Four Operations

Lesson sequence

Common factors
Common multiples
Rules of divisibility
Prime numbers to 100
Square and cube numbers
Multiplying up to a 4-digit number by 2 digits
Solve problems with multiplication
Short division
Division using factors
Introduction to long division Step
Long division with remainders
Solve problems with division
Solve multi-step problems
Order of operations
Mental calculations and estimation

Vocabulary revision

- Factor
- Factor pair
- Multiple
- Common multiple
- Common Factor
- Integer
- Arrays
- Systematically
- Rules of divisibility
- Prime number
- Composite number
- Square number
- Estimate
- Cube number
- Commutative
- Column method
- Short division
- Context
- Remainders
- Interpret
- Partition
- Formal method
- Multi-step

New vocabulary I will learn

- Order of operations
- Long division

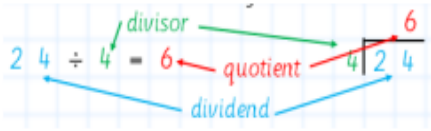
Sticky learning

New Skills

To solve problems involving addition, subtraction, multiplication and division
To explore the order of operations using brackets
To interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
To use written division methods in cases where the answer has up to two decimal places
To use their knowledge of the order of operations to carry out calculations involving the four operations
To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.

New Knowledge

To know the order of operations to carry out calculations involving the four operations
To know the formal written method of long division



Pictorial representations

Factors of 48

1	2	3	4	6	8	12	16	24	48

Factors of 30

1	2	3	5	6	10	15	30

Common factors: 1, 2, 3, 6

Factors are whole number that can multiply by other whole numbers to make the product.

Multiples of 3

3	...	18	21	24	...	39	42

Multiples of 7

7	14	21	28	35	42

Common multiples: 21, 42...

A **multiple** is a number which can be divided by another number without a remainder.

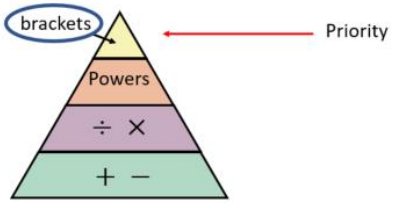
A **prime number** is a whole number greater than 1 which is divisible by only itself and 1.

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

Top Tips!
- 2 is the only even prime number.
- There are no prime numbers that end in 5, except for 5.
- The digits can't add up to 3, except 3.

Pictorial representations

In mixed order calculations, calculations are not always carried out from left to right.



Calculate:
741 ÷ 13 = 57

		5	7
13	6	14	1
−	6	5	0
		9	1
−		9	1
			0

(×50)

(×7)

13 × 1 = 13
13 × 2 = 26
13 × 3 = 39
13 × 4 = 52
13 × 5 = 65
13 × 6 = 78
13 × 7 = 91
13 × 10 = 130
13 × 20 = 260
13 × 30 = 390
13 × 40 = 520
13 × 50 = 650
13 × 60 = 780
13 × 70 = 910

A number is divisible by	
2	If last digit is 0, 2, 4, 6, or 8
3	If the sum of the digits is divisible by 3
4	If the last two digits is divisible by 4
5	If the last digit is 0 or 5
6	If the number is divisible by 2 and 3
7	cross off last digit, double it and subtract. Repeat if you want. If new number is divisible by 7, the original number is divisible by 7
8	If last 3 digits is divisible by 8
9	If the sum of the digits is divisible by 9
10	If the last digit is 0
11	Subtract the last digit from the number formed by the remaining digits. If new number is divisible by 11, the original number is divisible by 11
12	If the number is divisible by 3 and 4