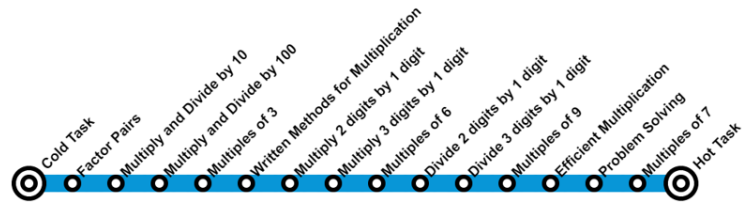


YEAR 4 – Unit 3: Multiplication and Division



Sticky learning

New Knowledge

- To use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- To use factor pairs and commutativity in mental calculations
- To multiply two-digit and three-digit numbers by a one-digit number using formal written layout
- To estimate and use inverse operations to check answers to a calculation
- Use mental methods and extend this to three-digit numbers to derive facts, (for example $600 \div 3 = 200$ can be derived from $2 \times 3 = 6$)
- To use knowledge of number facts and rules of arithmetic to solve mental and written calculations for example, $2 \times 6 \times 5 = 10 \times 6 = 60$

New Skills

- To recall multiplication and division facts for multiplication tables up to 12×12 including the six, seven and nine times tables
- To know that commutativity is when 2 numbers can be added or multiplied & the same answer will be found no matter what order they are in
- To know the formal written method for multiplication
- To know that when you multiply by zero, the answer is zero
- To know that when you divide by 1, the answer is the same
- To know the formal written method of division
- To know that multiplying a number by a group of numbers added together is the same as doing each multiplication separately (distributive law)

VOCABULARY I HAVE LEARNT BEFORE

Times
Part of
Times table

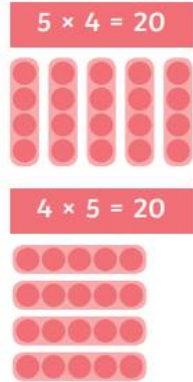
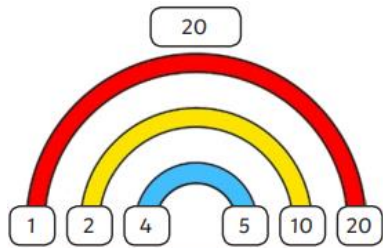
NEW VOCABULARY I WILL LEARN

Multiply
Groups of
Lots of
Times
Commutativity
Share
Remainder
Factor
Multiple
Product

Concept Links/Prior Knowledge

- To use multiplication and division facts for the 3, 4 and 8 multiplication tables
- To write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- To solve problems, including missing number problems, involving multiplication and division

Factor Pairs and Commutativity



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

Multiply Using Formal Written Method

Th	H	T	O	
	5	4	3	
x			4	
		1	2	(4 × 3)
	1	6	0	(4 × 40)
2	0	0	0	(4 × 500)
2	1	7	2	

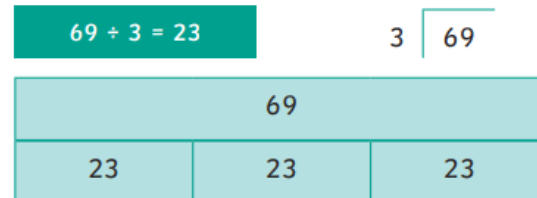
Th	H	T	O	
	5	4	3	
x			4	
			4	
2	1	7	2	
	1	1		

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

Short Division with Exact Answers

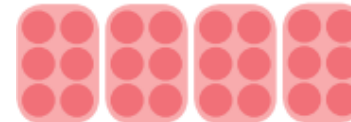
There are 69 tennis balls packed in tubes of 3.

There are 23 tubes altogether.



Mental Calculations for Solving Problems

$(2 \times 3) \times 4 = 24$



$(2 \times 4) \times 3 = 24$



$(3 \times 4) \times 2 = 24$

