



St Barnabas

Church of England Primary Academy

A member of **CDARI**

Year 6 Fluency

Rapid Recall

- Addition and subtraction of multiples of 10 (e.g. $70 + 30 = 100$, $50 + 60 = 110$, $20 + 40 = 60$);
- Addition and subtraction of multiples of 100 (e.g. $300 + 400 = 700$, $400 + 600 = 1,000$, $800 + 500 = 1,300$);
- Addition and subtraction of multiples of 1000 (e.g. $3000 + 4000 = 7000$);
- Double and halves of multiples of 10 to 100 (e.g. double $60 = 120$, half $50 = 25$);
- Quadruples (x4) of all numbers to 10 (e.g. $6 \times 4 = 24$);
- Multiplying two-digit number by 10 (e.g. $24 \times 10 = 240$);
- Halves of any number up to 100 (e.g. half of $22 = 11$, half of $51 = 25.5$);
- Multiplying and dividing any number by 10 and 100 (e.g. $24 \times 100 = 2,400$, $45 \div 100 = 0.45$, $3.4 \times 10 = 34$);
- Multiplication of multiples of 10 and 100 based on known facts (e.g. $40 \times 40 = 1,600$);
- Squares of all number up to 12;
- And cubes of 2,3,4 and 5.

Mental Calculations (Jottings may be needed)

Addition and Subtraction Mental Calculation Skills (Working mentally with jottings)	Methods or Strategies	Multiplication and Division Mental Calculation Skills (Working mentally with jottings)	Methods or Strategies
- Add or subtract a pair of decimals with ones, tenths or hundredths. e.g. $0.7 + 3.36$	- Count on or back in hundreds, tens, ones, tenths and	- Multiply pairs of two-digit and single-digit numbers.	- Use partitioning and distributive law to divide tens and ones

<ul style="list-style-type: none"> - Find doubles of decimals each with ones and tenths e.g. $1.2 + 1.2$ - Add near doubles of decimals. e.g. $1.6 + 1.7$ - Add or subtract a decimal with ones and tenths, that is nearly a whole number. e.g. $5.2 + 3.6$ - Count on and back in minutes and hours bridging through 60 (analogue and digital times, 12 hour, 24 hour clock) e.g. mental jottings (time number line) 	<p>hundredths. .</p> <ul style="list-style-type: none"> - Use knowledge of place value and related calculations e.g. $4.7 + 5.6$, $470 + 560$, $0.56 + 0.47$ can be worked out using $47 + 56$ - Use knowledge of place value and doubles of two-digit whole numbers. - Double and adjust. - Add or subtract a whole number and adjust. e.g. $5.2 + 3.6 = 3.6 + 5 + 0.2$ 	<p>e.g. 28×3</p> <ul style="list-style-type: none"> - Divide a two-digit number by a single-digit number e.g. 68 divided by 4. - Divide by 25 or 50. e.g. 480 divided by 25, 2700 divided by 50 - Double decimals with ones and tenths and the corresponding halves. e.g. double 7.6, half of 15.2 - Multiply pairs of multiples of 10 and 100 e.g. 50×30, 700×20 - Divide multiples of 100 by a multiple of 10 or 100. e.g. 800 divided by 400, 600 divided by 20 - Multiply and divide two-digit decimals using place value knowledge. e.g. 4.8 divided by 6 (48 divided by 6 is 8, then divide by 10 is 0.8) - Find 10% or multiples of 10% of whole numbers and quantities. e.g. 40% of £30, 70% of 200g - Simplify fractions by cancelling. - Scale up and down using known facts. - Identify numbers with odd and even numbers of factors, and no 	<p>separately. e.g. 92 divided by 4 = $(80 + 12)$ divided by 4 = $20 + 3 = 23$</p> <ul style="list-style-type: none"> - Form equivalent calculations. e.g. To divide by 25, divide by 100 and multiply by 4. To divide by 50, divide by 100 and then double. - Use knowledge of equivalence between fractions and percentages and relationship between fractions and division. - Recognise how to scale up or down using multiplication and division. e.g. If three oranges cost 24p, one orange costs 24 divided by $3 = 8$. 4 oranges would cost $8 \times 4 = 32$p - Use multiplication and division facts to identify factor pairs and numbers with only two factors.
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		factor pairs other than one and themselves.	
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