



Knowledge Organiser Focus:

Prime numbers, factorisation and calculating with fraction

I should already know:

How to apply the 4 operations to integers
What factors and multiples are

I will learn:

To understand factors, multiples and primes

To use prime factors

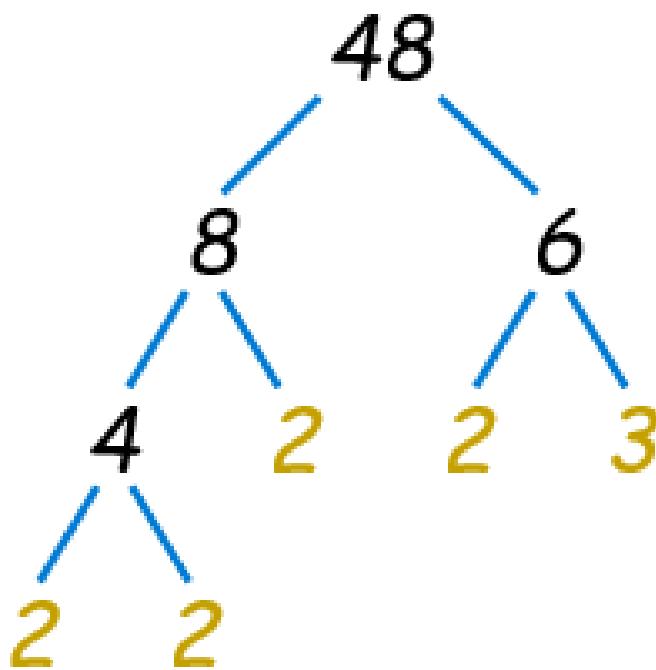
To work with different types of fractions

To add and subtract fractions

To multiply and divide fractions

Key Words

Operation	A basic calculation (add, subtract, multiply, divide)
Factor	A factor of a number is an integer that divides the number exactly leaving no remainder
Multiple	Multiples of a number are found in the number's times-table
Prime	prime number has 2 factors, itself and 1
Vinculum	The line separating the numbers in a fraction



$$48 = 2 \times 2 \times 2 \times 2 \times 3$$

Greater Depth Challenge

Can you use prime factorisation to help with division?

Further Reading

Hegarty Maths

This will help in the future:

We will develop our understanding of the structure of numbers and continue to bring algebra into our operations

Unit 1 - primes		
No.	Question	Answer
1.1	What is a prime number?	A number that only has two factors, one and itself
1.2	What is a square number?	The result of multiplying a number by itself
1.3	What is the square root?	The inverse of squaring e.g. the square root of 64 is 8
1.4	What is an integer?	A whole number
1.5	What is a multiple?	A number in the times table
1.6	What is a factor?	A number that divides into another number without any remainder
1.7	What is the HCF?	The highest common factor (the largest whole number that is a factor of both numbers)
1.8	What is the LCM?	The lowest common multiple (the smallest number that is a multiple of both numbers)
1.9	What is the index?	How many times a number has been multiplied by itself e.g. $3^5 = 3 \times 3 \times 3 \times 3 \times 3$
1.10	What does power mean?	How many times a number has been multiplied by itself e.g. $3^5 = 3 \times 3 \times 3 \times 3 \times 3$ "three to the power of five"
1.11	What does squared mean?	A number to the power of 2
1.12	What does cubed mean?	A number to the power of 3
1.10	What are the prime factors?	The factors of a number that are also prime numbers
1.11	What is prime factor decomposition?	Breaking down a number into the product of its prime factors using a prime factor tree
1.12	What does product mean?	Multiply

Unit 2 - fractions		
No.	Question	Answer
2.1	What is an improper fraction?	A fraction where the numerator is bigger than the denominator
2.2	What is a mixed fraction?	A fraction where there is a whole number and a fraction (it is bigger than one)
2.3	What is a unit fraction?	A fraction with a numerator of one
2.4	How do you multiply fractions?	Multiply the numerators and multiply the denominators
2.5	How do you divide fractions?	Find a common denominator Divide the numerators
2.6	How do you add fractions?	Find a common denominator Add the numerators
2.7	How do you subtract fractions?	Find a common denominator Subtract the numerators
2.8	How do you find a fraction of an amount?	Divide the amount by the denominator and multiply by the numerator
2.9	To find... $\frac{1}{2}$	Divide by 2
2.10	To find... $\frac{1}{3}$	Divide by 3
2.11	To find... $\frac{1}{4}$	Divide by 4
2.12	To find... $\frac{1}{5}$	Divide by 5
2.13	To find... $\frac{1}{6}$	Divide by 6
2.14	To find... $\frac{1}{7}$	Divide by 7
2.15	To find... $\frac{1}{8}$	Divide by 8
2.16	To find... $\frac{1}{9}$	Divide by 9
2.17	To find... $\frac{1}{10}$	Divide by 10



Knowledge Organiser Focus:

Test yourself: Prime numbers, factorisation and calculating with fraction

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Unit 2 - fractions		
No.	Question	Answer
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2.3	What is a unit fraction?	
2.4	How do you multiply fractions?	
2.5	How do you divide fractions?	
2.6	How do you add fractions?	
2.7	How do you subtract fractions?	
2.8	How do you find a fraction of an amount?	
2.9	To find... $\frac{1}{2}$	
2.10	To find... $\frac{1}{3}$	
2.11	To find... $\frac{1}{4}$	
2.12	To find... $\frac{1}{5}$	
2.13	To find... $\frac{1}{6}$	
2.14	To find... $\frac{1}{7}$	
2.15	To find... $\frac{1}{8}$	
2.16	To find... $\frac{1}{9}$	
2.17	To find... $\frac{1}{10}$	