

**SRPA Mathematician**

There are 3 areas underpinning the mathematics curriculum.

**Fluency**

Pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. This is facilitated through varied and frequent practice with increasingly complex problems.

**Mathematical reasoning**

Pupils learn to follow a line of enquiry and develop an argument, justification or proof using mathematical vocabulary.

**Problem solving**

Pupils apply their knowledge to a variety of increasingly routine and non-routine problems. They break the problems into a series of simple steps and work systematically to find solutions.

 **NUMBER SENSE**

YEAR 6 PUPIL PASSPORT

I can read, write, order and compare numbers up to 10,000,000 and determine the value of each digit

……………………………………………………………………….……

 I can round any whole number to a required degree of accuracy……………………………………………………..…………

 I can count backwards through 0 to include negative numbers………………..…………………………………………….…

 I can use negative numbers in context, and calculate intervals across 0 solve number and practical problems that involve all of the above…………………………………………

  **ADDITION AND SUBTRACTION**

YEAR 6 PUPIL PASSPORT

 I can use knowledge of the order of operations to carry out calculations involving the 4 operations…………………..

 I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why…………………………………………….…….………………….

 I can solve problems involving addition, subtraction, multiplication and division………………………………………

 I can use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy……………………………………………..…………………

 I can perform mental calculations, including with mixed operations and large numbers…………………………..…….

 **MULTIPLICATION AND DIVISION**

YEAR 6 PUPIL PASSPORT

 I can multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication…………………………………………………….……

 I can divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

…………………………………………………………………………….

 I can 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 …………………………………………………………………………....

 I can perform mental calculations, including with mixed operations and large numbers identify common factors, common multiples and prime numbers …………………………..……

 I can use knowledge of the order of operations to carry out calculations involving the 4 operations ……………………………………………………………………….……

 I can solve problems involving addition, subtraction, multiplication and division ……………….………………..…

 I can use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy…………………………………………………………….….

 **FRACTIONS**

YEAR 6 PUPIL PASSPORT

 I can use common factors to simplify fractions; use common multiples to express fractions in the same denomination………………………………………………………….

 I can compare and order fractions, including fractions >1……………………………………………………………………….…

 I can add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions……………………………………………… 

 I can multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × ½ =1/8]

………………………………………………………………………….…

 I can divide proper fractions by whole numbers [for example, 1/3÷ 2 = 1/6] ……………………………………….…

 I can associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8] …………………………………..

 I can identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places………….

 I can multiply one-digit numbers with up to 2 decimal places by whole numbers ……………………………………….……….

 I can use written division methods in cases where the answer has up to 2 decimal places………………………..

 I can solve problems which require answers to be rounded to specified degrees of accuracy recall and use equivalences between simple fractions, decimals and percentages, including in different contexts ……………………………………………..……

**Ration and proportion**

 I can solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts……………………………..

 I can solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison

……………………………………………………………………….……

 I can solve problems involving similar shapes where the scale factor is known or can be found

…………………………………………………………………………....

**MEASUREMENT**

YEAR 6 PUPIL PASSPORT

 I can solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate………………….…………

 I can use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places

…………………………………………………………………………….

 I can convert between miles and kilometres

…………………………………………………………………………….

 I can recognise that shapes with the same areas can have different perimeters and vice versa…………….…………….

 I can recognise when it is possible to use formulae for area and volume of shapes……………………………………….…..

 I can calculate the area of parallelograms and triangles

……………………………………….……………………………………

 I can calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³]…………………………………………………………

**GEOMETRY**

YEAR 6 PUPIL PASSPORT

**Shapes**

 I can draw 2-D shapes using given dimensions and angles..................................................................

 I recognise, describe and build simple 3-D shapes, including making nets………………………………………..……………….…

 I can compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons………………………

 I can illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius………………………………………………………………

 I can recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles…………………………………………………………….....…

**Position and Direction:**

 I can identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

…………………………………………………………………………….

 I can describe positions on the full coordinate grid (all 4 quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes……………………….…

**STATISTICS**

YEAR 6 PUPIL PASSPORT

 I can interpret and construct pie charts and line graphs and use these to solve problems…………….………………………

 I can calculate and interpret the mean as an average

…………………………………………………………………………….

**ALGEBRA**

YEAR 6 PUPIL PASSPORT

 I can use simple formulae

…………………………………………………………………………….

 I can generate and describe linear number sequences

…………………………………………………………………………….

 I can express missing number problems algebraically

………………………………………………………………………….…

 I can find pairs of numbers that satisfy an equation with 2 unknowns………………………………………………………………

 I can enumerate possibilities of combinations of 2 variables

………………………………………….…………………………………

**SRPA TIMES TABLE JOURNEY**

Hop on board the times table train as you begin your fun- filled journey to become a Times Table Champion.

Don`t forget to pick up a souvenir at each station and remember… practice makes perfect!



SRPA





Your journey starts here

























**SRPA TIMESTABLE JOURNEY**