Castlefield School- Maths

Topic: Addition and Subtraction within 10 000 000	Year: Six	Theme: Addition and Subtraction

Key concepts and questions

Which operation should be used?

- There will be key words within the question to help you. For addition, ***add, altogether, combined, total, how many, sum, and increase.*** For subtraction, ***difference, decrease, how many more, how many left, less than, minus, subtract, reduce, remove, take away.***

Why must column addition and subtraction always begin from the ones column?

- In addition, you may need to carry by exchanging. For example, 10 ones for 1 ten or 10 tens for 1 hundred.
- In subtraction, you may need to borrow by exchanging. For example, 1 hundred for 10 tens, 1 ten for 10 ones.

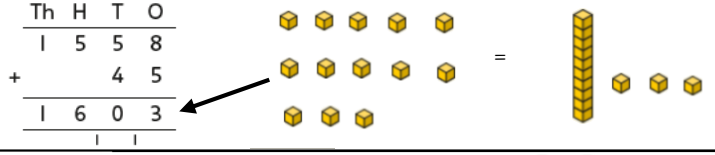
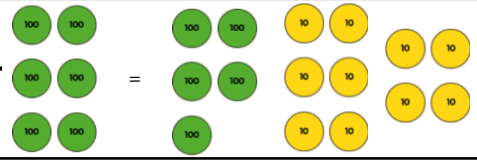
What is bridging?

Bridging is adding or subtracting across a multiple of 10, 100, 1 000, 10 000, 100 000 or 1 000 000 e.g. 137+6. 7+6 is > 10 so it will bridge the next multiple of 10.

Making connections

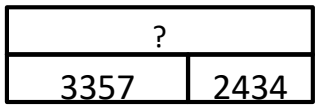
Place value	Both column addition and subtraction use place value, it is important that the columns are lined up correctly. If there is a 0 in a number, this is a placeholder, it needs to be put in the correct column, e.g. 603, the 0 tells us there are no tens. Th H T O 1 8 14 12 − 1 5 5 8 3 9 4 H T O 1 2 3 + 6 9 4 8 1 7 1
Efficient methods	Use mental methods and known facts to choose the quickest and most accurate method for addition and subtraction.

Key Vocabulary

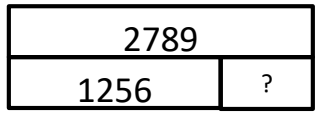
column addition	Th H T O 1 5 5 8 + 4 5 1 6 0 3 
column subtraction	H T O 5 1 6 0 3 - 1 9 2 4 1 1 
inverse	12+10=22 so 22-10=12
exchanging	Exchange in addition e.g. 10 ones for 1 ten. This is sometimes called carrying. Exchange in subtraction e.g. 1 ten for 10 ones. This is sometimes called borrowing.
total	The whole
finding the difference	The difference between two numbers
commutative	Addition can be done either way round

Representations

Bar models

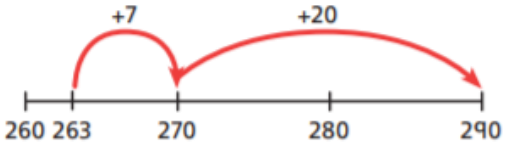


3357 + 2434 = ?

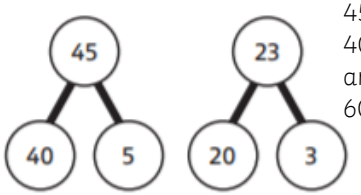


2789 − 1256 = ?

Numberlines



Part whole models – mental calculations



45 + 23
40 + 20 = 60
and 5+3 = 8
60 + 8 = 68

Help with counting on and back, and are useful for visualising bridging multiples of 10, 100, 1 000, 10 000, 100 000 and 1 000 000