





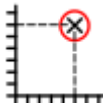
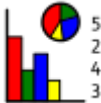
Donnington Wood CE Junior School 	Our School Vision Our school is a community where each person is valued as a child of God. We are a Church of England school, inspired and guided by the life and teaching of Jesus. We work together to create a caring, friendly and safe school family, to enable the whole school community to flourish and each person reach their full God-given potential.	Our core values friendship hope perseverance
Our Motto <i>"The ones who plant and the ones who water work together as a team with the same purpose."</i> 1 Corinthians 3:8 We believe that with God's help when we all work as a TEAM - Together Everyone Achieves More.		

Progression of knowledge in Maths

Adapted from the NCETM

Key Concepts/Golden threads

Subject concepts act as coat-hangers to hook information onto and **'Golden threads'** that run throughout the curriculum. This allows the pupils to store this knowledge into the long term memory and to remember for longer. Developed on research by Jan Meyer and Ray Land (2003), the use of concepts in our curriculum are used to capture the most important essence (knowledge) of the subject. The same concepts are explored in every year group and students will gradually increase their understanding of them.

Number and place value	Four operations	Fractions, decimals and percentages	Measurement	Properties of shape	Position and direction	Statistics	Algebra	Ratio and proportion
HTU 3 5 4	$+$ \div \times $-$	$\frac{1}{2}$ 					$a^2 + b^2 = c^2$	4:3

KEY CONCEPT: FOUR OPERATIONS - ADDITION AND SUBTRACTION						
Strands	Y1	Y2	Y3	Y4	Y5	Y6
Number bonds	I can represent, recall and use number bonds within 20.	I can recall and use addition and subtraction facts to 20 fluently.				
	I can represent, recall and use related subtraction facts within 20.	I can derive and use related facts up to 100.				
Mental calculations	I can add and subtract one-digit and two-digit numbers to 20, including zero.	I can add and subtract numbers using concrete objects, pictorial representations and mentally, including: <ul style="list-style-type: none"> ❖ A two-digit number and ones ❖ A two-digit number and tens ❖ Two two-digit numbers ❖ Adding three one-digit numbers 	I can add and subtract numbers mentally, including: <ul style="list-style-type: none"> ❖ A three-digit number and ones ❖ A three-digit number and tens ❖ A three-digit number and hundreds 		I can add and subtract numbers mentally with increasingly large numbers.	I can perform mental calculations, including with mixed operations and large numbers.
	I can interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.	I can show that addition of two numbers can be done in any order (commutative) but that subtraction is not.				I understand and can use the order of operations to carry out calculations, involving the four operations.
Written methods	I can read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.		I can add numbers with up to three digits, using formal written method of column addition, including carrying.	I can add numbers with up to four digits using the formal written method of column addition where appropriate, including carrying.	I can add whole numbers with more than 4 digits, including using a formal written method of column addition.	

			I can subtract numbers with up to three digits, using formal written methods of column addition and subtraction, including regrouping.	I can subtract numbers with up to four digits using the formal written method of column subtraction where appropriate, including regrouping.	I can subtract whole numbers with more than 4 digits, including using a formal written method of column subtraction.	
Inverse operations, estimating and checking answers		I understand the inverse relationship between addition and subtraction.	I can estimate the answer to a calculation.	I can estimate the answer to check the accuracy of my calculation.	I can use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	I can use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.
		I can check calculations and solve missing number problems using inverse operations.	I can use inverse operations to check answers.	I can use inverse operations to check the answers to a calculation.		
Problem solving	I can solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	I can solve problems with addition and subtraction, using concrete objects and pictorial representations, including those involving numbers, quantities and measures.	I can solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	I can solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

		I can apply my increasing knowledge of mental and written methods to problems involving addition and subtraction.				I can solve problems involving addition, subtraction, multiplication and division.
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