



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*

Sticky learning

New Knowledge

- *To know the order of operations (BODMAS) to carry out calculations involving the four operations*
- *To know the formal written method of long division*

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,*

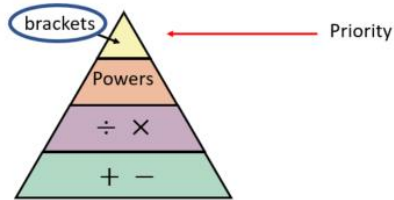
New vocabulary I will learn

- *Order of operations*
- *BODMAS*
- *Long division*



Pictorial representations

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



Calculate:

$$741 \div 13 = 57$$

$13 \times 1 = 13$

$13 \times 10 = 130$

$13 \times 2 = 26$

$13 \times 20 = 260$

$13 \times 3 = 39$

$13 \times 30 = 390$

$13 \times 4 = 52$

$13 \times 40 = 520$

$13 \times 5 = 65$

$13 \times 50 = 650$

$13 \times 6 = 78$

$13 \times 60 = 780$

$13 \times 7 = 91$

$13 \times 70 = 910$

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

($\times 50$)

($\times 7$)

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

Concept Links/Prior Knowledge

- To add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
- To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- To multiply and divide numbers mentally drawing upon known facts
- To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
- To 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
- To 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
- To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
- To establish whether a number up to 100 is prime and
- To work out square numbers and cube numbers
- To solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes
- To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates
- To interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding

