Year 4 Maths Knowledge Organiser

The Learning for Life Partnership

Multiplication tables – the 144 facts I need to know by the end of Y4

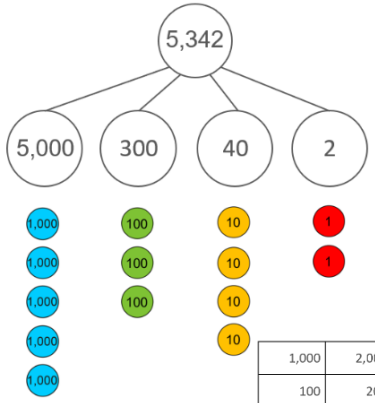
1 × 1	1 × 2	1 × 3	1 × 4	1 × 5	1 × 6	1 × 7	1 × 8	1 × 9	1 × 10	1 × 11	1 × 12
2 × 1	2 × 2	2 × 3	2 × 4	2 × 5	2 × 6	2 × 7	2 × 8	2 × 9	2 × 10	2 × 11	2 × 12
3 × 1	3 × 2	3 × 3	3 × 4	3 × 5	3 × 6	3 × 7	3 × 8	3 × 9	3 × 10	3 × 11	3 × 12
4 × 1	4 × 2	4 × 3	4 × 4	4 × 5	4 × 6	4 × 7	4 × 8	4 × 9	4 × 10	4 × 11	4 × 12
5 × 1	5 × 2	5 × 3	5 × 4	5 × 5	5 × 6	5 × 7	5 × 8	5 × 9	5 × 10	5 × 11	5 × 12
6 × 1	6 × 2	6 × 3	6 × 4	6 × 5	6 × 6	6 × 7	6 × 8	6 × 9	6 × 10	6 × 11	6 × 12
7 × 1	7 × 2	7 × 3	7 × 4	7 × 5	7 × 6	7 × 7	7 × 8	7 × 9	7 × 10	7 × 11	7 × 12
8 × 1	8 × 2	8 × 3	8 × 4	8 × 5	8 × 6	8 × 7	8 × 8	8 × 9	8 × 10	8 × 11	8 × 12
9 × 1	9 × 2	9 × 3	9 × 4	9 × 5	9 × 6	9 × 7	9 × 8	9 × 9	9 × 10	9 × 11	9 × 12
10 × 1	10 × 2	10 × 3	10 × 4	10 × 5	10 × 6	10 × 7	10 × 8	10 × 9	10 × 10	10 × 11	10 × 12
11 × 1	11 × 2	11 × 3	11 × 4	11 × 5	11 × 6	11 × 7	11 × 8	11 × 9	11 × 10	11 × 11	11 × 12
12 × 1	12 × 2	12 × 3	12 × 4	12 × 5	12 × 6	12 × 7	12 × 8	12 × 9	12 × 10	12 × 11	12 × 12

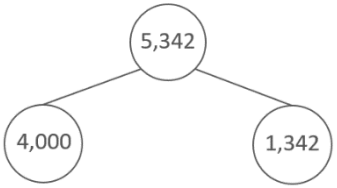
Roman numerals to 100

I = 1 **V = 5** **X = 10** **L = 50** **C = 100**

I	II	III	IV	V	VI	VII	VIII	IX	X
XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX
XXI	XXII	XXIII	XXIV	XXV	XXVI	XXVII	XXVIII	XXIX	XXX
XXXI	XXXII	XXXIII	XXXIV	XXXV	XXXVI	XXXVII	XXXVIII	XXXIX	XL
XLI	XLII	XLIII	XLIV	XLV	XLVI	XLVII	XLVIII	XLIX	L
LI	LII	LIII	LIV	LV	LVI	LVII	LVIII	LIX	LX
LXI	LXII	LXIII	LXIV	LXV	LXVI	LXVII	LXVIII	LXIX	LXX
LXXI	LXXII	LXXIII	LXXIV	LXXV	LXXVI	LXXVII	LXXVIII	LXXIX	LXXX
LXXXI	LXXXII	LXXXIII	LXXXIV	LXXXV	LXXXVI	LXXXVII	LXXXVIII	LXXXIX	XC
XCI	XCII	XCIII	XCIV	XCV	XCVI	XCVII	XCVIII	XCIX	C

I know the place value in 4-digit numbers



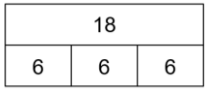


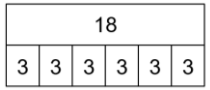
1,000s	100s	10s	1s
5	3	4	2

1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9

5,000 + 300 + 40 + 2 = 5,342

Interpreting bar models

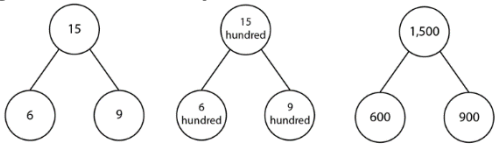




6 x 3 = 18 18 ÷ 6 = 3 $\frac{1}{6}$ of 18 = 3

3 x 6 = 18 18 ÷ 3 = 6 $\frac{1}{3}$ of 18 = 6

Scaling number facts by 100



6 + 9 = 15 so 6 hundred + 9 hundred = 15 hundred

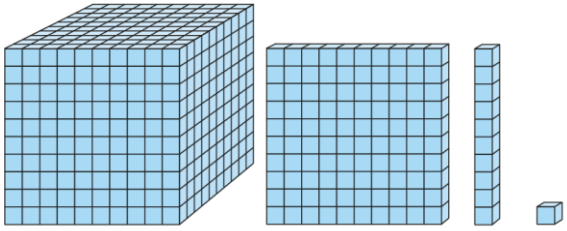
15 hundred = 1,500

Equivalence

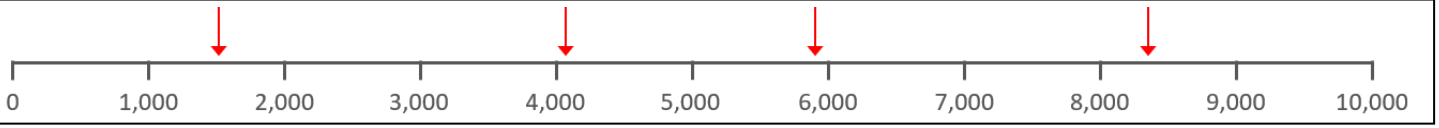
I know that 10 ones are equal to 1 ten

I know that 10 tens are equal to 1 hundred

I know that 10 hundreds are equal to 1 thousand

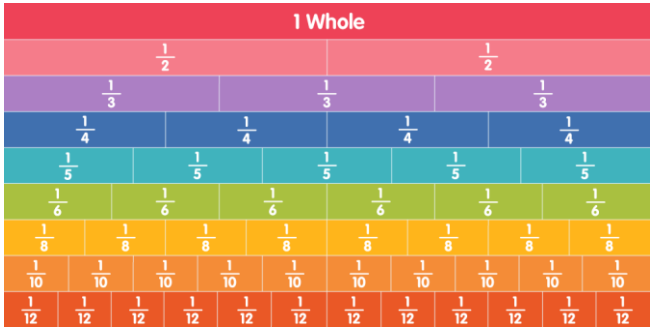


Placing 4-digit numbers on a number line and identifying previous and next multiples of 1,000.



The Learning for Life Partnership

Fractions



$\frac{1}{2}$ is equal to $\frac{2}{4}, \frac{3}{6}, \frac{4}{8}, \frac{5}{10}, \frac{6}{12}$ and any other fraction where the numerator is double the denominator e.g. $\frac{50}{100}$.

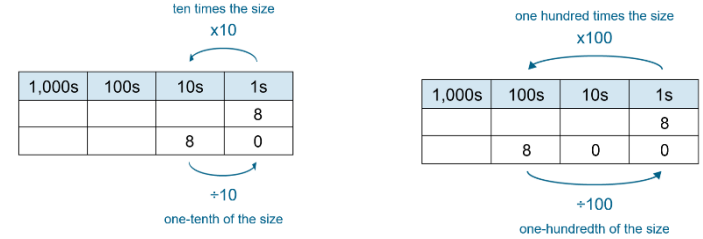
$\frac{1}{4}$ is equal to $\frac{2}{8}, \frac{3}{12}, \frac{4}{16}$ and any other fraction where the numerator **4 times** smaller than the denominator e.g. $\frac{25}{100}$.

Decimal equivalence

$\frac{1}{2} = 0.5$ $\frac{1}{4} = 0.25$ $\frac{3}{4} = 0.75$ $\frac{1}{100} = 0.01$

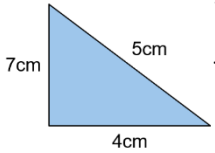
$\frac{1}{10} = 0.1$	$\frac{2}{10} = 0.2$	$\frac{3}{10} = 0.3$	$\frac{4}{10} = 0.4$	$\frac{5}{10} = 0.5$
$\frac{6}{10} = 0.6$	$\frac{7}{10} = 0.7$	$\frac{8}{10} = 0.8$	$\frac{9}{10} = 0.9$	$\frac{10}{10} = 1$
$\frac{10}{100} = 0.1$	$\frac{17}{100} = 0.17$	$\frac{23}{100} = 0.23$	$\frac{90}{100} = 0.9$	$\frac{100}{100} = 1$

Multiplying and dividing by 10 and 100



Measure – perimeter and area

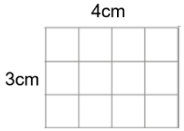
Perimeter is the distance around a shape.



7cm + 5cm + 4cm =16cm

The perimeter of the triangle is 16cm

Area is the amount of space taken up by a 2d shape. You multiply the width by the height.



4cm x 3cm = 12cm

The area of the rectangle is 12cm²

Telling the time

The big hand tells me information about the minutes.

The small hand tells me information about the hour.

60 seconds = 1 minute
60 minutes = 1 hour
24 hours = 1 day


5 minutes past 2


20 minutes past 2


50 minutes past 2

This is the same as 10 minutes to 3.


6 minutes past 5


27 minutes past 4

Digital clocks

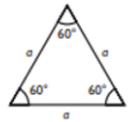
HH:MM

07:12 twelve minutes past 7 (morning)
19:12 twelve minutes past 7 (afternoon)
03:32 thirty-two minutes past 3 (morning)
15:32 thirty-two minutes past 3 (afternoon)

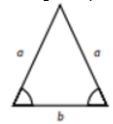
Geometry – types of triangle

Types of triangle

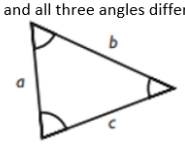
Equilateral triangle: all three sides and all three angles equal



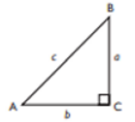
Isosceles triangle: two sides and two angles equal



Scalene triangle: all three sides and all three angles different sizes



Right-angled triangle: a triangle with a right-angle. Can be isosceles or scalene.

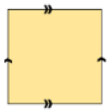


Angles

Acute angle = less than 90 degrees
Right angle = exactly 90 degrees
Obtuse angle = greater than 90 but less than 180 degrees

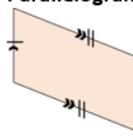
Types of quadrilaterals

Rectangle and Square



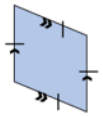
2 pairs of parallel sides
2 pairs of equal sides
All angles equal (all of the angles are right angles)

Parallelogram



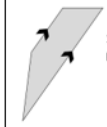
2 pairs of parallel sides
2 pairs of equal sides
The angles are not all equal

Rhombus



2 pairs of parallel sides
All sides are equal

Trapezium



1 pair of parallel sides