Stage 5 Term 1a: Number

What are we learning about?

In this term we will be starting to build on our number skills and working with larger numbers and decimals. We will also learn that there are different types of numbers and solve problems with money.

Why are we learning about it?

This will help us to solve problems with larger numbers but also really small numbers. We also need to be able to calculate with money everyday and look for the cheapest way to buy things.

What new **KNOWLEDGE** will I gain?

We will learn how to work with numbers up to 1 million and decimals to 3 decimal places. We will also learn how to round numbers up to 1 million to the nearest 10, 100, 1000, 10000. You will learn about factors, multiples, primes and prime factors. You will also be able to solve money problems.

How does this build on the **SKILLS** I already have?

We have understanding of the number system up to and including 4 digits and 2 decimal places. We have also used various calculation strategies to solve simple problems.

What new **SKILLS** will I develop?

You will extend your understanding of the number system and place value to include decimals and make connections between number relationships. You will also be able to select and use appropriate calculation strategies to solve increasingly complex problems.

How does this build on the **KNOWLEDGE** I already have?

You have worked with numbers up to 1000 before and know the place value of each digit. You have also worked with decimals to 2 decimal places. You have already rounded to the nearest 10, 100 and 1000. You will have counted up in multiples and used factor pairs to do calculations.

Stage 5 Term 1b: Number and Algebra

What are we learning about?

In this term we will be starting to build on our number skills and working with negative numbers. We will also learn about doing more complicated multiply and division questions by using 2 digit numbers.

Why are we learning about it?

This will help us to solve more complicated problems and become more able to carry out more complex calculations.

What new **KNOWLEDGE** will I gain?

We will learn how to solve problems with negative and positive numbers and how to multiply and divide by numbers bigger than 10.
We will also learn the names and properties of two special types of numbers called square and cube.

How does this build on the **SKILLS** I already have?

We have the skills to work with positive numbers already and we know our times tables and we can recognise patterns in our times tables. We also know how to multiply and divide by a single digit number.

What new **SKILLS** will I develop?

You will start to develop your understanding of number by being able to multiply and divide by bigger numbers. You will be able to order, increase/decrease, use inequality notation with negative numbers.

How does this build on the **KNOWLEDGE** I already have?

We have solved problems using the 4 rules add, subtract, multiply and divide. We have met other special words for numbers like factor, multiple and prime. We also know how to multiply and divide by numbers less than 10.

Stage 5 Term 2a:
Statistics and Probability

What are we learning about?

In this term we will be starting to build on our number skills and working with larger numbers We will also learn that there are different types of tables to show different information and line graphs can have different scales and why they do.

Why are we learning about it?

Statistics is the science and, arguably, also the art of **learning** from data. As a subject it is concerned with the collection, analysis, and interpretation of data, as well as the effective communication and presentation of results relying on data.

What new **KNOWLEDGE** will I gain?

We will learn how to work out mentally numbers up to 10 000 and calculate with numbers up to 100 000. You will learn how to read from tables eg timetables and how to complete a table. You will also learn how to read from a line graph and draw a line graph. You will be able to answer questions and solve problems involving tables and graphs.

How does this build on the **SKILLS** I already have?

We have understanding of adding and subtracting smaller numbers and we were able to recognise different graphs.

What new **SKILLS** will I develop?

You will extend your understanding of the number system and place value to include bigger numbers and make connections between number relationships. You will also be able use language and properties precisely to analyse statistics.

How does this build on the **KNOWLEDGE** I already have?

You already know how to work out mentally numbers up to 1 000 and calculate with numbers up to 10 000. You already know how to read from a line graph and draw a line graph when the scale goes up in 1's.. You already know how to work out the part of the graph that shows the most and the least.

TOPIC: Stage 5 2b Geometry & Measures

What are we learning about?

We will be learning about the perimeter and area of squares and rectangle shapes.
We will learn about the properties of 3D shapes. We will also start to look at the space inside 3D shapes.
We will also learn more about angle properties drawing, measuring and calculating with them.

Why are we learning about it?

The study of **shapes and space** is called “Geometry”. This word comes from the ancient Greek and means “measuring the Earth”. ... At school you start learning about simple **shapes**, like triangles, quadrilaterals and circles, and the way they relate to each other and the **space** in and around them.

What new KNOWLEDGE will I gain?

You will learn about the perimeter of rectangles and shapes made from rectangles. You will also learn about the area of rectangles and shapes made from rectangles.
You will be able to recognise several common 3D shapes from a 2d diagram and from a net. You will start to learn about volume by counting cubes. You will be able to calculate missing angles on a line and about a point.

How does this build on the KNOWLEDGE I already have?

In previous work you have gained knowledge on perimeter and area of simple shapes by counting lengths or squares. You are already able to recognise acute, right and obtuse angles within shapes.

What new SKILLS will I develop?

You will use language and properties precisely to analyse 2-D and 3-D shapes.
You will develop your mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems.

How does this build on the SKILLS I already have?

You have used language and properties to look at 2-D and 3-D shapes.
You started to develop your mathematical knowledge, in part through solving simple problems.

TOPIC: Stage 5 3a
Ratio, rate & proportion

What are we learning about?

You will learn about different ways to measure weight, length, capacity and time. You will be able to change between different units of measure and start to solve problems involving these units of measure.
We will also learn about changes you can make to shapes using reflection and translation.

Why are we learning about it?

Metric measurements are used in all but only 3 countries in the world (they are Liberia, Myanmar and USA).
Different objects use different metric measurements and it is important to be able to convert and compare between them.
Reflection and translation are used in all areas of design including clothes and buildings. These designs give buildings character and add interest.

What new **KNOWLEDGE** will I gain?

You will learn how to estimate the weight, length or capacity of an object and recognise which metric unit of measurement would be the most appropriate. Once a measure is chosen you will learn how to convert between equivalent measures and be able to compare measures. You will learn to convert between 12hr an 24 hr clock.
You will learn how to reflect a complicated object accurately in a horizontal or vertical line. You will learn how to translate an object on a grid.

How does this build on the SKILLS I already have?

You have named and drawn some simple 2-D shapes on a grid.
You developed your mathematical knowledge, through solving simple problems.

What new SKILLS will I develop?

You will select and use appropriate calculation strategies to solve increasingly complex problems You will develop and use your mathematical knowledge to solve problems and evaluating the outcomes, including multi-step problems. You will be able to use language and properties precisely to 2-D shape.

How does this build on the KNOWLEDGE I already have?

You have learnt how to estimate using metric measures by comparing objects. You also know how to read a clock using the 12 hour clock. You already know how to multiply and divide by 10 and 100.
You have reflected simple shapes in a mirror line using a mirror.
You have also translated simple 2d shapes on a grid.

Stage 5 Term 3b: Number 2

What are we learning about?

In this term we will be learning about fractions, decimals and percentages in more depth. You will be able to change between simple fractions, decimals and percentages. You will learn how to work out a fraction of a number and to work out which fraction is bigger.
You will also learn how to solve problems involving Time, measures, money add, subtract, multiply and divide.

How does this build on the **SKILLS** I already have?

We have understanding of the number system up to and including 4 digits and 2 decimal places. We have also used various calculation strategies to solve simple problems.

Why are we learning about it?

Fractions, decimals and percentages are all around us and used every where everyday and it is important that you can recognise which is bigger, the same or smaller.
Solving problems make us think harder and will help us remember.
You will also be able to use the problem solving skills in other areas.

What new **SKILLS** will I develop?

You will also be able to select and use appropriate calculation strategies to solve increasingly complex problems. You will start to interpret when the structure of a numerical problem requires adding, subtracting, multiplying and dividing.

What new **KNOWLEDGE** will I gain?

You will learn how to change a fraction to a decimal or percentage. You will also be able to work out 1/3 or 2/5 of a number. You will also be able to work out which fraction is bigger and put fractions in order. You will learn what steps to take to solve problems that are on time, measurements and money.

How does this build on the **KNOWLEDGE** I already have?

You have already learnt what a fraction is and how to write a fraction for how much is shaded. You have changed p into £ and worked out simple change. You have learnt how to write the time and draw the hands for a certain time. You also know how to add, subtract, multiply and divide.