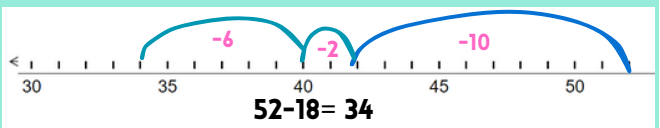
MATHS EXPECTATIONS END OF YEAR 6

PLACE VALUE

- Identify, read and write and order numbers in the range 0 – 1,000,000
- Count forwards and backwards in ones, tens, hundreds and thousands between 0-1,000,000
- Read decimals with tenths, count forwards and backwards in tenths, order decimals with tenths
- State how many tens and hundreds there are in four-digit numbers
- State the number partner to make 1000 (eg. 740 + ? = 1000)
- Round whole numbers to the nearest ten, hundred or thousand

ADDITION AND SUBTRACTION	EXAMPLES
Solve addition and subtraction problems using place value	916 - 408 solved by 916-400 = 516 *Then* 516-8 = 508
Solve addition and subtraction problems using rounding and compensating	824+ 99 solved by 824 + 100 = 924 *Then* 924 -1 = 923
Use a number line strategy to solve problems. This could be a mental maths process	 **52-18= 34**
Know that addition and subtraction are inverse operations	355 + 220 = 575 ***so that means*** 575 - 220 = 355
Use standard column methods to solve addition and subtraction problems including problems that involve place value exchange.	489 - 335 _____ _____

MATHS EXPECTATIONS END OF YEAR 6

NUMBER KNOWLEDGE FOR MULTIPLICATION

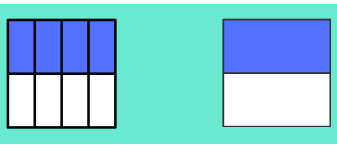
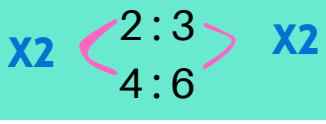
- Recall groupings of 10 and 100 that can be made from a four digit number
- Multiply by tens, hundreds and thousands and multiply by multiples of ten
- Know 2, 3, 5 and 10 times tables off by heart and division facts
- Recall square numbers to 100 (eg. 2x2 = 4; 8x8= 64)

MULTIPLICATION AND DIVISION	STRATEGY EXAMPLES
Use place value to multiply two and three digit numbers by a single digit	325 x 6 (6 x 300) +(6 x 20) + (6 x5)
Be able to divide a whole number by a single digit or two digit number without remainders	64 ÷ 8 = 8
Change the order of multiplication to make maths easier	36 x 4 as 4 x 36 may be easier to visualise and solve
Use known facts to help you solve unknown multiplications	7 x 8 solved as (5 x 8) + (2 x 8) = 56
Use doubling and halving to multiply and divide by 4 and 8	12 x 4 (12 x 2 x 2) double/ double (x4) 48 ÷ 8 (48 ÷ 2 ÷ 2 ÷ 2) (half/ half/half (÷8)
Learn standard column methods to multiply a two or three digit number by a single digit number	255 x 6

MATHS EXPECTATIONS END OF YEAR 6

NUMBER KNOWLEDGE FOR PROPORTIONAL REASONING

- Say forwards and backwards word sequences for halves, thirds, quarters, fifths and tenths to one whole
- Say decimal number sequences forwards and backwards in tenths and hundredths
- Order unit fractions for ordinal fractions
- State the number of tenths and hundredths in decimals to two places
- Understand that fractions can be presented as equivalent, mixed number or improper

FRACTIONS AND PROPORTIONS	STRATEGY EXAMPLES
Find fractions of a set using multiplication and division	1/3 of 24 2/3 of 24
Use symmetry to find fractions of shapes and link this to equivalent fractions	
Solve division problems that have fraction answers	5 ÷ 2 = 2 1/2
Measure how many times a unit fraction goes into a number	5 divided by ⅓ = 15 
Find a percentage of a whole number	50% of 400 = 200
Create equivalent ratios using proportional adjustment	

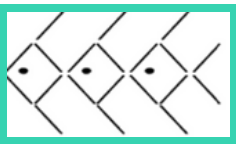
MATHS EXPECTATIONS END OF YEAR 6

PROBLEM SOLVING

- Use a variety of strategies to solve mathematical problems
  Example: Using trial and error, drawing a diagram, or breaking a problem into smaller parts
- Explain and justify your thinking and solutions by making a model or showing a rule
  Example: Explaining why 24 divided by 6 equals 4
- Solve problems that involve using multiple operations
  Example: There are 220 children at school. 1/4 of them arrive by bus and 1/2 by car
  How many more children travel by car than bus?

ALGEBRA

STRATEGY EXAMPLES

Find relationships in repeated simple number patterns	5, 8, 11, 14... +3 EACH TIME
Identify the next number in a sequence	5, 8, 11, 14, 17 +3 EACH TIME
Find the tenth term in a sequence by understanding the rule using the example sequence above	I multiply by three and add 2 so 32 is the tenth term
Find relationships in patterns and ordered pairs, and describe the relationships using word rules, tables, and graphs	 Counters: 1, 2, 3, 4, 5 Matchsticks: 8, 14, 20, 26, 32
Solve simple linear equations	2x = 22 so x = 11