

Number Facts: Year 3

Number and place value

Pupils should be taught to:

- count from 0 in multiples of 4, 8, 50 and 100
- find 10 or 100 more or less than a given number up to 1000

Addition and subtraction

Pupils should be taught to:

- derive complements to 100
- add and subtract numbers mentally, including:
 - a three-digit number and ones
 - a three-digit number and tens
 - a three-digit number and hundreds

Multiplication and division

Pupils should be taught to:

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods

Fractions

Pupils should be taught to:

- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)

Measurement

Pupils should be taught to:

- measure, compare, add and subtract lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- know the number of seconds in a minute and the number of days in each month, year, and leap year

Number Facts: Number and place value

- Know the sequence of counting in 50's.
- Know the sequence of counting in 100's

Number Facts: Measure

- 60 seconds = 1 minute
- How many days in each month / year / leap year.
- Find complements to 60.
- 50p x 2 = £1.00 £50 x 2 = £100
- 25 p x 4 = £1.00 £25 x 4 = £100
- 20p x 5 = £1.00 £20 x 5 = £100
- 1000 g = 1kg 1000ml = 1l
- 1000 m = 1km
- 1000 ÷ 2 = 500 1000 ÷ 4 = 250
- $\frac{1}{2}$ l/kg/km = 500
- $\frac{1}{4}$ l/kg/km = 250
- $\frac{3}{4}$ l/kg/km = 750

Number Facts: Fractions

- $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10}$
- $\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \frac{5}{5} = 1$ whole
- $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{6}{6} = 1$ whole
- $\frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7} = \frac{7}{7} = 1$ whole
- $\frac{1}{8} + \frac{1}{8} = \frac{8}{8} = 1$ whole
- $\frac{1}{9} + \frac{1}{9} = \frac{9}{9} = 1$ whole
- $\frac{1}{10} + \frac{1}{10} = \frac{10}{10} = 1$ whole
- Understand fraction facts related to whole number facts
- $1 + 5 = 6$ (Year 1) linked to $\frac{1}{6} + \frac{5}{6} = \frac{6}{6}$ (Year 3)

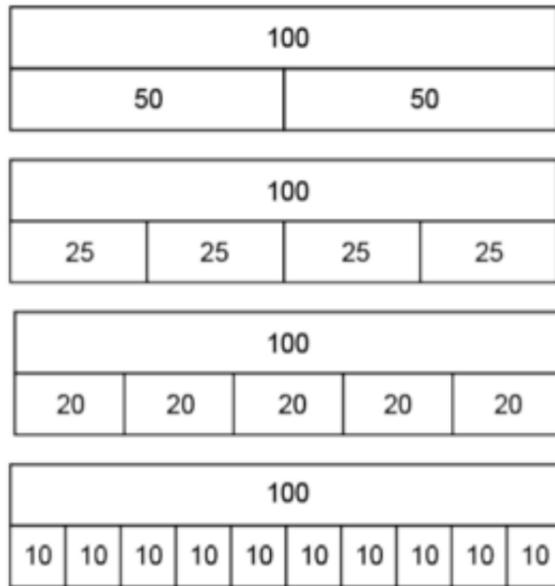
Number facts: Addition and subtraction

- Know or derive all the complements to 100
 $x + y = 100$; $x = ?$ and $y = ?$
- Know pairs of multiples of 100 that total 1000
 $1 + 9 = 10$ (Year 1)
 $10 + 90 = 100$ (Year 2)
 $100 + 900 = 1000$ (Year 3)
- Add and subtract numbers with up to 3 digits (e.g. $253 + 75 = 328$)

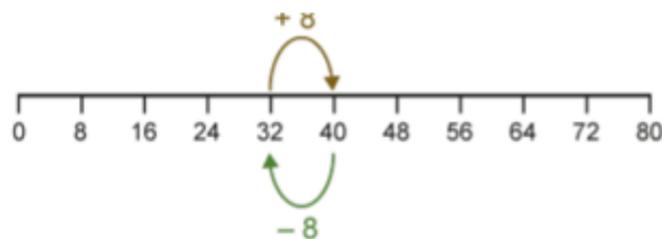
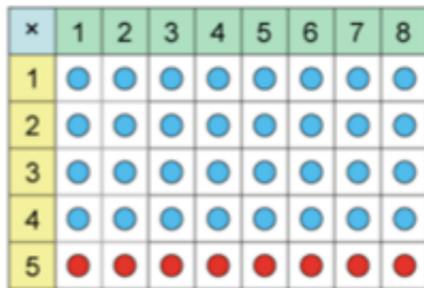
Number Facts: Multiplication and division

- Know the 3x, 4x and 8x table and the related division facts
- Understand that doubling means x 2
- Understand that halving means ÷ 2
- Know that...
 $50 \times 2 = 100$; $25 \times 4 = 100$; $20 \times 5 = 100$

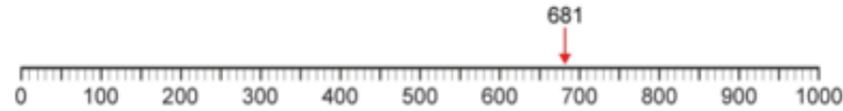
Mathematical models and images to support conceptual understanding underpinning key facts in Year 3



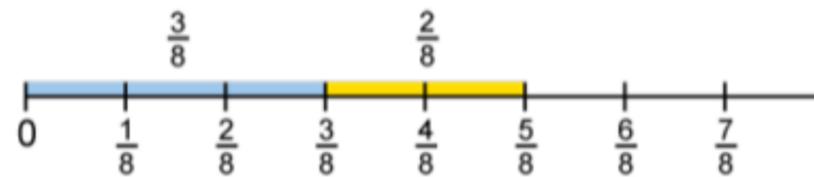
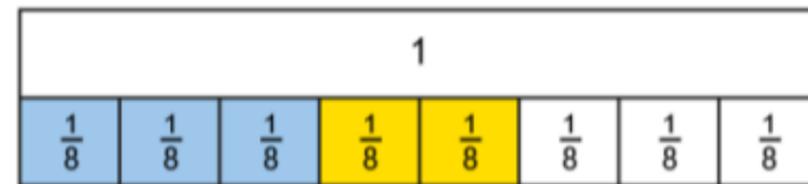
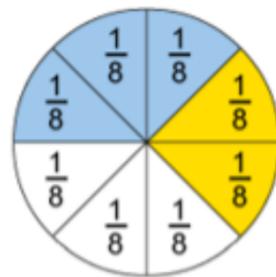
Bar models showing 100 partitioned into 2, 4, 5 and 10 equal parts.



Number line and array showing that adjacent multiples of 8 (32 and 40) have a difference of 8

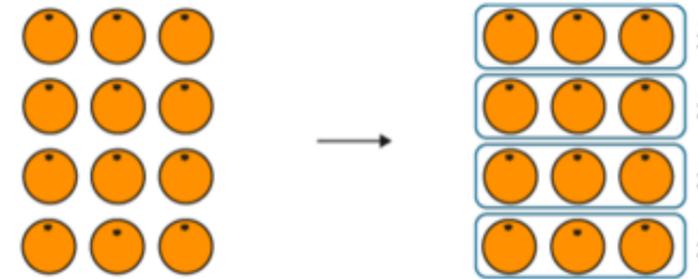


Number line to identify previous and next multiples of 100

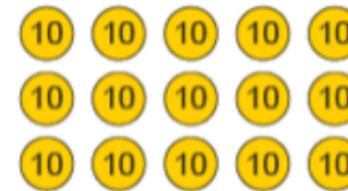
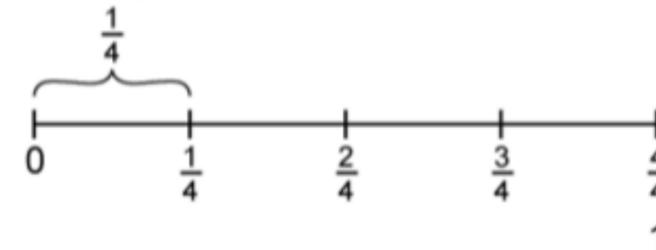


$$\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$$

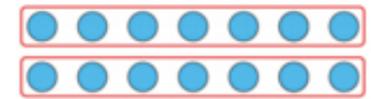
$$\frac{5}{8} - \frac{2}{8} = \frac{3}{8}$$



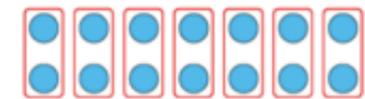
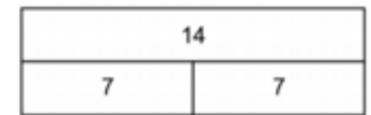
12 oranges divided into four equal parts



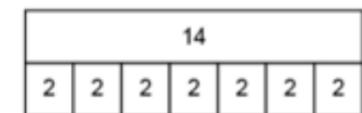
10-value place value counters in a 3-by-5 array to show $3 \times 50 = 30 \times 5 = 150$



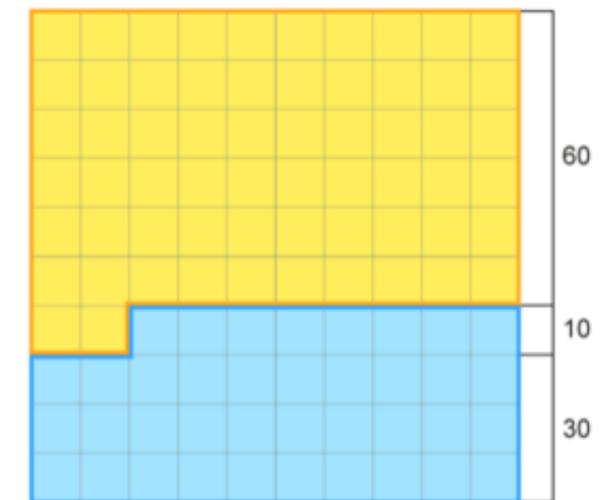
$$14 + 2 = 7$$



$$14 + 2 = 7$$



$$7 \times 2 = 2 \times 7$$



100-grid to show the complement $62 + 38 = 100$