Dancing digits

Children use place value addition and subtraction to write chains which 'swap' the 10s and 1s digits.

Skills practised:

- Understanding the value of each digit in two-digit numbers
- Using place value to add and subtract

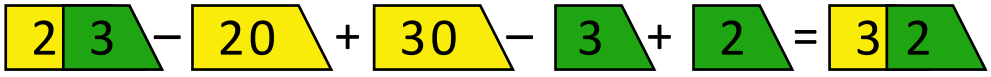
Conjecture: *It is possible to add and subtract so that the digits in a two-digit number swap.*

What to do:

Children work individually or in pairs.

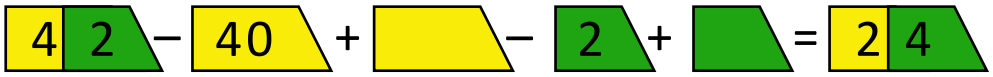
1. You will need the following place value cards for this challenge.

Copy this chain of calculations using the place value cards.

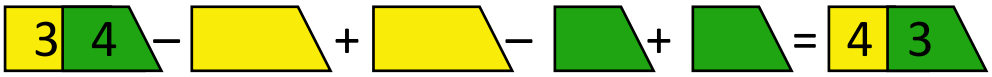


What has happened to the number? 23 has become____!

2. Write in the missing numbers on the place value cards in this chain of calculations.



3. Continue this chain to make the digits swap!



4. Now make up your own chains using the cards 20, 30, 40, 2, 3 and 4.

How many different chains can you make? How many can you make beginning with the 20 card? And beginning with the 30 card? And with the 40 card? So how many altogether?

Aims:

- To understand what is necessary to subtract and then add to make digits 'swap'
- To consolidate understanding of place value in two-digit numbers

Minimum number of calculations expected

9 chains

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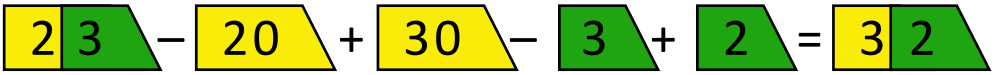

What has happened to the number 23? It has become____!

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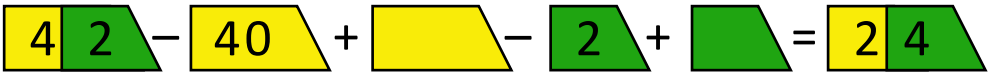

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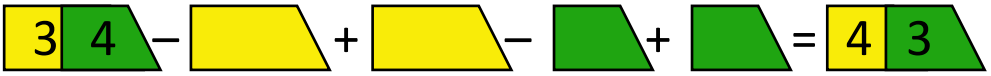

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