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Maths

At

Buckstones



A guide to Year 5 expectations in maths

Following the changes in the National Curriculum, we are providing some information to support you with your child's learning.

Please use this guide to support your child with their maths homework throughout the course of the year.

The following calculation methods have been approved by the government. Your child will be expected to confidently and independently use and apply the majority of these skills by the end of the school year.

Addition

Year 5

add whole numbers with more than 4 digits, including using formal written methods (columnar addition)

$$\begin{array}{r} 4321 \\ + 5792 \\ \hline 10113 \end{array}$$

Subtraction

Year 5

subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction)

$$\begin{array}{r} 912 \\ - 457 \\ \hline 475 \end{array}$$

$$\begin{array}{r} 8907 \\ - 2934 \\ \hline 2073 \end{array}$$

Multiplication

Year 5

Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
Extend to simple decimals with one decimal place

$$\begin{array}{r} 124 \\ \times 26 \\ \hline 744 \\ 2480 \\ \hline 3224 \end{array}$$

$$\begin{array}{r} 4.9 \\ \times 3 \\ \hline 14.7 \end{array}$$

Division

Year 5

Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.
Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

$$5 \overline{) 432} \text{ r } 2$$

Th	H	T	U	$\frac{1}{10}$	$\frac{1}{100}$
3	1	7			
		3	1	7	

$$317 \div 10 = 31.7$$

Number and Place Value

- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit;
- Count forwards and backwards in steps of power 10 for any given number up to 1,000,000;
- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including zero;
- Recognize and use thousandths and relate them to tenths, hundreds and decimal equivalents;
- Round any number to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000;
- Read Roman numerals to 1000 (M) and recognize years written in Roman numerals;
- Identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers;
- Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers and establish whether a number up to 100 is prime and recall prime numbers up to 19.

Addition and Subtraction

Add and subtract numbers mentally, including:

- Add and subtract whole numbers with more than 4 digits, including formal written methods (column addition and subtraction);
- Add and subtract numbers mentally with increasingly large numbers;
- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Multiplication and Division

- Multiply a number up to 4-digit by a 1 digit number using formal written methods;
- Multiply a number up to 4-digit by a 2-digit number using formal written methods, including long multiplication for 2-digit numbers;
- Multiply and divide numbers mentally drawing upon known facts up to 12×12 ;

- Divide numbers up to 4-digits by 1-digit numbers using the formal written method of short division and interpret remainders appropriately for the context;
- Multiply whole numbers and those involving decimals by 10, 100 and 1000;
- Divide whole numbers and those involving decimals by 10, 100 and 1000;
- Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3);
- Solve problems involving multiplication and division where large numbers are used by decomposing them into factors and multiples, squares and cubes;
- Solve problems involving addition and subtraction, multiplication and division and a combination of these, including the understanding of the equals sign;
- Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

Fractions, Decimals, Percentages, Ratio and Proportion

- Compare and add fractions whose denominators are all multiples of the same number;
- Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths;
- Recognise mixed numbers and improper fractions and convert from one to the other and write mathematical statements > 1 as a mixed number;
- Add and subtract fractions with the same denominator and denominators that are multiples of the same number;
- Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams;
- Read and write decimal numbers as fractions, for example, $0.47 = 47/100$;
- Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents;
- Round decimals with 2dp to the nearest whole number and to 1 decimal place;
- Read, write, order and compare numbers with up to three decimal places;
- Solve problems involving 3 decimal places;
- Recognize the per cent symbol (%) and understand per cent related to number of parts per hundred and write percentages as a fraction with denominator hundred, and as a decimal fraction.
- Solve problems which require knowledge of percentages and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $2/5$, $4/5$ and those fractions with a denominator of a multiple of 10 or 25.

Measures

- Convert between different units of metric measures e.g., km and m; cm, m and mm; g and kg; l and ml;
- Understand and use equivalences between metric units and imperial units such as inches, pounds and pints;
- Measure and calculate the perimeter of composite rectilinear shapes in cm and m;
- Calculate and compare the area of squares and rectangles including using standard units (cm^2 and m^2) and estimate the area of irregular shapes;
- Estimate volume and capacity;
- Solve problems involving converting between units of time;
- Use all four operations to solve problems involving measures: length, mass, volume;
- Use all four operations to solve problems involving measures: length, mass, volume using decimal notation including scaling.

Geometry (Properties and Position)

- Identify 3d shapes, including cubes and other cuboids from 2D representations;
- Know angles are measured in degrees: estimate and compare acute; obtuse and reflex angles;
- Draw given angles and measure them in degrees ($^\circ$);
- Identify: angles at a point and one whole turn (360); angles at a point on a straight line and $\frac{1}{2}$ turn (180); other multiples of 90;
- Use properties of rectangles to deduce related facts and find missing lengths and angles.