Multiplication and division

Lesson sequence

- Multiples
- Common multiples
- Factors
- Common factors
- Prime numbers
- Square numbers
- Cube numbers
- Multiply by 10,100 and 1000
- Divide by 10,100,1000
- Multiples of 10, 100 and 1000

Vocabulary revision

- Multiples
- Factors
- Common factors
- Common multiples
- Multiply
- Divide

Sticky learning

New Knowledge

- *To know that factors are numbers that divide exactly into another number.*
- *To know that a multiple is the product result of one number multiplied by another number.*
- *To know that prime numbers are numbers which only have two factors*
- *To recall prime numbers up to 19*
- *To know that squaring a number means multiplying it by itself and it is notated as (^{2})*
- *To know that cubing a number is multiplying it by itself three times it is notated as (^{3})*
-

New Skills

- *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 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*

New vocabulary I will learn

- Prime numbers
- Square numbers
- Cube numbers

Pictorial representations

Multiplying by 10, 100 & 1000

Th	H	T	O
		7	8

Th	H	T	O
	7	8	0

Th	H	T	O
7	8	0	0

TTh	Th	H	T	O
7	8	0	0	0

Square numbers

$5^2 = ?$

$5 \times 5 = 25$

Cube numbers

$10^3 = ?$

$10 \times 10 \times 10 = 1000$

Dividing by 10, 100 & 1000

TTh	Th	H	T	O
4	7	0	0	0

TTh	Th	H	T	O
	4	7	0	0

TTh	Th	H	T	O
		4	7	0

TTh	Th	H	T	O
			4	7

Concept Links/Prior 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*
- *Use mental methods and extend this to three-digit numbers to derive facts, (for example 600 ÷ 3 = 200 can be derived from 2 x 3 = 6*
- *To use knowledge of number facts and rules of arithmetic to solve mental and written calculations for example, 2 x 6 x 5 = 10 x 6 = 60*
- *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*