Mathematics Knowledge Organiser

Y4: Number & Fractions

Place Value

Say, write, say: thousands, hundreds, tens and ones

Th	H	T	O

"Two thousand, one hundred and twenty three"

2,221—two thousands, one hundred, 2 tens and three ones

Place value: the value of a digit based on its place in the number. Each place has a value 10x the column to the its right.
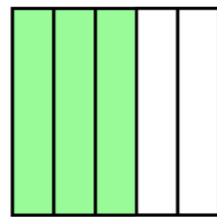
Positive: a number below 0

Negative: a number above 0

Digit: number symbols 0-10

Roman Numerals up to 100

1	=	I	10	=	X	
2	=	II	20	=	XX	
3	=	III	30	=	XXX	
4	=	IV	40	=	XL	
5	=	V	50	=	L	
6	=	VI	60	=	LX	
7	=	VII	70	=	LXX	
8	=	VIII	80	=	LXXX	
9	=	IX	90	=	XC	
			100	=	C	

Fractions
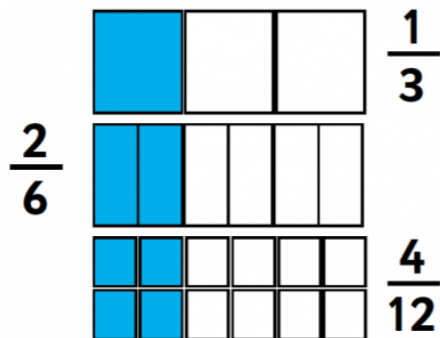
A fraction is **part of a whole.**

4 — numerator = number of parts

—— → fractions bar = divided by / out
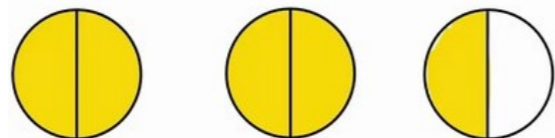
5 — denominator = number of parts in

Equivalent fractions

$$\frac{1}{3} = \frac{2}{6} = \frac{4}{12}$$

$\frac{1}{3}$

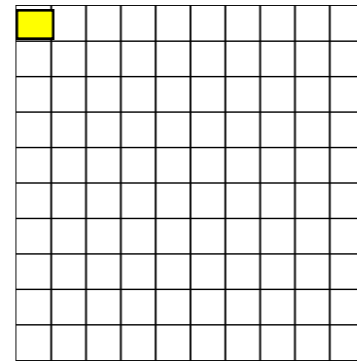$\frac{2}{6}$

$\frac{4}{12}$

A fraction can be split into wholes and parts.

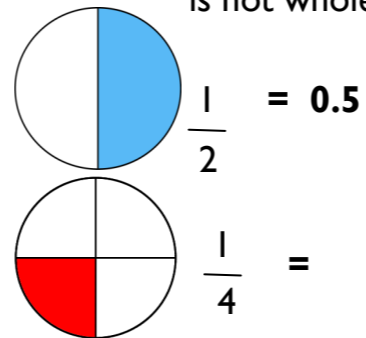$$\frac{5}{2} = 2\frac{1}{2}$$

Decimals
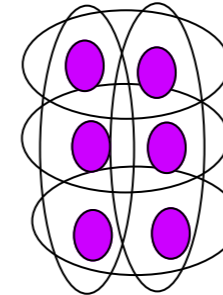
$$1 = \frac{100}{100}$$

$$0.1 = \frac{1}{10}$$

$$0.01 = \frac{1}{100}$$

A **decimal point** comes after the ones column when the number includes a fraction and is not whole.

$\frac{1}{2} = 0.5$

$\frac{1}{4} =$

Ones		Tenths	Hundredths
1	•	$\frac{1}{10}$	$\frac{1}{100}$
3		4	5
"three	point	four	five"

Multiplication facts

$3 \times 2 = 6$

$2 \times 3 = 6$

$6 \div 3 = 2$

$6 \div 2 = 3$

Times tables fact to 12 x12

Factor Pairs

3×8

2×12

24

1×24

4×6
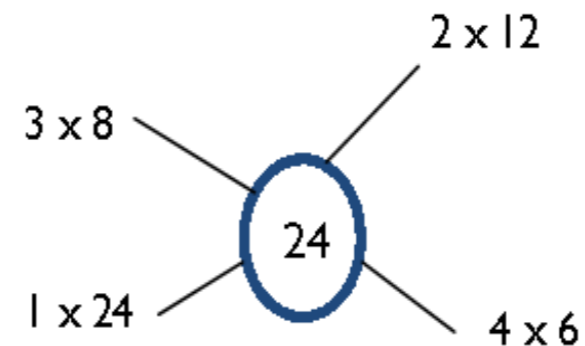
Multiples

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120

Calculations

Part + Part = Whole

64	
52	12

148

100 48
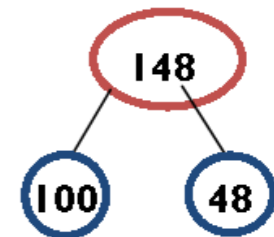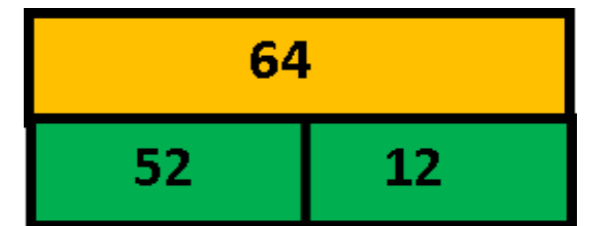
Fast recall of number bonds to 20

$? + 5 = 20$

$20 - 7 = ?$
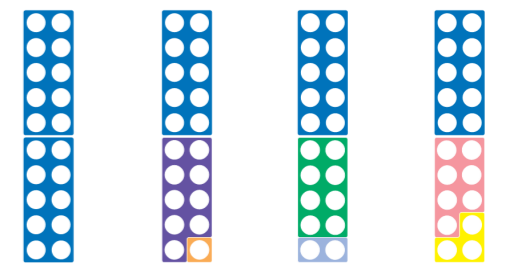
$20 =$	$1 + 19$	$2 + 18$	$3 + 17$

Greater than and less than

= means **the same as**

greater than	less than	equal to
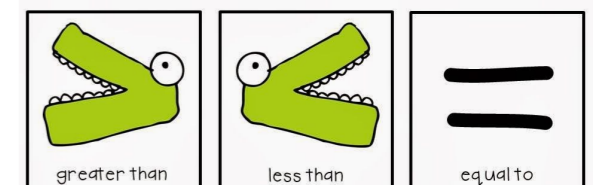
Factor x factor = product

Subtrahend - minuend = difference