

Topics in this cycle:	Taught:	Year Group: 7
Key knowledge/concepts to be learnt ('Tell me about....')		Websites/blogs/YouTube links and further reading to deepen and consolidate learning
<u>Developing number sense:</u> • Mental calculations for integers • Mental calculations for decimals/fractions • Estimation • Number facts to derive other facts <u>Sets and probability:</u> • Set notation and Venn diagrams • Intersection of sets • Union of sets • Probability scale and language • Sample spaces • Probability of a single event/sum of probabilities as 1 <u>Prime numbers and proof:</u> • Factors and multiples • Prime numbers • Square and triangular numbers • Common factors and HCF • Common multiples and LCM • Product of primes • HCF/LCM from Venn diagrams		https://vimeo.com/547567136 https://vimeo.com/547851767 https://vimeo.com/413554428 https://vimeo.com/549380677 https://vimeo.com/560341984 https://vimeo.com/560341984 https://vimeo.com/560342194 https://vimeo.com/425834708 https://vimeo.com/483973160 https://vimeo.com/562798744 https://vimeo.com/461311096 https://vimeo.com/565631096 https://vimeo.com/566094932 https://vimeo.com/436513630

Home-School Learning Collaboration – Mathematics

Key Vocabulary and Definitions To Be Learnt		What Will The Assessment Look Like?
Associative law	Means that we can group numbers, in some calculations, in different ways and the answer will still be the same	During assessment week students will be assessed on questions applying their skills on these units, including problem solving tasks, which could link multiple topics. They may also require the use of a calculator. Family Learning Opportunities Support your child at completing their homework and to boost SparxMaths XP level. <u>Discuss the following questions:</u> <u>Developing number sense:</u> • <u>Mental calculations for integers</u> How can you check answer to subtraction problems using addition? What does partitioning mean? • <u>Mental calculations for decimals/fractions</u> Does multiplication always make a number bigger? Can you just 'add zero' to multiply by 10? Is it possible to find $\frac{5}{3}$ of a number?
Commutative law	Means that the order, in which we calculate addition or multiplication of two numbers, does not matter	
Partition	Splitting numbers to aid calculations	
Factor	A number that divides another number without a remainder	
Multiple	A product of two integers (two whole numbers)	
Place value	The value of a digit in a number	
Quotient	A result of division	
Product	A result of multiplication	
Estimate	to give an approximate value of what it is	
Overestimate	When an estimated answer is higher than the accurate answer	
Underestimate	When an estimated answer is lower than the accurate answer	

What is the relationship between denominator, numerator and finding a fraction of an amount?

- **Estimation**

Why estimation is useful?

Is estimating the same as rounding?

- **Number facts to derive other facts**

How does multiplying one number in a calculation affect an answer?

Sets and probability:

- **Set notation and Venn diagrams**

What makes a group of objects a set?

Do sets just have to be numerical?

Do we always need a box around the circles? Why or why not?

- **Intersection of sets**

Why do you think we use different Venn diagrams for different problems?

- **Union of sets**

What does the union of two sets look like if they have no intersection?

- **Probability scale and language**

What is the difference between 'almost certain' and 'certain'?

- **Sample spaces**

How do you know you have a complete sample set?

- **Probability of a single event/sum of probabilities as 1**

What does 'random' mean?

Is the probability of rolling a dice always $\frac{1}{6}$? Why or why not?

Prime numbers and proof:

- Factors and multiples

How many

Multiple of 11 are there?

Can you have a multiple of $1/2$?

Does 0 have any multiples?

- Prime numbers

Define a prime number?

Is 1 a prime number? Why or why not?

- Square and triangular numbers

Can a number be both, square and a triangular?

- Common factors and HCF

What number is a common factor of all numbers?

What do you notice about the HCF of two numbers when one is a multiple of the other?

- Common multiples and LCM

When is the LCM of a set of numbers not the same as their product?

Can LCM and HCF of a pair of numbers be the same?

- Product of primes

Is there more than one way to factorise 12?

How do you write a product of prime factors?

- HCF/LCM from Venn diagrams

How can we find a larger common multiple?

More:

You may want to challenge yourself and look at probabilities from Venn Diagrams:

	https://vimeo.com/483972889
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