

The Primary Maths Curriculum



$2x^2yy+y^2=2$
 $\cos 2x = \cos^2 x - \sin^2 x$
 $\frac{\partial z}{\partial x} = 2; \frac{\partial z}{\partial y} = 0 \quad \vec{n} = (F_x; F_y; F_z)$
 $\sin(x+y) = \sin x \cos y + \cos x \sin y$
 $A = \begin{pmatrix} x_1 & 4x_1^2 & 1 \\ y_1 & 4y_1^2 & 1 \\ z_1 & 4z_1^2 & 1 \end{pmatrix} \quad x=0, y=1, z=2$
 $X_2 = \begin{pmatrix} x \\ y \\ z \end{pmatrix}$
 $\sum_{i=0}^n (P_i(x) - y_i)^2$
 $A = [1, 0, 3]$
 $\langle \beta, \gamma \rangle \in \mathbb{C} \quad \sin 2x = 2 \sin x \cdot \cos x$
 $\frac{\sin x}{x} \leq \frac{x}{x} = 1$
 $\frac{2x}{x^2+2y^2} = 2$
 $A+B+C=8$
 $-3A-7B+2C=-10,3$
 $-18A+6B-3C=15$
 $P_1 = \lambda^2 - 3\lambda + 1 = 0$

$X_1 = \begin{pmatrix} \alpha + \beta + \gamma \\ \alpha \\ \beta \end{pmatrix}$
 $z = \frac{1}{x} \alpha + \alpha \sin \frac{\sqrt{2}}{2}$
 $\lim_{n \rightarrow \infty} \frac{n^2+1+n}{3n^2+2n-7}$
 $\lambda_2 = i\sqrt{14}$
 $y' = \frac{\sqrt{y}}{x+2} = 0; y(0) = 1$

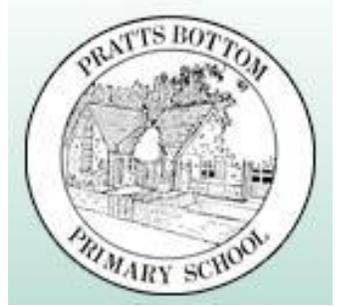
$\cos \rho = \frac{(10)(\frac{2}{\sqrt{2}} + \frac{1}{\sqrt{2}})}{\sqrt{10} \cdot \sqrt{10}}$
 $a^2 + b^2 = c^2$
 $b^2 = c \cdot c_b$
 $a^2 = c \cdot c_a$
 $|z| = \sqrt{a^2 + b^2}$
 $a^2 = b^2 + c^2 - 2bc \cos \alpha$
 $e^2 - xyz = e; A(0, e, 1)$
 $\sin^2 x + \cos^2 x = 1$
 $\sin^2 x + \cos^2 x = 1$
 $2 \arctan x - x = 0, I = (1, 10)$
 $\cos 2x = \cos^2 x - \sin^2 x$
 $\delta(P_1) = \sqrt{10,16}$

$Y_{lin} = X + b \cdot K_2$
 $X_1 = \begin{pmatrix} 2p \\ -p \\ 0 \end{pmatrix}$
 $\text{grad} f = \left(\frac{\partial f}{\partial x}; \frac{\partial f}{\partial y} \right)$
 $\lim_{x \rightarrow 0} \frac{e^{2x} - 1}{5x} = \frac{2}{5}$
 $B = \begin{pmatrix} 2 & 1 & -1 & 0 \\ 5 & 0 & 1 & 2 \end{pmatrix}$
 $f(x) = 2^{-x} + 1, \epsilon = 0,005$

$\int_{-\sqrt{2}}^{\sqrt{2}} \sin^2 x \cdot \cos^2 x \, dx$
 $\int 3x^2 + 66x - 97 \, dx$
 $\lim_{h \rightarrow \infty} \left(1 + \frac{2}{h}\right)^h$
 $x_1 = -1/p_1, x_2 = -p_1, x_3 = 7/p_1, p_1 \in \mathbb{R}$
 $y = \sqrt[3]{x+1}; x = \text{tg} t$
 $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 0$
 $\frac{\partial f}{\partial x} = 16 - x^2 + 16y^2 = 4z \geq 0$

$\text{tg} x \cdot \text{ctg} x = 1$
 $\frac{a}{\sin \alpha} = \frac{b}{\sin \beta} = \frac{c}{\sin \gamma}$
 $\text{tg} x \cdot \text{ctg} x = 1$
 $\sin(x+y) = \sin x \cos y + \cos x \sin y$

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Purpose of study

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.



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Aims

The national curriculum for mathematics aims to ensure that all pupils:

- Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

- **Reason mathematically**

$$\begin{array}{r} 95 \\ - 71 \\ \hline \end{array} \quad \begin{array}{r} 98 \\ - 78 \\ \hline \end{array} \quad \begin{array}{r} 46 \\ + 11 \\ \hline \end{array} \quad \begin{array}{r} 94 \\ - 12 \\ \hline \end{array}$$

- **Solve problems**

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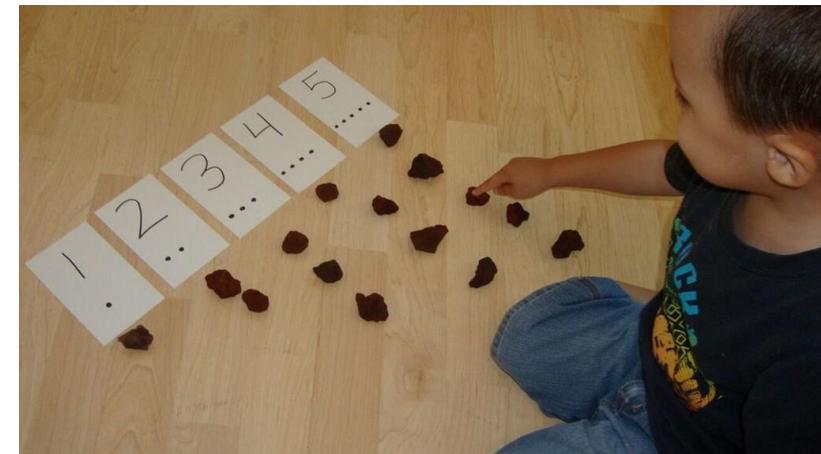
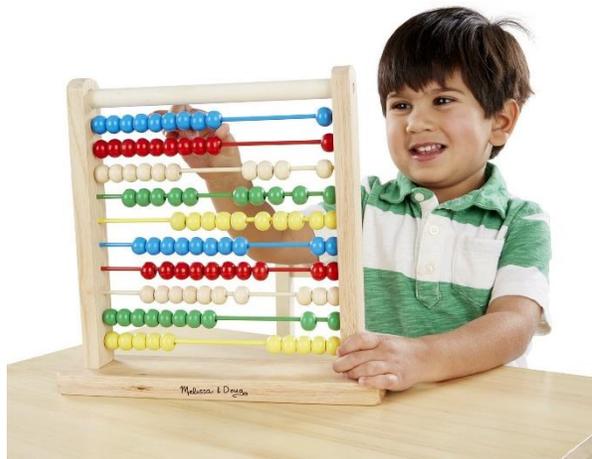
The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

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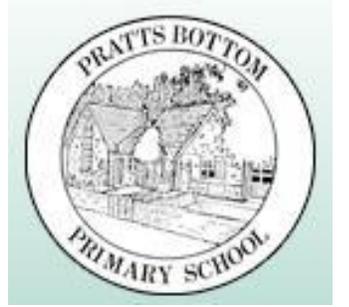


Foundation Stage Early Learning Goal for Number

Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

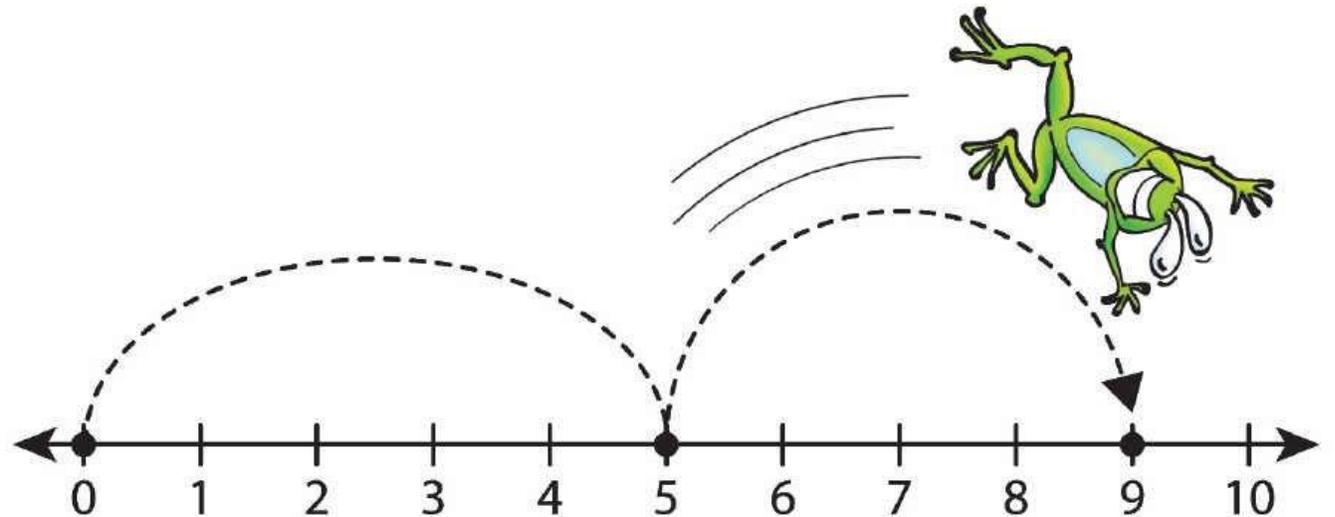


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Statutory Requirements – Programmes of Study

Year 1 - add and subtract one-digit and two-digit numbers to 20, including zero



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Year 3 - add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction

(Guidance - Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent)

$$\begin{array}{r} 53 \\ - 27 \\ \hline \end{array}$$

$$\begin{array}{r} 22 \\ + 31 \\ \hline 53 \end{array}$$

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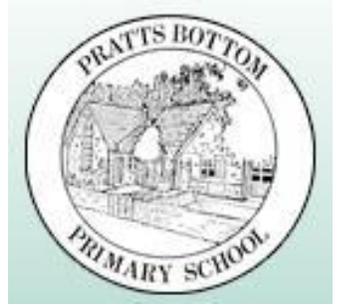
Year 6

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
- divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context

$$\begin{array}{r} 436 \\ \times \underline{64} \end{array}$$

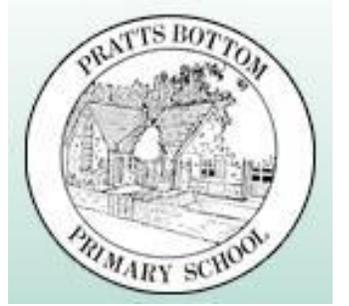
**LONG
DIVISION**

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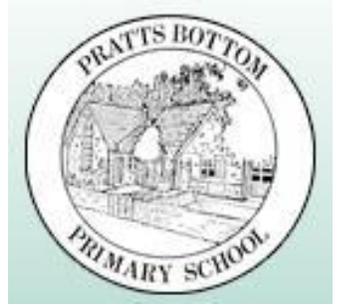
$$325 + 67 + 683$$

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932 - 457

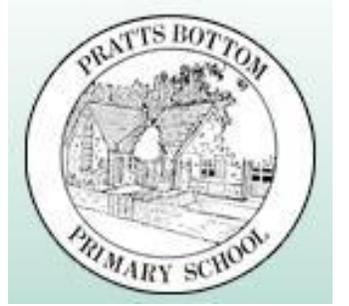
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$$267 \times 5$$

$$124 \times 36$$

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$$355 \div 8$$

$$472 \div 15$$