

## Adding by using fingers and mentally lesson plan

<b>Subject:</b> Maths	<b>Lesson Title:</b> Adding by using fingers and mentally
<b>Date:</b>	<b>Time Span:</b>
<b>Year Group:</b> Year 2	<b>Group Size:</b> 30

### Desired Learning Outcomes

To be able to use their fingers to add

To be able to add mentally with 2-digit numbers

### Key Language:

Add, plus, more, jump, tens

### Use of ICT:

Smartboard for introduction

### Assessment (Make reference to each section of the lesson)

Intro – TA to check children who may / may not be able to add up to 10 with their fingers.

Main – Mark children's work as they complete it. Sit with any children who are struggling, bringing them back to the carpet if necessary. If still unsure by end of lesson sit with TA during plenary.

Plenary – Can children explain to their partner how they are completing the calculation as they work it out?

### Use of Other Adults

TA to work with lower ability children during main part of lesson

TA to sit and continue working with children (of any ability) who struggled in plenary

### Anticipated Misconceptions/Difficulties

Children counting from the first number when adding e.g. to calculate  $6 + 3$ , counting 6, 7, 8, instead of 7, 8, 9

Children not being able to work without relying on concrete aids i.e. number lines and hundred squares

### Resources

Number lines for extension and model available from

<http://www.sparklebox.co.uk/2576-2580/sb2579.html#.UFmg1BgQmPo> (laminated and cut up)

Hundred squares

Pupil whiteboards and pens

<p><b>Introduction</b></p> <p>TA to take children who are still insecure on adding with their fingers with numbers below 10. If unsure ask children to quickly do a couple of questions to check</p> <p>Model how to add numbers using your fingers:</p> <ul style="list-style-type: none"> <li>• with both numbers being below 5 e.g. <math>3 + 4</math> by putting 3 fingers on one hand, four fingers on the other hand and counting all of the fingers, touching your chin with each finger as you count it to help count reliably</li> <li>• with one number being more than 5 e.g. <math>8 + 5</math>, by placing the first number in your head and using your fingers to count on by the second number (9, put a finger up, 10 put a finger up etc until you have five fingers up)</li> </ul> <p>Emphasise the need to start counting from the next number e.g. to calculate <math>6 + 3</math>, count from 7, so 7, 8, 9, and not count from 6, so 6, 7, 8</p> <p>Teacher (with remainder of class)</p> <p>Model how to add numbers using your fingers with one number by placing the first number in your head and using your fingers to count on by the second number</p> <p>Emphasise the need to start counting from the next number e.g. to calculate <math>6 + 3</math>, count from 7, so 7, 8, 9, and not count from 6, so 6, 7, 8</p> <p>(Middle ability children begin work)</p> <p>Briefly revise how to add the following with a hundred square and a number line. Tell children that they will not be using these today, but that if they imagine them in their minds it will help them.</p> <p>Revise how to add multiples of ten by only changing the tens digit e.g. <math>45 + 20</math>, only the 4 in the tens column changes.</p> <p>Revise how to add 2-digit numbers by adding the tens first and then the units e.g. <math>45 + 23</math> you add the two tens first to get 65 and then add the units to get 68</p> <p>Remind children to visualise number lines and hundred squares as they work to help them</p>	<p><b>Time</b></p> <p>15 mins</p>
<p><b>Main (including differentiated tasks)</b></p> <p>Lower ability – adding with fingers (with totals up to 10). Children who work slowly to work on sheet rather than in books</p> <p>Middle ability – adding with fingers (with totals up to 100)</p> <p>Higher ability – adding multiples of ten mentally</p> <p>Gifted and talented – adding 2-digit numbers mentally</p> <p>Extension – children to make up their own addition sentences to calculate on pupil whiteboards</p> <p>(If children are really struggling to work without number lines / hundred squares, provide them, but only as last resort as aim of them is to give children mental images / strategies to work with, rather than becoming reliant / dependent on them)</p>	<p>20 mins</p>
<p><b>Plenary</b></p> <p>In ability partners give children 2 questions per pair, one for each partner. Children need to talk to their partner, explaining how they are working out the calculation</p>	<p>10 mins</p>