

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 2, 3, 4, 5 and 10 times tables, know **ALL** your times tables inside out and recognise their factors and multiples! And by the end of Year 4 - have fast and fluent recall of all the tables!

6 Times Table

$0 \times 6 = 0$
 $1 \times 6 = 6$
 $2 \times 6 = 12$
 $3 \times 6 = 18$
 $4 \times 6 = 24$
 $5 \times 6 = 30$
 $6 \times 6 = 36$
 $7 \times 6 = 42$
 $8 \times 6 = 48$
 $9 \times 6 = 54$
 $10 \times 6 = 60$
 $11 \times 6 = 66$
 $12 \times 6 = 72$

And \div facts

7 Times Table

$0 \times 7 = 0$
 $1 \times 7 = 7$
 $2 \times 7 = 14$
 $3 \times 7 = 21$
 $4 \times 7 = 28$
 $5 \times 7 = 35$
 $6 \times 7 = 42$
 $7 \times 7 = 49$
 $8 \times 7 = 56$
 $9 \times 7 = 63$
 $10 \times 7 = 70$
 $11 \times 7 = 77$
 $12 \times 7 = 84$

And \div facts

9 Times Table

$0 \times 9 = 0$
 $1 \times 9 = 9$
 $2 \times 9 = 18$
 $3 \times 9 = 27$
 $4 \times 9 = 36$
 $5 \times 9 = 45$
 $6 \times 9 = 54$
 $7 \times 9 = 63$
 $8 \times 9 = 72$
 $9 \times 9 = 81$
 $10 \times 9 = 90$
 $11 \times 9 = 99$
 $12 \times 9 = 108$

And \div facts

11 Times Table

$0 \times 11 = 0$
 $1 \times 11 = 11$
 $2 \times 11 = 22$
 $3 \times 11 = 33$
 $4 \times 11 = 44$
 $5 \times 11 = 55$
 $6 \times 11 = 66$
 $7 \times 11 = 77$
 $8 \times 11 = 88$
 $9 \times 11 = 99$
 $10 \times 11 = 110$
 $11 \times 11 = 121$
 $12 \times 11 = 132$

And \div facts

12 Times Table

$0 \times 12 = 0$
 $1 \times 12 = 12$
 $2 \times 12 = 24$
 $3 \times 12 = 36$
 $4 \times 12 = 48$
 $5 \times 12 = 60$
 $6 \times 12 = 72$
 $7 \times 12 = 84$
 $8 \times 12 = 96$
 $9 \times 12 = 108$
 $10 \times 12 = 120$
 $11 \times 12 = 132$
 $12 \times 12 = 144$

And \div facts

PLACE VALUE AND COUNTING

Count in multiples of 6, 7, 9, 25 and 1000

Find 1000 more or less than any number

Count backwards through zero to include negative numbers

Recognise the place value of each digit in a four digit number

Partition a four digit number into 1000s, 100s, 10s and 1s

(e.g. $2345 = 2000 + 300 + 40 + 5$)

Order and compare numbers beyond 1000

Round any number to the nearest 10, 100 or 1000

Round decimals with one decimal place to the nearest whole number

Understand place value with hundredths and tenths

Compare and order numbers with 2 decimal places

CALCULATION (+ - \times \div)

Understand multiplying and dividing numbers by 10 and 100

Multiply 3 numbers together mentally

USE AND APPLY YOUR TIMES TABLES! (with 3 digit numbers)

For example: If you know that $2 \times 3 = 6$

You also know... $200 \times 3 = 600$ or $600 \div 2 = 300$

FRACTION ACTION!

Understand and use hundredths and tenths

Count up and down in hundredths $1/100$, $2/100$, $3/100$

Recognise decimal equivalents to simple fractions

$1/10 = 0.1$ $1/100 = 0.01$

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

$\frac{1}{4} = 0.25$

$\frac{3}{4} = 0.75$

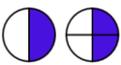
Use knowledge of factors and multiples to recognise and simplify equivalent fractions (e.g. $6/9 = 2/3$)

Interactive Resources: Multiple Wipeout, Top Spot, Rounding balloons, Sum Sense, Arithmagons
Dice Games: SPROD, Shall I Risk it, Gozinto

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.

Improper fraction : A fraction where the numerator is greater than the denominator. It has a value greater than 1 i.e. 5/4

Mixed fraction - A number that is made up of a whole number plus a fraction.

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.

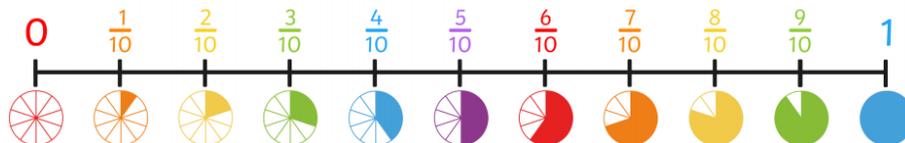


ADDING FRACTIONS METHOD MAT YEAR 4

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 4, we add fractions that have the same denominator and sometimes the answer is greater than a whole number. 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.

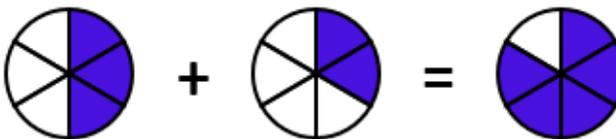


Adding fractions

Some calculations will give you an improper fraction. That's ok! Try to convert it into a mixed fraction by using the 'Remember' box.

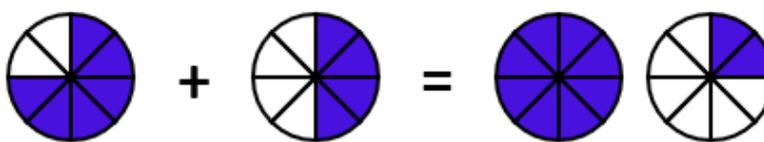
$$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$

fraction



$$\frac{6}{8} + \frac{4}{8} = \frac{10}{8}$$

improper fraction



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) If you have an **improper fraction**, try to convert it into a **mixed fraction**.

Remember!

Think, how many 8s can fit inside 10, 1 can, with two bits

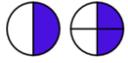
$$\begin{array}{r} 10 \\ \div 8 \\ \hline 8 \\ \hline 2 \end{array} = 1 \frac{2}{8}$$

one whole eights fit in 10, with a remainder of 2

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.

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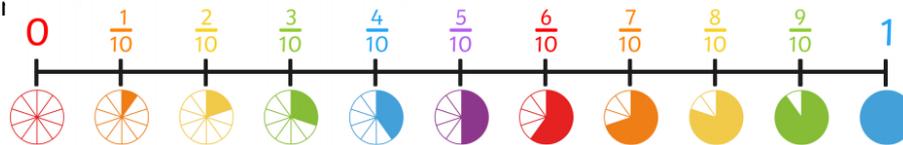


SUBTRACTING FRACTIONS METHOD MAT YEAR

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 4, we subtract fractions that have the same denominator and sometimes the answer is greater than a whole number. When denominators are the same, we can just subtract the numerators. **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.



Subtracting fractions

When subtracting fractions, it is very rare for your answer to be an improper fraction. This is because we are already taking away from a fraction of a whole

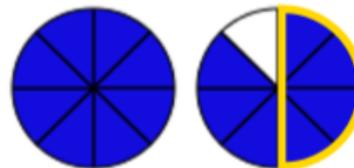
$$\frac{5}{6} - \frac{3}{6} = \frac{2}{6}$$

fraction



$$\frac{15}{8} + \frac{4}{8} = \frac{11}{8}$$

improper fraction



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) If you have an **improper fraction**, try to convert it into a **mixed fraction**.

Remember!

Think, how many 8s can fit inside 10. 1 can, with two bits

$$\begin{array}{r} 10 \\ \div 8 \\ \hline 8 \\ \hline 2 \end{array} = 1 \frac{2}{8}$$

one whole eights fit in 10, with a remainder of 2