Additive Reasoning	Length of unit: **3 weeks**	Week beg:	Year:5	Teacher:

Success criteria	**Prior Learning:**	**Resources**
Pupils can solve addition and subtraction problems (including with fractions) in different contexts, appropriately choosing and using numbers facts, understanding of place value and mental and written methods. They can explain and justify their decision making and justify their solutions.	Check that children can already • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why • estimate, compare and calculate different measures, including money in pounds and pence • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs • solve simple measure and money problems involving fractions and decimals to two decimal places	Maths vocabulary book Using and Applying in every maths lesson Assessment through guided maths Think Maths! Pitch and Expectations Y5 and Y6 Mind the Gap (L3 to L4) Overcoming Barriers to Learning – L3 to 4 and L4 to 5 (available on M drive) Securing Level 4 and Securing Level 5 documents (available on M drive)) Errors and Misconceptions in Maths at KS2

Guidance

Pupils practise using the formal written methods of columnar addition and subtraction with increasingly large numbers to aid fluency.

They practise mental calculations with increasingly large numbers to aid fluency (for example, 12 462 – 2 300 = 10 162)

They practise adding and subtracting decimals including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1 [for example, 0.83 + 0.17 = 1].

They mentally add and subtract tenths, and one-digit whole numbers and tenths.

Pupils connect their work on coordinates and scales to their interpretation of time graphs.

They begin to decide which representations of data are most appropriate and why.

Learning objectives	Pupil outcomes:
Pupils should be taught to: **Addition and subtraction** ● add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) ● add and subtract numbers mentally with increasingly large numbers ● use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy ● solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why **Fractions (including decimals and percentages)** ● recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] ● add and subtract fractions with the same denominator and denominators that are multiples of the same number ● solve problems involving number up to three decimal places **Measurement** ● use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation including scaling ● solve problems involving converting between units of time **Statistics** ● solve comparison, sum and difference problems using information presented in a line graph ● complete, read and interpret information in tables, including timetables.	I can explain and represent an efficient way of calculating whether it is quicker to travel from Plymouth to London by train or by coach using timetables. I can explain and represent how I know £504.62 + £382.88 is nearly £900 and that the difference between £845 and £639 is around £200 using rounding.