
S1 Workshop
St Ninian's Maths Department
Welcome!

Period Starter

★ Every maths lesson begins with a period starter

1. 123 + 149

2. 453 - 164

3. 26 x 8

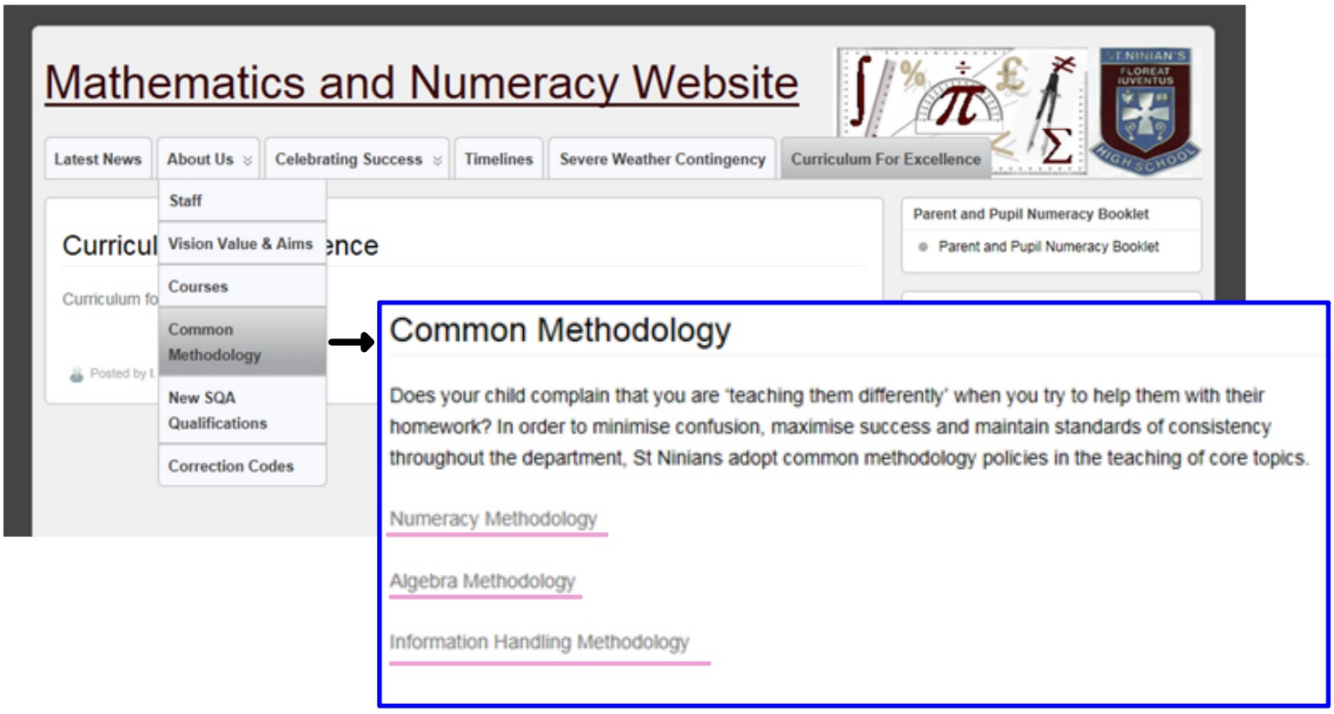
4. 324 ÷ 4


A quick video to set the scene . . .
click here

Common Language and Methodology

All of the schools within the cluster follow the same methods in our teaching of Maths and Numeracy.

The CLM documents can be found on the school website.



EQUATIONS:-

How would YOU do this question?

SOLVE $2x + 7 = 15$

Why do we need a consistent method?

$2x + 7 = 15$

$2x + 7 - 7 = 15 - 7$

$2x = 8$

$2x \div 2 = 8 \div 2$

$x = 4$

$2x + 7 = 15$

$2x = 15 - 7$

$2x = 8$

$x = 4 \div 2$

$x = 4$

$2x + 7 = 15$

(-7) (-7)

$2x = 8$

$(\div 2)$ $(\div 2)$

$x = 4$

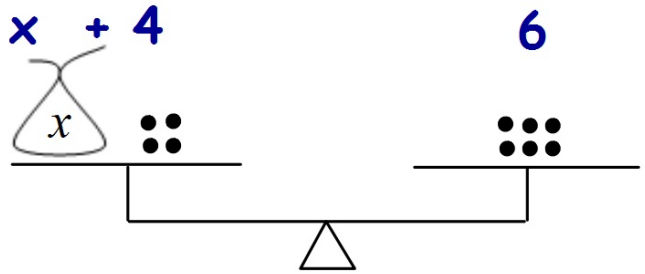
	Method
$2x + 7 = 15$	-7
$2x = 8$	$\div 2$
$x = 4$	

There are a number of ways in which we can solve equations.
We need to take a standardised approach across all schools and classes in the Cluster.
This will help eliminate difficulties when changing teachers and will make the transition to Secondary smoother and easier.

Solving Linear Equations

Example 1

Write down an equation that represents the picture on the scales, then solve it.



$x + 4 = 6$ | Method: $- 4$

$x = 2$

We start the topic by using scales to reinforce the idea of balance and doing the same to both sides

Examples

YOU TRY!!

$x + 3 = 5$ | - 3

x = 2

$k - 2 = 6$ | + 2

k = 8

Think about what you would need to do to leave x on it's

It is a BALANCE so whatever you do to one side you do to t other

Examples

YOU TRY!!

$3p = 9$ | ÷ 3

3 x p

p = 3

We have already taught simp
expressions at this point so p
understand that letters and r
next to each other are multip

$7g = 21$ | ÷ 7

7 x g

g = 3

Examples

$2x + 1 = 9$ | - 1
2x = 8 | ÷ 2
x = 4

This is a 2 step equation.
Time would be spent discussing the order in which we deal witl terms

$5w - 2 = 8$ | + 2
5w = 10 | ÷ 5
w = 2

Trickier Examples

$2x - 6 = x$ | - x

x - 6 = 0 | + 6

x = 6

$5w - 6 = 3w$ | - 3w

2w - 6 = 0 | + 6

2w = 6 | ÷ 2

w = 3

Letters on both sides of an e
prevents us from solving unti
rid of one of the unknowns.

- identify the smallest letter
- subtract from both sides
- solve as shown previously

Trickier Examples

Letters and numbers on both sides
Deal with the letters first!!

$2x + 5 = x + 10$ | - x
x + 5 = 10 | - 5
x = 5

$4b - 1 = 2b + 9$ | - 2b
2b - 1 = 9 | + 1
2b = 10 | ÷ 2
b = 5

What about negative letters?

We deal with negative letters by ADDING THEM IN

$$\begin{aligned} 10 - x &= 2 \quad | + x \\ 10 &= 2 + x \quad | -2 \\ 8 &= x \\ x &= 8 \end{aligned}$$

$$\begin{aligned} 8 - 2t &= 2 \quad | + 2t \\ 8 &= 2 + 2t \quad | -2 \\ 6 &= 2t \quad | \div 2 \\ 3 &= t \\ t &= 3 \end{aligned}$$

How WOULD YOU DO this percentage calculation

TRY 50% of £130 25% of 360kg

Finding Percentages

- Pupils are encouraged to remember the fractional equivalent of common percentages:

$10\% = \frac{1}{10}$ $20\% = \frac{1}{5}$ $25\% = \frac{1}{4}$

$50\% = \frac{1}{2}$ $75\% = \frac{3}{4}$

More difficult ones to remember

$33\frac{1}{3}\% = \frac{1}{3}$ $66\frac{2}{3}\% = \frac{2}{3}$

Again HOW WOULD YOU carry out this calculation?

Find 80 % of £32

Multiples of 10

- Pupils are taught to calculate percentages by breaking them down into easier, more manageable parts.

Use 10% as an easy starting point!

Find 80 % of £32

Step 1

Find 10 % of £32

Find $\frac{1}{10}$ of £32

= £3.20

Step 2

Multiply the answer by 8

£3.20
X8

Divide by ten by moving numbers one place to the RIGHT

A quick way of finding 15% . . .

Calculate 15% of 260

We would encourage pupils to break this percentage down into 10% and 5%.

Pupils find 10% of 260 by dividing by 10.
Once they know the value of 10% they can half it to get 5%.
Add the answers together and they now have 15%

Please complete the evaluation at the end of Workshop 2

Saint Ninian's High School

EVALUATION

Please complete an evaluation by scanning the QR Code with your camera or use the link

Alternatively, you can use a Chromebook outside to complete this short evaluation

Scan with your phone's camera

http://bit.ly/S1Evening

@stnianshigh Website

Please follow us on Twitter @StNiniansMaths

Useful Websites:

Perth Academy Maths:

https://perthacademymaths.wikispaces.com/

Knightswood Maths:

http://www.knightswoodsecondary.org.uk/personal/Resources/Hillhead/Resources_hillhead.htm

Maths Box:

http://www.mathsbox.org.uk/

Maths 4 Scotland (Revision):

http://www.int2.maths4scotland.co.uk/

Starter of the Day:

http://www.transum.org/Software/SW/Starter_of_the_day/starter_March29.ASP