Year 6 Autumn Maths

Prior Learning
Place Value **Addition and Subtraction** **Fractions** **Converting Units**
Key vocabulary for this unit

Place Value	Addition and Subtraction	Fractions	Converting Units
Ten million	Add	Numerator	mass
Millions	Total	Denominator	gram
Thousands	Make	Proper fraction	kilogram
Hundreds	Plus	Improper fraction	capacity
Tens	Sum	Factor	volume
Ones	More	Highest common multiple	mililitre
Zero	Altogether	Lowest common multiple	litre
Place value	Difference	Equivalents	millimeter
Greater than	Leave	Common numerator	centimeter
Less than	Subtract	Common denominator	kilometer
Order	Difference between	Decimal equivalent	foot
Round/rounded	Less	Simplify	inch
Negative number	Minus	Simplest form	ounce
Partition	Take away	Mixed number	pound
Digit	Mentally/orally	Whole number	stone
Interval	Column addition	Mixed number	pint
Sequence	Column subtraction		gallon
Linear sequence	Estimate		

	Inverse solve problems Number facts Place value Complex		

Learning Sequence			

Place Value	- read, write, order and compare numbers up to 10,000,000 and determine the value of each digit - round any whole number to a required degree of accuracy - use negative numbers in context, and calculate intervals across 0 - solve number and practical problems that involve all of the above
Addition and Subtraction	- perform mental calculations, including with mixed operations and large numbers - identify common factors, common multiples and prime numbers - use their knowledge of the order of operations to carry out calculations involving the 4 operations - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - solve problems involving addition, subtraction, multiplication and division - use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
Fractions	- use common factors to simplify fractions; use common multiples to express fractions in the same denomination - compare and order fractions, including fractions >1 - add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions - multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]

	• divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$] • associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] • 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 • multiply one-digit numbers with up to 2 decimal places by whole numbers • use written division methods in cases where the answer has up to 2 decimal places • 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
Converting Units	• solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate • 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 • convert between miles and kilometres

Assessment milestones

Mathematical skills:	**Mathematical knowledge:**
Place value • read, write, order and compare numbers up to 10,000,000 and determine the value of each digit • round any whole number to a required degree of accuracy • use negative numbers in context, and calculate intervals across 0	**Place value** • solve number and practical problems that involve all of the above. **Addition and subtraction** • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

Addition and subtraction
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers
- use their knowledge of the order of operations to carry out calculations involving the 4 operations

Fractions
- use common factors to simplify fractions; use common multiples to express fractions in the same denomination
- compare and order fractions, including fractions >1
- add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
- multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]
- divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$]
- associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]
- 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
- multiply one-digit numbers with up to 2 decimal places by whole numbers

- solve problems involving addition, subtraction, multiplication and division

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

Fractions
- 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

Converting units
- solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate

• use written division methods in cases where the answer has up to 2 decimal places **Converting units** • 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 • convert between miles and kilometres	