

Knowledge Organiser

Number



Year 6

Addition, Subtraction, Multiplication, Division

In Year 6, we continue to develop our knowledge of all four operations and apply them to a variety of problems. We identify the problem, decide how to solve it, choose the best way to find the solution and check our answers but these skills aren't just used in maths. Being able to solve problems is part of many jobs and we will use these skills in the future.

	Common factors and multiples.	
Multiples and factors	context	
Prime, square and cube numbers.	Interpret remainders according to the	Use calculators to calculate results accurately.
Multi-step problems.	Understand the order of operations.	Roots and powers.
decimals).	use and why.	numbers.
Formal written methods for + - x ÷ (including	deciding which operations and methods to	including when using positive and negative
Mental strategies for + - x ÷	Solve multi-step problems in context,	Apply all 4 operations to various areas of maths,
Builds from Year 5:	This year:	Leads to Key Stage 3:

	4	5	8	6	4
+	2	3	4	9	7
	6	9	3	6	1
		1	1	1	

	3	5	⁶ 7	¹³ /4	¹ 2
-		3	4	7	6
	3	2	2	6	6

	2	7	4	1
×				6
1	6	4	4	6
	4	2		
1	1		1	

x z

9 2 4

3 0

1 5

2 6

8 0

4

1

×

4 0 0 4

1 1



Prime Numbers								bei	ſS		Order of Operations				
A pr	ime	nun	nbe	r on	ily h	as 2	2 fac	ctor	s: 1	and	lf.				
	1	2	3	4	5	6	7	8	9	10			В	Brackets	$10 \times (4 + 2) = 10 \times 6 = 60$
	11	12	13	14	15	16	17	18	19	20			0	Order	$5 + 2^2 = 5 + 4 = 9$
	21	22	23	24	25	26	27	28	29	30			П	Division	10 + 6 ÷ 2 = 10 + 3 = 13
	31	32	33	34	35	36	37	38	39	40				Division	10 . 0 . 2 - 10 . 3 - 13
	51	52	43 53	54	55	56	57	58	59	60			Μ	Multiplication	10 - 4 × 2 = 10 - 8 = 2
	61	62	63	64	65	66	67	68	69	70			Α	Addition	10 × 4 + 7 = 40 + 7 = 47
	71	72	73	74	75	76	77	78	79	80					
	81	82	83	84	85	86	87	88	89	90			S	Subtraction	10 ÷ 2 - 3 = 5 - 3 = 2
A c	A composite number has more than 2 factors.							nan	2 fa	The order of operations is important because it guarantees that everyone can read and solve the problem in the same way.					
Common Factors							Common Multiples								
Factors of 48 1 2 3 4 6 8 12 16 24 48									8	1	Multiples of 3 3 18 21 24 39 42			18 21 24 39 42	
Factors of 30	Factors of 30 1 2 3 5 6 10 15 30)	15 30	Multiples of 7 7 14 21 28 35 42			21 28 35 42
Common factors: 1, 2, 3, 6												Common multiples: 21, 42			
Key Vocabulary															
add total make plus sum more altogether difference subtract less minus exchange multiply product times multiply division divide remainder interpret fraction decimal mentally estimate factor multiple prime square number cube number common order of operations inverse operation place value															