Year 3 Maths Summer Term 1 – Fractions

Fractions vocabulary

Sharing (y1)	Grouping (y1)
Fraction (y1)	Equal parts (y1)
Half (y1)	Quarter (y1)
Third (y2)	Equivalent (y2)
part (y1)	Whole (y1)
Numerator (y2)	Denominator (y2)
one and a quarter (y2)	half as much (y2)
one and 2 quarters (y2)	twice as much (y2)
one and a half (y2)	one and 3 quarters (y2)

New Vocabulary

unit-fraction	non-unit fractions
tenths	ninths
eighths	sevenths
sixths	fifths
thirds	

Recognising Fractions

$$\frac{3}{8}$$

Numerator How many equal parts of the whole are needed?

Denominator How many equal parts are in the whole?

$$\frac{3}{5}$$

3 parts of this circle are coloured in purple. There a 5 parts altogether.

3 parts out of 5 parts are coloured in red.

3 out of 5 counters are orange.

3 out of the 5 sweets are cola bottles.

Three fifths of the children are boys.

Counting in tenths

$$0 \quad \frac{1}{10} \quad \frac{2}{10} \quad \frac{3}{10} \quad \frac{4}{10} \quad \frac{5}{10} \quad \frac{6}{10} \quad \frac{7}{10} \quad \frac{8}{10} \quad \frac{9}{10} \quad 1$$

Adding fractions with the same denominator.

$$\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$$

The denominators are both the same number so we leave them as they are, they don't get added together (this is very important).
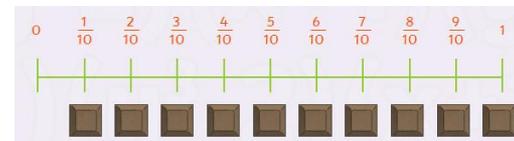
Subtracting fractions with the same denominator

• Write down your calculation.
• Your answer will have the same denominator.
• Find the difference between the numerators – you have you answer!

Numerator:

Denominator:

$$\frac{5}{6} - \frac{3}{6} = \frac{2}{6}$$

Finding fractions of amounts.

There are 7 sweets altogether so the denominator is 7.

$$\overline{7}$$

4 of the sweets are blue so four sevenths are blue.

$$\frac{4}{7}$$
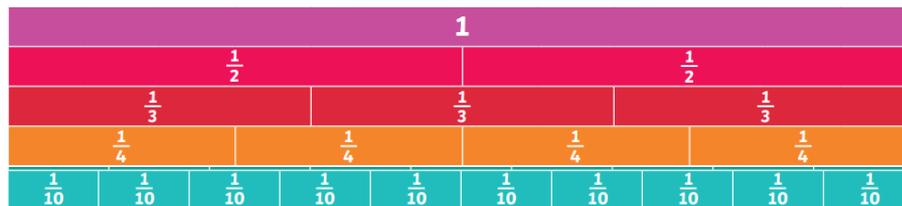
Finding fractions of shapes

There are 8 equal pieces so the denominator is 8.

$$\frac{1}{8}$$

1 of the equal pieces is shaded so one eigth is shaded.

$$\frac{2}{10} + \frac{4}{10} = \frac{6}{10}$$

$$\frac{3}{5} - \frac{2}{5} = \frac{1}{5}$$

Equivalent fractions

1									
$\frac{1}{2}$					$\frac{1}{2}$				
$\frac{1}{3}$			$\frac{1}{3}$			$\frac{1}{3}$			
$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$			$\frac{1}{4}$		
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

Year 3 Maths - Multiplication and Division B- Spring and Summer

Previously Learned Vocabulary

Shared (y1)	Groups (y1)
Multiply (y2)	Array (y2)
Divide (y2)	Commutative (y2)
Division (y2)	times tables (y2)
skip counting (y1)	lots of (y2)
groups of (y2)	

New Vocabulary

inverse operation	multiples

Commutativity of multiplication

Understanding multiplication as equal groups of and that multiplication is commutative.

There are 3 equal groups of 4.

$3 \times 4 = 12$ or $4 \times 3 = 12$
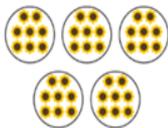
There are 5 equal groups of 8.

$5 \times 8 = 40$ or $8 \times 5 = 40$

Using known multiplication facts and partitioning to answer 2 digit by 1 digit calculations :

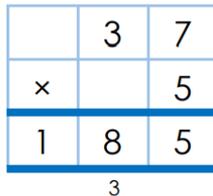## Formal written methods of multiplication

$32 \times 3 = 96$

We always begin with our ones column.
3 ones multiplied by 2 ones is 6 ones. Then, we multiply our 1 digit number by the tens. 3 ones multiplied by 3 tens is 9 tens.

t	o
3	2
×	3
9	6

$37 \times 5 = 185$

	3	7
×		5
1	8	5

3
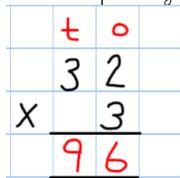
If our ones exceed 9, we need to exchange.
5 ones multiplied by 7 ones is 35. 35 is made up of 3 ten and 5 ones so we put the 5 in the one's column and the 3 ten in the ten's column.
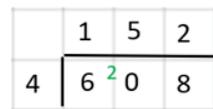5 ones multiplied by 3 tens is 150, add the extra 3 tens and it equals 180.
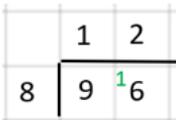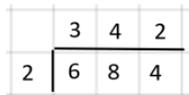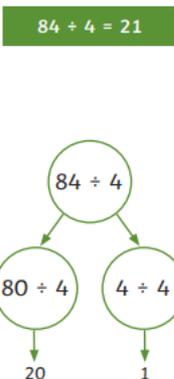
Related calculations

If the calculation is ten times bigger, then the answer will also be ten times bigger.

5 x 1 = 5	5 x 10 = 50
5 x 2 = 10	5 x 20 = 100
3 x 4 = 12	3 x 40 = 120
4 x 4 = 16	4 x 40 = 160

Informal and formal written methods of division

Tens	Ones

$84 \div 4 = 21$

$84 \div 4$

$80 \div 4$ $4 \div 4$

20   1

	2	2
3	6	6

	3	4	2
2	6	8	4

	1	2
8	9	6¹

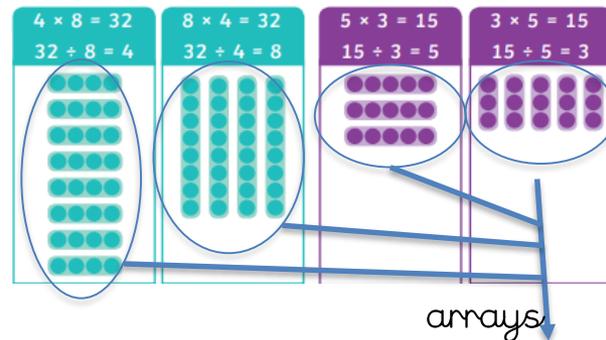|	1	5	2
4	6	2²0	8

Diagrams to help:

1 equal group of 8 and 1 remaining   1 equal group of 4 and 2 remaining

Link multiplication and division

Multiplication is the inverse of division. Division is the inverse of multiplication. The arrays below show the relationship between the two operations in the form of an array.

4 × 8 = 32	8 × 4 = 32	5 × 3 = 15	3 × 5 = 15
32 ÷ 8 = 4	32 ÷ 4 = 8	15 ÷ 3 = 5	15 ÷ 5 = 3

arrays