Maths Workshop

Wednesday 11th February 2015

Curriculum

Addition and subtraction

Multiplication and division

Fractions

Geometry

Measurement

Statistics

Addition and Subtraction

- add and subtract numbers mentally including; a three digit number and ones, a three digit number and tens; a three digit number and hundreds
- round any number to the nearest 10, 100 or 1000
- add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
- estimate and use inverse operations to check answers to a calculation
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

Multiplication and Division

- recall multiplication and division facts for multiplication tables up to 12 × 12
- recognise and use factor pairs and commutativity in mental calculations 3x4=4x3
- use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- multiply two-digit and three-digit numbers by a one-digit number using formal written layout
- solve problems involving multiplying and dividing

Fractions

- count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten
- find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
- recognise and write decimal equivalents of any number of tenths or hundredths
- recognise and write decimal equivalents to $^{1}/_{4}$; $^{1}/_{2}$; $^{3}/_{4}$
- round decimals with one decimal place to the nearest whole number
- compare numbers with the same number of decimal places up to two decimal places

Fractions and decimals (contd)

- recognise and show, using diagrams, families of common equivalent fractions
- add and subtract fractions with the same denominator
- solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number
- solve simple measure and money problems involving fractions and decimals to two decimal places

Number and place value

- read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value
- recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)
- order and compare numbers beyond 1000
- find 1000 more or less than a given number
- round any number to the nearest 10, 100 or 1000
- identify, represent and estimate numbers using different representations
- count backwards through zero to include negative numbers
- count in multiples of 6, 7, 9, 25 and 1000
- solve number and practical problems that involve all of the above and with increasingly large positive numbers

Geometry

- compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
- identify acute and obtuse angles and compare and order angles up to two right angles by size
- identify lines of symmetry in 2-D shapes presented in different orientations
- complete a simple symmetric figure with respect to a specific line of symmetry
- describe positions on a 2-D grid as coordinates in the first quadrant
- describe movements between positions as translations of a given unit to the left/right and up/down
- plot specified points and draw sides to complete a given polygon

Measurement

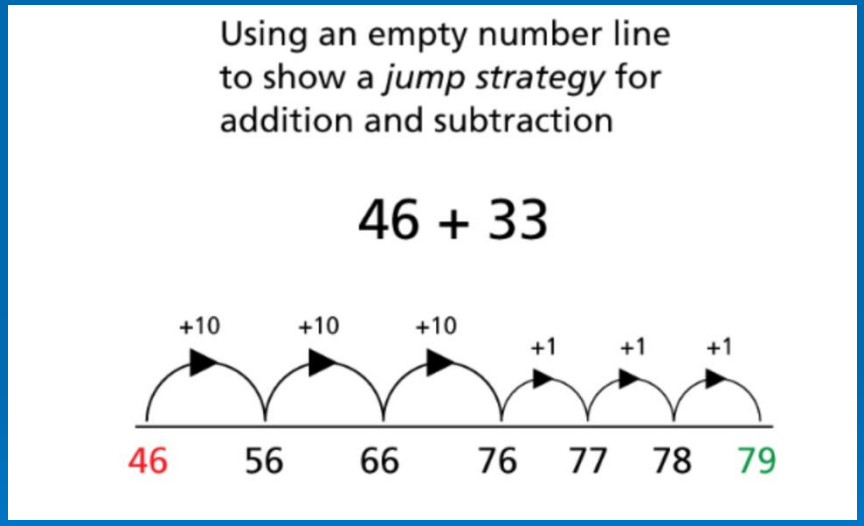
- Estimate, calculate and compare different measures, including money in pounds and pence
- convert between different units of measure (for example, kilometre to metre; hour to minute)
- read, write and convert time between analogue and digital 12 and 24-hour clocks
- solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days
- measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
- find the area of rectilinear shapes by counting squares

Statistics

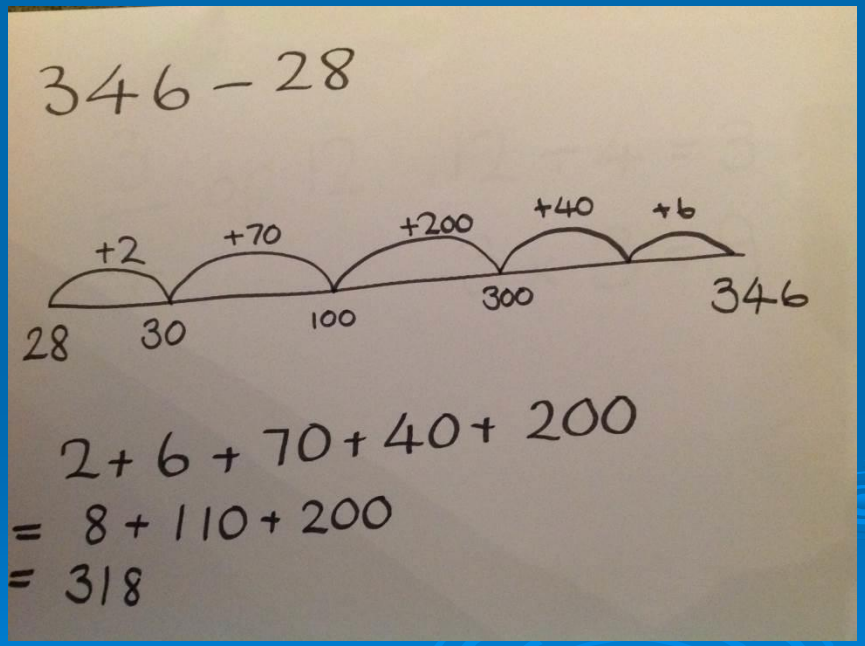
- interpret and present discrete and continuous data using appropriate graphical methods
- solve comparison sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

Methods used

Empty number line to add

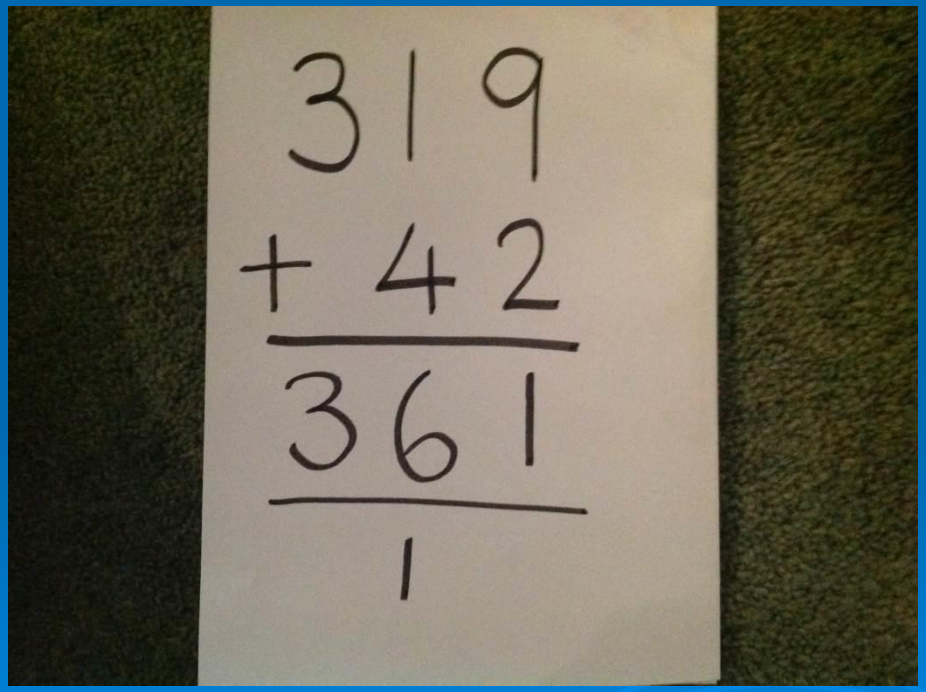


Empty number line to subtraction

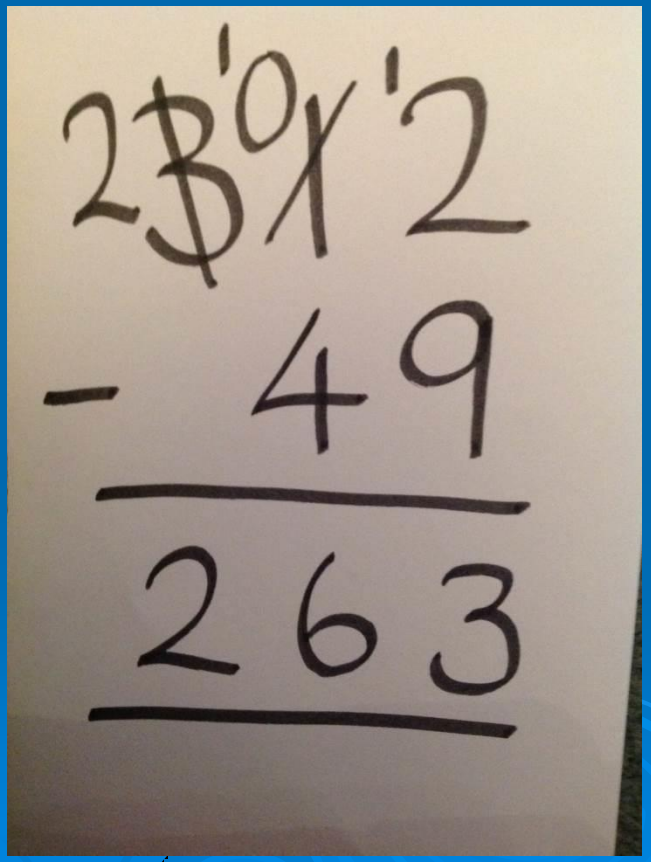


Methods used (contd)

Column Addition

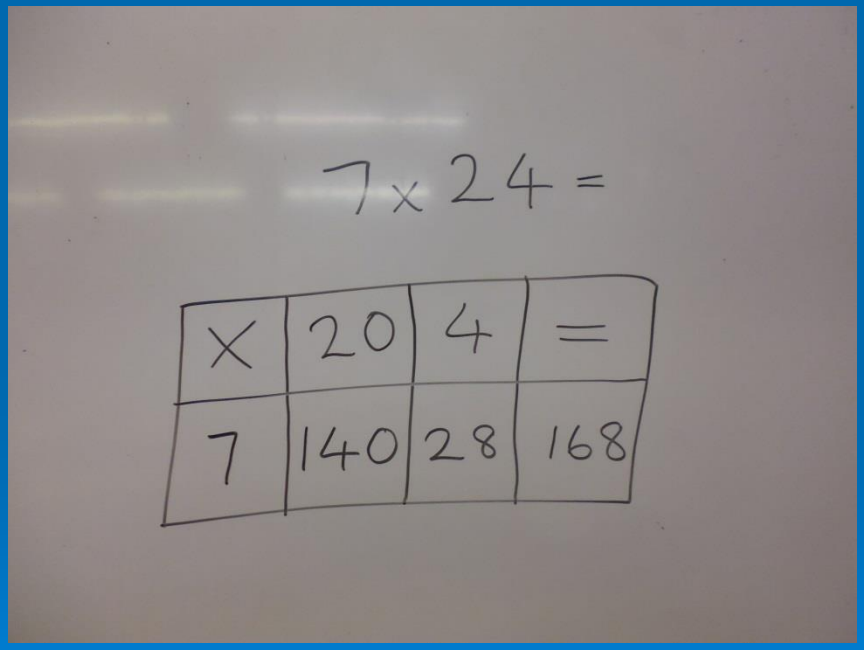


Column Subtraction

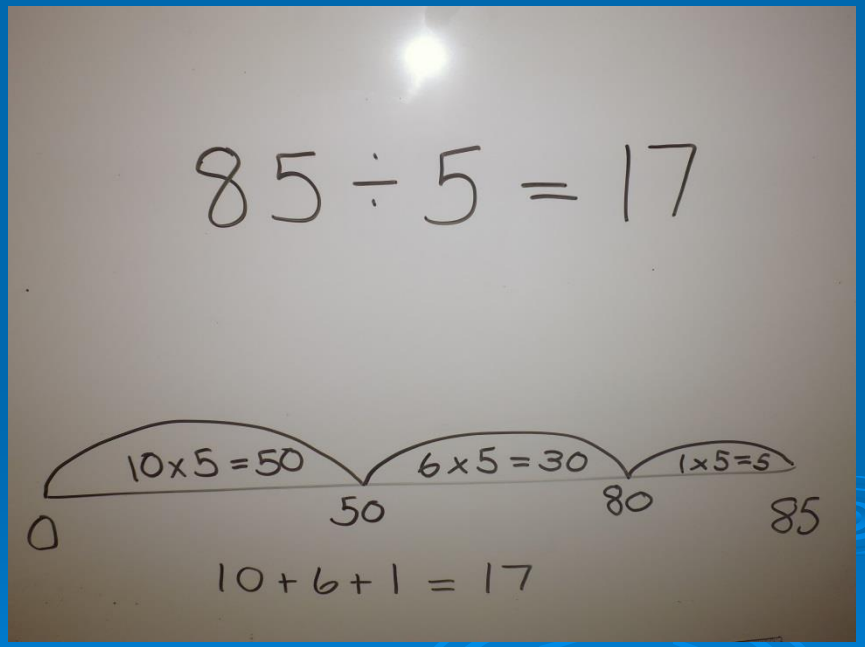


Methods used (contd)

Multiplication using grid method



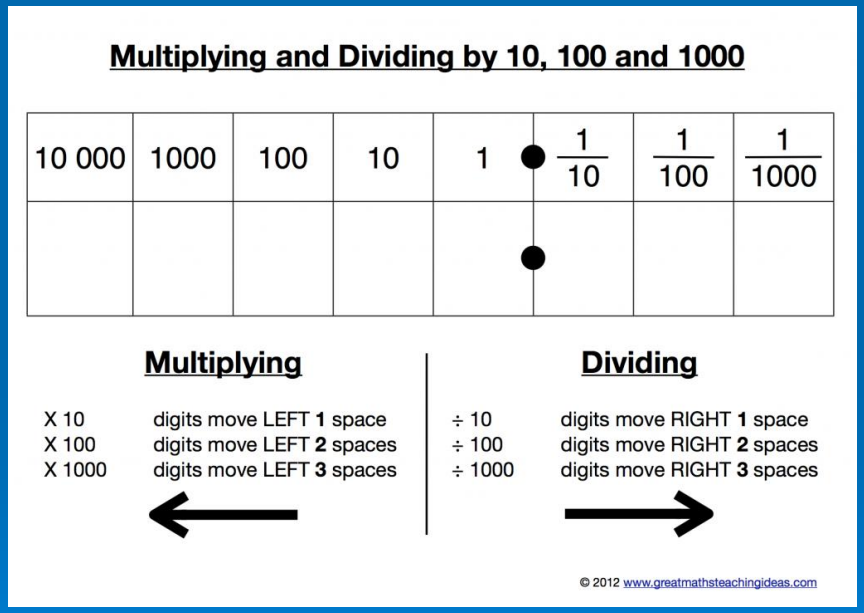
Division using chunking



Methods used (contd)

Multiply and divide by 10 and 100

Fractions of an amount



Multiplying and Dividing by 10, 100 and 1000

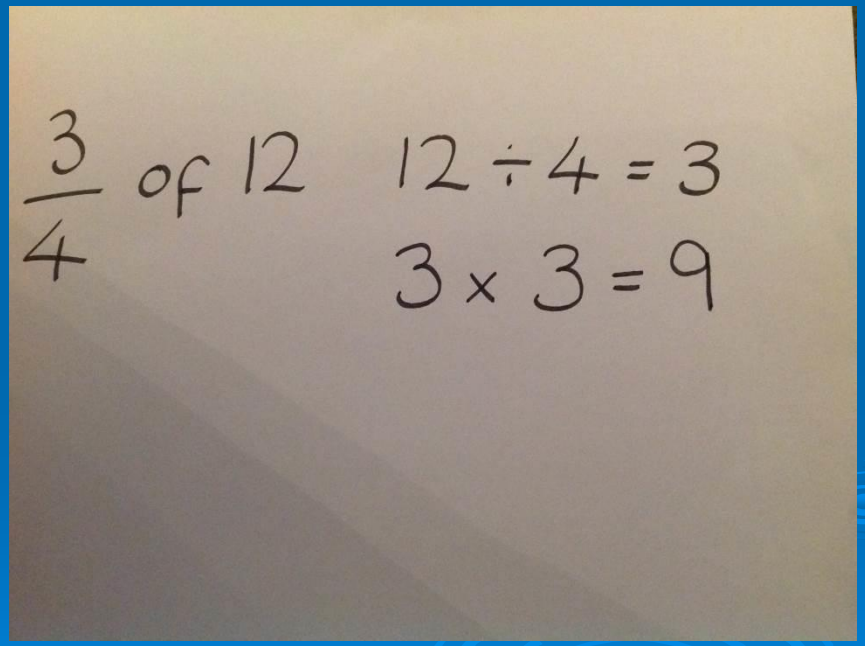
10 000	1000	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$

Multiplying

X 10 digits move LEFT **1** space
X 100 digits move LEFT **2** spaces
X 1000 digits move LEFT **3** spaces

Dividing

÷ 10 digits move RIGHT **1** space
÷ 100 digits move RIGHT **2** spaces
÷ 1000 digits move RIGHT **3** spaces



What you can do at home

- Play pig – a game for 2, roll a dice and add to the total, switch to the other person if you get a 1, first to 100
- Practise times tables – CD, chanting, practice
- Add up and subtract numbers
- Rising stars books