

## Adding and subtracting with objects and on a number line

DAY	We Are Learning To (WALT):	MODEL / INTRODUCTION	INDEPENDENT WORK	PLENARY
	<p>Mental:</p> <p>Main: Add and subtract using a number line</p>	<p>Mental:</p> <p>Main: TA to take children who are unsure how to use concrete objects e.g. cubes, counters to add and subtract TA to revise how to add and subtract using such concrete objects e.g. to calculate <math>4 + 2</math> get 4 cubes, get two more and count how many there are / to calculate <math>4 - 2</math> get 4 cubes, remove 2 and see how many are left Ask each child to do an example. Children who are confident can get started on their independent work and children who are unsure can go through more examples with TA (If all children can do this already have TA take G+T children) Teacher (with remainder of class) Model how to add and subtract on a number line by starting on the first number, then doing the number of jumps for the second number e.g. to calculate <math>4 + 2</math>, start on number four and do two jumps. Do another example making deliberate mistakes of missing out numbers when jumping or landing in between numbers. Ask children to explain why these are mistakes. Emphasise: <ul style="list-style-type: none"> <li>• need to land on a number (not between numbers)</li> <li>• not skip a number</li> <li>• make sure not to count the first number, only count after the first jump</li> </ul>                     (You may wish to have middle ability children start their work at this point) Revise how when you add and subtract multiples of ten, only the tens number changes e.g. in <math>45 + 20</math>, only the 4 changes, not the 5. Model how we can use a blank number line to calculate with 2-digit numbers, revising strategies from previous days (for subtracting it does not matter if children start at the beginning of the number line and jump forward, or start at the end and jump forward, as long as they are calculating correctly) Encourage children working on addition and subtraction of 2-digit numbers to use larger jumps e.g. to calculate <math>40 + 23</math> they may do one jump of 20 and one jump of 20 and one jump of 3, as using larger jumps is quicker if children can do it accurately Repeat above model for adding and subtracting 3-digit numbers</p>	<p>Lower ability – use concrete objects to add and subtract with numbers below 10</p> <p>Middle ability – use a number line with all numbers on it, to do jumps of 1</p> <p>Higher ability – use a blank number line to add and subtract 2-digit numbers</p> <p>Gifted and talented – use a blank number line to add and subtract 3-digit numbers</p> <p>Extension – children to make up their own addition and subtraction sentences to calculate on pupil whiteboards</p>	<p>In ability partners give children 2 questions per pair, one for each partner (lower ability children to use cubes and middle ability children to use laminated number lines). Children need to talk to their partner, explaining why they are using the method that they are using e.g. using four jumps of ten to add 40 because there are 4 tens in forty</p>