

<b>Additive reasoning 3.7</b>	Length of unit: <b>3 weeks</b>	Week beg:	Year: 3	Teacher:
<p><b>Success criteria</b></p> <p>Pupils can solve addition and subtraction problems in different contexts, appropriately choosing and using number facts, understanding of place value and counting. They explain their decision making and justify their solutions.</p>	<p><b>Prior Learning:</b></p> <p>Check that children can already;</p> <ul style="list-style-type: none"> <li>● count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward</li> <li>● recognise the place value of each digit in a two-digit number (tens, ones)</li> <li>● use place value and number facts to solve problems</li> <li>● solve problems with addition and subtraction: <ul style="list-style-type: none"> <li>● using concrete objects and pictorial representations, including those involving numbers, quantities and measures</li> <li>● applying their increasing knowledge of mental methods and written methods</li> </ul> </li> <li>● recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li> <li>● add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> <li>● a two-digit number and ones</li> <li>● a two-digit number and tens</li> <li>● two two-digit numbers</li> <li>● adding three one-digit numbers</li> </ul> </li> <li>● show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</li> <li>● recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems</li> <li>● recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</li> <li>● find different combinations of coins to equal the same amounts of money</li> <li>● solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</li> <li>● ask and answer questions about totaling and comparing categorical data</li> </ul>		<p><b>Resources</b></p> <p>Maths vocabulary book</p> <p>Using and Applying in every maths lesson</p> <p>Assessment through guided maths</p> <p>Think Maths!</p> <p>Pitch and Expectations Y3</p> <p>Overcoming Barriers to Learning – L2 to 3 and L3 to 4</p> <p>Securing Level 3 and Securing Level 4 documents</p> <p>Models and Images (available online and on CD in maths resource book cupboard)</p>	
<p><b>Guidance</b></p> <p>Pupils continue to become fluent in recognising the value of coins, by adding and subtracting amounts including mixed units and giving change using manageable amounts. They record £ and p separately. The decimal recording of money is introduced formally in Year 4.</p> <p>Pupils continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1 kg and 200 g) and simple equivalents of mixed units (for example, 5 m = 500 cm)</p> <p>Pupils understand and use simple scales (for example, 2, 5, 10 units per cm) in pictograms and bar charts with increasing accuracy.</p>				

## Learning objectives

### Pupils should be taught to:

#### Addition and subtraction

- add and subtract numbers mentally, including:
  - a three-digit number and ones
  - a three-digit number and tens
  - a three-digit number and hundreds
- add and subtract numbers with up to three digits
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

#### Measurement

- measure, compare, add and subtract: lengths (m / cm / mm); mass (kg / g); volume / capacity (l / ml)
- add and subtract amounts of money to give change, using both £ and p in practical contexts

#### Statistics

- interpret and present data using bar charts, pictograms and tables
- solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.

### Pupil outcomes:

I can explain and efficiently solve questions related to a bar chart for a school of 400 children such as 'how many fewer children cycle to school than walk?' and 'how many more children travel on a school bus than cycle?'