Maths - Year 6

Calculating 4: Column methods for adding and subtracting

Key Vocabulary

Bridging	Partitioning the number to be added or subtracted to help with calculating.
Complements	Numbers that are added together to make a given
Adjusting	Make a small change to a calculation to support working out.
Compensating	Reformulating an addition, subtraction, multiplication, or division problem to one that can be calculated more easily.
Partitioning	Splitting a number in different ways.
Regrouping	Rearranging numbers into groups by place value to make it easier to carry out operations.
Balancing	A calculation where both sides are equal to the same amount.
Inverse	The reverse or the opposite.
Equivalence	At least two numbers or quantities are the same or equal to each other.
Currency	A system of money in general use.
Exchanging/ carrying	Transferring digits from one place value column to another to support calculating.
Rounding	Increasing or decreasing a number or amount to make it closer to (usually) a multiple of ten, or a whole measuring unit, e.g. rounding 353 to 350 or 89 cm to 1 metre.

Mathematical Skills

- Accurately give the column and quantity values of the digits in a number or measurement, including those after the decimal point.
- Review the numbers in an adding or subtracting calculation and choose an appropriate method of calculation, giving reasons for their choice.
- Check an adding or subtracting calculation using an appropriate method.
- Draw on unknown number facts to carry out calculations efficiently.
- Recognise from the numbers in a calculation when redistribution or carrying in needed.
- Add and subtract confidently and accurately with whole numbers and decimals using a written column method.
- Explain that when the same amount is added to each number in a subtracting calculation ('equal additions') the answer stays the same, and explain the equal additions method of subtracting in these terms.
- Explain the inverse relationship between adding and subtracting and use it to solve problems and check calculations.

Mathematical Methods

- Using the column method for adding, including decimals.

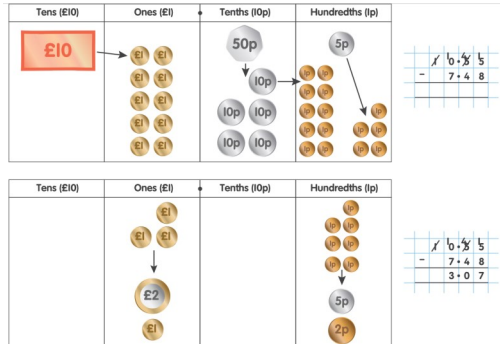| Item	Number in stock	Average mass (kg)
Fruit		
Apples	156	0·132
Plums	269	0·078
Oranges	194	0·24
Vegetables		
Cherry tomatoes	1289	0·028
Peppers	127	0·283
Green beans	1048	0·008
New potatoes	1254	0·05
Onions	172	0·1
Courgettes	85	0·178
Carrots	108	0·06

- Practising subtracting using a column method with redistribution e.g. At the start of the day, a local café buys 78 of every fruit and vegetable. How many of each is left on the stall?

Item	Number in stock	Average mass (kg)
Fruit		
Apples	156	0·132
Plums	269	0·078
Oranges	194	0·24
Vegetables		
Cherry tomatoes	1289	0·028
Peppers	127	0·283
Green beans	1048	0·008
New potatoes	1254	0·05
Onions	172	0·1
Courgettes	85	0·178
Carrots	108	0·06

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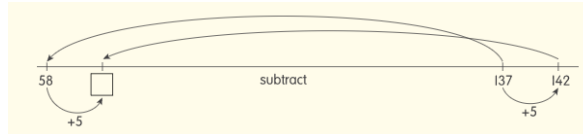$$-\qquad\quad 7\ \ 8$$
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You have £10.55 in your purse and would like to buy 1kg of cherry tomatoes. How much will you have left after buying tomatoes?

Item	Price per kilo
Apples	£3·40
Plums	£3·99
Oranges	£1·75
Cherry tomatoes	£7·48
Peppers	£4·35
Green beans	£5·36
New potatoes	£3·98
Onions	£0·80
Courgettes	£1·90
Carrots	£0·90

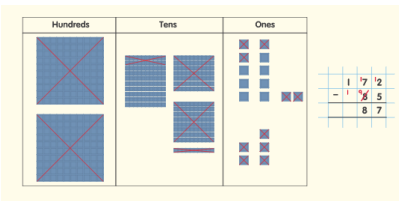

- Introducing the column method of subtracting using 'equal additions'.
  E.g. Can you work out the missing number without working out 137 - 58?

$$137 - 58 = 142 - \square$$

172 - 85

5.36 - 1.75

- Using column methods for adding and subtracting in numerical problem solving.

Can you..?

- Solve   75 916·274 + 649 218·08

- Solve   487 349·409 − 24 937·827