

Addition: Add two 2-digit numbers with regrouping.

Check with the school or the child if they use the term 'regrouping' or 'exchange'.

This illustrates a progression in calculation methods from concrete to abstract. They are a prop to develop growing mental calculation methods.

If at any stage the child is not confident and is making errors go back to a method that is more supportive of their growing mental strategies, including using concrete objects.

From the National Curriculum Notes and Guidance Year 2 (non-statutory)

'Recording addition in columns supports place value and prepares for formal written methods with larger numbers.'

This is the end goal but it is important that it is reached with understanding of the method as well as correct calculation.

Add two 2-digit numbers using concrete objects.

Here is a video clip showing regrouping using Dienes equipment. It covers a two digit number plus a one digit number crossing tens and does this with each step explained in detail. It uses clear language and method which could be helpful in explaining each step to the child. It uses counting on from the larger number as well as placing the cubes in a 10 frame layout to aid regrouping. The word 'trade' is used for regrouping.

<https://www.youtube.com/watch?v=NmqvASX8OAY&feature=youtu.be> (6:22 but watch just 2:50)

Add two 2-digit numbers using pictorial representations.

As a next step, or if you do not have access to base ten/dienes equipment numbers can be represented as a picture with a line as a ten and a dot as a one. Does not use 10 frame layout. Once drawn the number is counted up starting with the tens. The child could practice writing the answer.

<https://www.youtube.com/watch?v=GZoOYxHPV1k&feature=youtu.be> (1:41)

Add two 2-digit numbers using partitioning – a first step to mental calculation

This video clip shows adding two 2-digit numbers by first splitting them into their component parts of tens and ones. The final addition involves adding crossing tens.

<https://www.youtube.com/watch?v=rboeGFVD9qA&feature=youtu.be> (1:15)

Add two 2-digit numbers using partitioning and an open number line to support mental calculation

This video clip shows adding two 2-digit numbers by adding the tens first to the first number then the ones. It also shows that when the child is confident that they can split the number to be added into tens and ones and show this on the open number line in two distinct jumps.

<https://www.youtube.com/watch?v=B8xTMrDgjfQ&feature=youtu.be> (2:24)

Add two 2-digit numbers using an expanded form

This video clip shows in clear steps how to add two 2-digit numbers by breaking the numbers into their component parts of tens and ones and recording them in a column so that the tens and ones are aligned. It continues to show the addition of two 3-digit numbers. It does not show regrouping, but the steps shown could support the preparation for formal written methods.

<https://www.youtube.com/watch?v=F1j9HkKFco0&feature=youtu.be> (4:51 but 2:12 for just 2 digits)

Addition of two 2-digit numbers with regrouping recorded in columns

This video shows the move from using concrete objects (dienes) and recording the two 2-digit numbers aligned in columns of tens and ones when the total of the ones is larger than 9. It shows in 6 examples the total of the ones being split or partitioned into tens and ones and how to record this in a column.

<https://www.youtube.com/watch?v=VPsYRPdIlpU&feature=youtu.be/> (3:55 or 2:25 for 3 examples)