

A factor is a number that divides into another number exactly, without leaving a remainder.



The factors of 20 are 1, 2, 4, 5, 10 and 20.

The factor pairs are:

1 and 20
2 and 10
4 and 5

A common factor is a factor of 2 or more numbers.





Year 5 – Maths – Multiplication and Division

Short multiplication

$$2543 \times 7 = 17801$$

	2	5	4	3
×				7
1	7	8	0	1
1	3	3	2	

Remember to move any regrouped digits into the next column. After the next multiplication, add the regrouped number to the answer.

Long multiplication

$$2543 \times 67 = 170381$$

		2	5	4	3
	×			6	7
	1	7	8	0	1
1	5	2	5	8	0
1	3	2	1		
1	7	0	3	8	1
1	1				

Before multiplying by the number in the tens column, remember to use zero as a placeholder because the 6 in 67 is 6 tens (60).

Long division

$$136 \div 4 = 34$$

		3	4
4	1	3	6
-	1	2	0
		1	6
	-	1	6
			0

→ 30 × 4

→ 4 × 4



Short division

		3	8
4	1	5	2

15 ÷ 4 = 3 remainder 3
Remember to regroup any remainders and move them into the next column.

		4	5	5	r	3
5	2	2	7	8		

28 ÷ 5 = 5 remainder 3
If your calculation has a remainder, remember to record it in the answer using the letter r.