YEAR 10 Foundation

Autumn Term 1: Securing Number, Numerical Representations & Ratio

THE MILTON KEYNES ACADEMY
Creative Education Trust

Key Vocabulary for Lessons – Securing Number

Approximation	An estimated number that is similar, but not equal to, a number.
Ascending	From largest to smallest in value.
Carry Over	When adding digits, if the sum of two digits is greater than 10, the tens digit is taken to the next column to the left.
Column	Each individual section in the place value table.
Cube	Raise the base number to the power of three.
Decimal	A number that is not an integer.
Decimal Place	A given place value column after the decimal point (e.g. 2 decimal places means to the second column after the decimal point).
Degree of Accuracy	A measure of how close the value of an estimated number is to a number.
Descending	From smallest to largest in value.
Difference	The answer when I subtract one number from another.
Directed Numbers	Positive and negative numbers (but usually used to refer to negative numbers).
Error Interval	The difference between the highest value and the lowest value, using inequality symbols.
Exchanging	Moving numbers across place value columns as part of subtraction (sometimes known as "borrowing").
Factor Pair	Two integers that multiply together to give a target number.
Highest Common Factor	The highest number that goes exactly into two (or more) target numbers.
Index (power)	Indicates how many of the base number are multiplied together (written as a small number to the upper right).
Integer	A whole number (can be positive or negative and includes zero).
List	Write out all of the relevant items.
Lower Limit	The smallest value that would round up to the given estimated value.
Lowest Common Multiple	The smallest positive number that is a multiple of two (or more) target numbers.
Operation	Addition, subtraction, multiplication or division (the basic four operations of maths).
Place Holder	Using a zero to match place values in questions where not all digits have a pair.
Place Value	The value of each individual digit in a number (each digit of a number will occupy a set position in a place value table).
Priority	Level of importance.
Product	The answer when I multiply two (or more) numbers together.
Quotient	The answer to a division question.
Root	The inverse operation to raising to a power (e.g. square root).
Significant Figure	The most important number (i.e. furthest left in the place value table).
Sum	The answer when I add two (or more) numbers together.
Systematically	In a structured and logical way.

Truncation	A method to approximate a number by missing off digits past a certain point, without rounding.
Upper Limit	The smallest value that would round down to the given estimated value.

Key Vocabulary for Lessons – Numerical Representations

Arrange	To organize or order items or numbers according to a specific pattern or sequence.
Change	Alteration or transformation of a value or quantity from one form to another.
Compare	To examine two or more items or quantities to determine similarities or differences between them.
Convert	To change a value, unit, or expression from one form to another, often using a specific conversion factor.
Decimal	A number system based on powers of 10, represented by digits and a decimal point.
Decrease	To diminish or reduce in size, value, or quantity.
Denominator	The bottom number in a fraction, representing the total number of equal parts into which a whole is divided.
Divide	To separate or distribute a quantity into equal parts or groups.
Equivalent	Having the same value, amount, or meaning as another, despite being expressed or represented differently.
Formula	A mathematical expression used to describe a relationship or calculation.
Highest common factor	The greatest integer that divides two or more numbers without leaving a remainder.
Improper fraction	A fraction in which the numerator is greater than or equal to the denominator.
Increase	To grow or become larger in size, value, or quantity.
Interest	A fee paid for the use of borrowed money, usually calculated as a percentage of the principal amount.
Interpret	To understand or explain the meaning or significance of mathematical data, graphs, or results.
Loan	A sum of money borrowed from a lender under the condition that it will be repaid with interest.
Mixed fraction	A combination of a whole number and a proper fraction, represented as a sum.
Multiply	To perform the mathematical operation of repeated addition or scaling up of a number by another number.
Numerator	The top number in a fraction, representing the number of equal parts being considered.
Per annum	Latin for "per year," often used to denote interest rates or annual quantities.
Percent	A fraction of one hundred, often used to express ratios or proportions as parts per hundred.
Quantity	A numerical amount or value representing the magnitude or size of something.
Shaded	Referring to areas or sections of diagrams, graphs, or shapes that are filled in or marked with color.
Simplify	To reduce a mathematical expression, equation, or fraction to its simplest form or terms

Key Vocabulary for Lessons – Ratio

Amount	The amount refers to the total quantity or value of the whole. It is the complete or overall quantity being considered.
Part	A part is a fractional or proportional share of the whole. In the context of ratios, it is one of the components or divisions that make up the entire quantity.

Ratio	A ratio is a way of expressing the relationship between two or more quantities. It is a comparison of the sizes of two quantities and is typically written as a fraction, using a colon (e.g., 2:3) or as a fraction (e.g., 2/3).
Scale factor	The scale factor is the ratio of any two corresponding lengths in two similar geometric figures. It expresses how much one quantity must be multiplied or divided by to obtain the other. In the context of similar figures, it is the factor by which all corresponding lengths are multiplied to obtain the second figure from the first.
Share	In a ratio or division of a quantity, a share refers to the portion or part that belongs to a specific individual or group.
Similar triangles	Two triangles are considered similar if their corresponding angles are equal, and their corresponding sides are in proportion. In other words, the shape of the triangles is the same, but they may differ in size. The ratios of the lengths of corresponding sides are equal in similar triangles.

Homework

- Homework will be set each week.
- Tasks will alternate between online tasks using Sparx Maths and longer written tasks focused on GCSE-style questions.
- All tasks will be focused on reinforcing the learning to date in Key Stage 4.

Additional Opportunities

If you wish to further develop your skills and knowledge for GCSE maths, you can use the following links:

https://corbettmaths.com/contents/

https://metatutor.co.uk/worksheets/

https://www.mathsgenie.co.uk/gcse.html