Term by Term Objectives

Year 5

	National Curriculum Statement	All students		
		Fluency	**Reasoning**	**Problem Solving**
Multiplication and Division	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	Write down: • The first 5 multiples of 8. • All the factors of 20. • Find a common factor of 36 and 12.	• Rob and James are talking about multiples and factors. Rob says '*0 is a multiple of every whole number.*' James says '*0 is a factor of every whole number.*' **Who is correct?** • **Explain why 6 is a common factor of 18 and 24.** • Tom says '*Factors come in pairs, so all numbers have an even number of factors.*' **Do you agree? Explain your reasoning.**	• Polly is planting potatoes in her garden. She has 24 potatoes to plant and she will arrange them in a rectangular array. **List all the different ways that Polly can plant her potatoes.** • Sally is thinking of a number. She says 'My number is a multiple of 3. It is also 3 less than a multiple of 4.' **Find three different numbers that could be Sally's number.** • Clare's age is a multiple of 7 and 3 less than a multiple of 8. How old is Clare?

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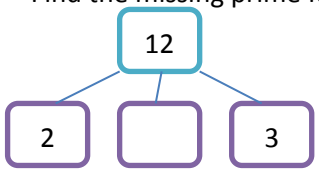
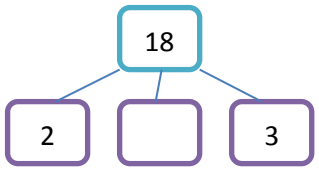
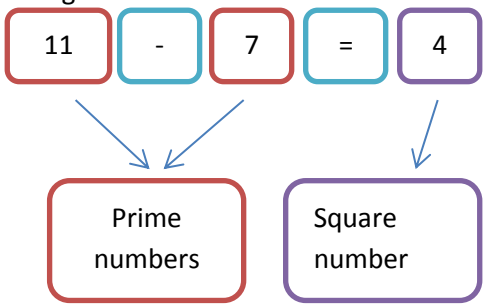
Term by Term Objectives

Year 5

Prime numbers	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.	• What is special about these numbers? 7 17 37 47 • Put these numbers into 2 groups. Label the groups. 11 10 21 31 9 13 47 35 • Find the missing prime factors.  	• Explain why 1 isn't a prime number. • Katie says, All prime numbers have to be odd. Do you agree? Convince me. Her friend, Abdul, says, That means 9, 27 and 45 are prime numbers. Explain Abdul's mistake and correct it. • **Always, sometimes, never** When you add 2 prime numbers together the answer will be even.	• How many square numbers can you make by either adding two prime numbers together or by subtracting one prime number from another e.g.  • Investigate how many prime numbers are between 2 consecutive multiples of 10. Include 0 and 10. Is there a pattern?

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Term by Term Objectives

Year 5

Prime numbers	Establish whether a number up to 100 is prime and recall prime numbers up to 19	• Fill in the missing prime numbers 2 | 3 | | 7 | 11 | 19 | | 13 | | 7 | 5 • Find all the prime numbers between 60 and 80. • What is the 16th prime number?	• Fill in the missing numbers so that the calculation creates a prime number. 19 – ▭ = ▭ Is this the only option? Andy says, I subtracted an odd number to find a prime number. Is this possible? How many ways could he have done this? Explain your answer. • **What number am I?** I am a prime number. I am a 2 digit number. Both my digits are the same. Explain why there is only one option.	• On a set of flashcards, write a different number on each. Ask a partner to do the same. Shuffle them and take half each. Take turns to turn them over. Say either 'prime' or 'not prime' when a number is turned over. Whoever ends with the most cards, wins. • Prime factors are the prime numbers that multiply together to make a number e.g. 12 2 3 3 Is it possible to make every number by multiplying prime numbers together?

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Term by Term Objectives

Year 5

	National Curriculum Statement	All students		
		Fluency	**Reasoning**	**Problem Solving**
Multiplication and Division	Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3)	• **Work out:** 6^2= 3^3= 4 squared = 8 cubed = • Fill in the missing answers from the grid below: 4^2 | 4 x 4 x 4 | 64 7^2 | 7 x 7 | 2^7 | 2 x 2 x 2 x 2 x 2 x 2 x 2 | 5^3 | 3^6 | | 4 x 4 x 4 x 4 | | | 8 6^3 |	• Julian thinks that 4^2 is 16. Do you agree? Convince me. • Always, Sometimes, Never. A square number has an even number of factors. • Always, Sometimes, Never Square and Cubed numbers are always positive.	• Last year my age was a square number. Next year it will be a cube number. How old am I? How long must I wait until my age is both a square number and a cube? • The answer to a cubed number is 216. What's the root number?

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