MENTAL MATHS KEY SKILLS

Log on to MyMaths to practice the skills you have learnt in class and at home!
Please ask your teacher or Henry if you do not know your username or password.

MULTIPLICATION AND DIVISION

In addition to the fluent recall of 2, 5 and 10 times tables, know your 3x 4x 8x tables inside out and recognise their multiples

3 Times Table	4 Times Table	8 Times Table
0 x 3 = 0	0 x 4 = 0	0 x 8 = 0
1 x 3 = 3	1 x 4 = 4	1 x 8 = 8
2 x 3 = 6	2 x 4 = 8	2 x 8 = 16
3 x 3 = 9	3 x 4 = 12	3 x 8 = 24
4 x 3 = 12	4 x 4 = 16	4 x 8 = 32
5 x 3 = 15	5 x 4 = 20	5 x 8 = 40
6 x 3 = 18	6 x 4 = 24	6 x 8 = 48
7 x 3 = 21	7 x 4 = 28	7 x 8 = 56
8 x 3 = 24	8 x 4 = 32	8 x 8 = 64
9 x 3 = 27	9 x 4 = 36	9 x 8 = 72
10 x 3 = 30	10 x 4 = 40	10 x 8 = 80
11 x 3 = 33	11 x 4 = 44	11 x 8 = 88
12 x 3 = 36	12 x 4 = 48	12 x 8 = 96
And ÷ facts	And ÷ facts	And ÷ facts
For example:	For example:	For example:
3 ÷ 3 = 1	8 ÷ 4 = 2	24 ÷ 8 = 3
12 ÷ 3 = 4	16 ÷ 4 = 4	40 ÷ 8 = 5
27 ÷ 3 = 9	36 ÷ 4 = 9	48 ÷ 8 = 6

Y3

PLACE VALUE AND COUNTING

Count from 0 in multiples of 4, 8, 50 and 100
Find 10 more or 10 less than any given number
Find 100 more or 100 less of any given number
Recognise the place value of each digit in a three-digit number
Partition numbers into 100s, 10s and 1s (e.g. 253 = 200 + 50 + 3)
Compare and order numbers to 1000
Read and write numbers to 1000 (in numbers and words)
Round to the nearest 10 and 100

CALCULATION (+ - x ÷)

Add and subtract mentally 1s, 10s and 100s to any 3 digit number
Mentally add or subtract any pair of 2 digit numbers
Multiply any 2 digit number by 10 (e.g. 24 x 10 = 240)
Multiply any 1 digit number by 100 (e.g. 7 x 100 = 700)

USE AND APPLY YOUR TIMES TABLES! (with 2 digit numbers)

For example: If you know that 2 x 3 = 6
You also know....20 x 3 = 60 or 60 ÷ 2 = 30

USE PARTITIONING TO DOUBLE OR HALVE ANY NUMBER
(e.g. Half of 58: Half of 50 = 25, Half of 8 = 4. 25 + 4 = 29)

FRACTION ACTION!

Count up and down in tenths (and understand tenths!) e.g. 1/10, 2/10, 3/10
Recognise fractions AS numbers (amounts between two whole numbers) e.g. $1\frac{1}{2}$ $1\frac{3}{4}$ $2\frac{1}{4}$
Understand, recognise and use fractions OF numbers (e.g. find $\frac{1}{4}$ of 32 = 8)
Add and subtract fractions with the same denominator with one whole (e.g. 5/7 + 1/7 = 6/7 and 5/7 + 2/7 = 7/7 *or 1 whole*)

NUMBER PAIRS THAT TOTAL 100

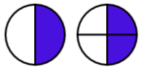
For example...	And INVERSE
30 + 70 = 100	100 - 30 =
15 + 85 = 100	100 - 85 =
32 + 68 = 100	100 - ? = 68
44 + 56 = 100	100 - ? = 56

ADDING FRACTIONS METHOD MAT YEAR 3

VOCABULARY

Denominator: The bottom number in a fraction. It shows how many equal parts that the item has been divided into.

Equivalent fractions: Fractions which have the same value, even though they may look different i.e.

$\frac{1}{2} = \frac{2}{4}$ 

Fraction: A part of a whole. A common fraction is made up of a numerator and a denominator.

Non-unit fraction: A fraction with a numerator greater than 1.

Numerator: The top number in a fraction. It shows how many of the equal part someone has.

Unit fraction: A fraction with a numerator of 1.

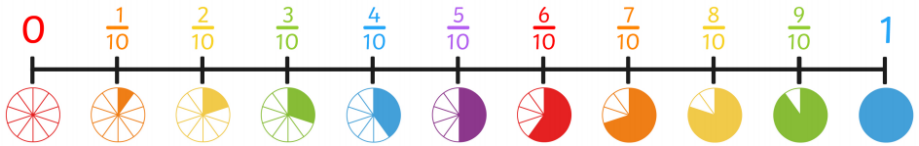
Vinculum: The horizontal line drawn between the numerator and denominator.

Whole number: A counting number which is complete and not including any fractions of amount i.e. 2 is a whole number, 2.3 is not.

MAIN IDEA

Fractions represent equal parts of a whole. If an amount, object or material has been divided equally into parts, it is a fraction. The **denominator** shows how many equal parts something has been divided into so 1/3 means the object has been cut into 3 equal parts. In Year 3, we add fractions that have the same denominator. When denominators are the same, we can just add the numerators together. **We never add the denominators together because we aren't changing the size of the slices, just saying how many of those slices we have now.**

If we have a complete fraction, for example 10/10, this is the same as one whole piece. Fractions can be put on a number line because they are part of a whole number.

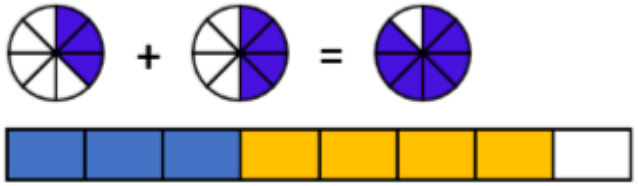


Adding fractions

There are many different ways to show adding fractions. Look at these 3 different representations of the same questions.

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

$\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$



Steps to Success

Adding fractions

1) Write the calculation.

2) Make sure both **denominators** are the same.

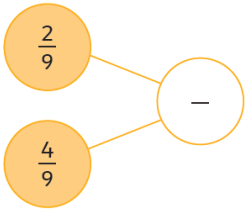
3) Add the numerators together and write them as the new numerator.

4) Leave the denominator the same and write it under the new numerator.

Do not add the **denominators** together!

5) Check that your **numerator** is smaller than your **denominator**. If it is not, go back and check your work.

$\frac{\square}{11} + \frac{3}{\square} + \frac{\square}{11} = \frac{10}{11}$

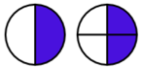


SUBTRACTING FRACTIONS METHOD MAT YEAR

VOCABULARY

Denominator: The bottom number in a fraction. It shows how many equal parts that the item has been divided into.

Equivalent fractions: Fractions which have the same value, even though they may look different i.e.

$\frac{1}{2} = \frac{2}{4}$ 

Fraction: A part of a whole. A common fraction is made up of a numerator and a denominator.

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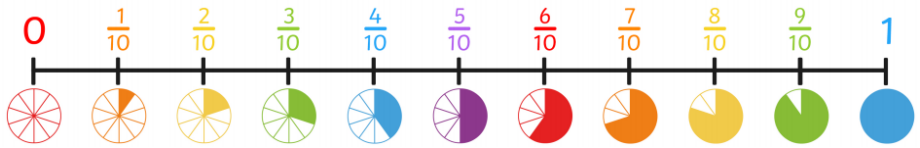
MAIN IDEA

Fractions represent equal parts of a whole. If an amount, object or material has been divided equally into parts, it is a fraction. The **denominator** shows how many equal parts something has been divided into so 1/3 means the object has been cut into 3 equal parts. In Year 3, we subtract fractions that have the same denominator. When denominators are the same, we can just subtract the smaller numerator from the larger one. **We never subtract the denominators because we aren't changing the size of the slices, just saying how many of those slices we have now.**

If we have a complete fraction, for example 10/10, this is the same as one whole piece. Fractions can be put on a number line because they are part of a whole number.



Subtracting fractions

There are many different ways to show adding fractions. Look at these 3 different representations of the same questions

$\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$

$\frac{7}{8} - \frac{3}{8} = \frac{4}{8}$

Steps to Success

Subtracting fractions

1) Write the calculation.

2) Make sure both **denominators** are the same.

3) Subtract the numerators and write them as the new numerator.

4) Leave the denominator the same and write it under the new numerator.

Do not subtract the **denominators**!

5) Check that your **numerator** is smaller than your **denominator**. If it is not, go back and check your work.