

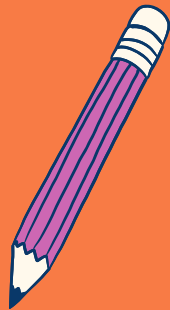


Cyflwyniad Rhifedd CC3 PS3 Numeracy presentation

Rhodri Jones
Numeracy coordinator

23/01/24

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$



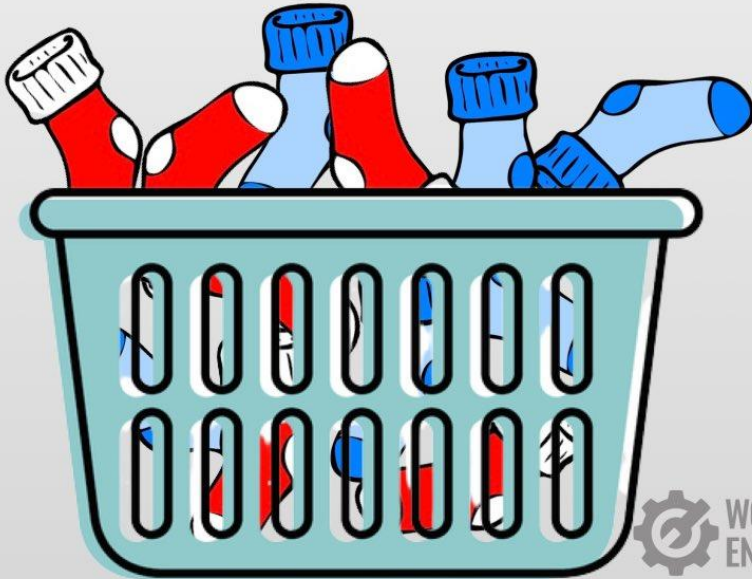
$$a^2 + b^2 = c^2$$



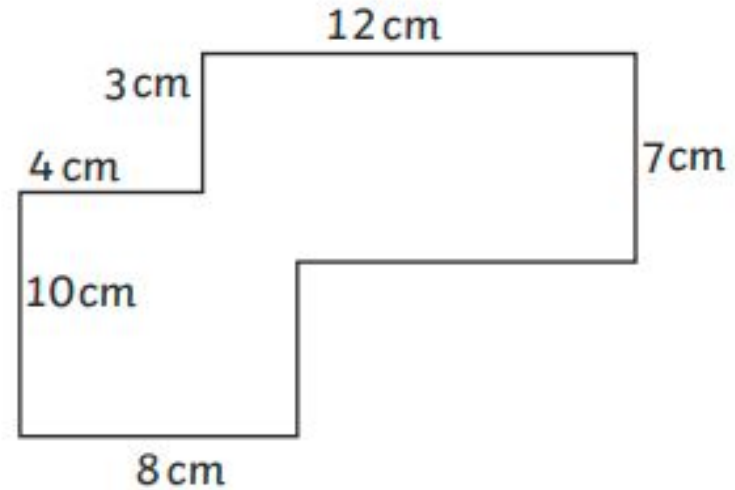
1. THE COLORED SOCKS 🧦

Ten blue socks and ten red socks are all mixed up in a laundry basket 🧺. The room is in pitch darkness and you need two matching socks.

What is the smallest number of socks you must take out of the basket in order to be certain that you have a pair that match?



2. Perimeter



Perimeter = ?

How can I support my child?

- Arithmetic
- Reasoning
- Tables

Arithmetic

- Addition – column method. Accuracy.
- Subtraction – column method. Accuracy.
- Multiplication – Napier, long multiplication. Accuracy.
- Division – bus stop, long division. **Accuracy!**

Arithmetic – keep it simple but mix it up!

$$4 + \underline{\hspace{2cm}} = 10$$

$$15 - \underline{\hspace{2cm}} = 8$$

$$\underline{\hspace{2cm}} = 12 - 5$$

$$\underline{\hspace{2cm}} = 9^2$$

$$6 + 5 = \underline{\hspace{1cm}}$$

$$2 + \underline{\hspace{1cm}} = 7$$

$$\underline{\hspace{1cm}} + 9 = 16$$

$$12 + \underline{\hspace{1cm}} = 15$$

$$\underline{\hspace{1cm}} + 11 = 15$$

$$2 + \underline{\hspace{1cm}} = 5$$

$$12 + 2 = \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} + 13 = 20$$

$$3 + \underline{\hspace{1cm}} = 5$$

$$\underline{\hspace{1cm}} + 15 = 20$$

$$5. \ 40 \div \underline{\hspace{1cm}} = 4$$

$$7. \ \underline{\hspace{1cm}} \times 10 = 20$$

$$9. \ 29 + \underline{\hspace{1cm}} = 33$$

$$6. \ \underline{\hspace{1cm}} \div 5 = 30$$

$$8. \ 18 \div \underline{\hspace{1cm}} = 9$$

$$10. \ \underline{\hspace{1cm}} - 13 = 10$$

$$\underline{\hspace{1cm}} + 10 = 13$$

$$\underline{\hspace{1cm}} - 3 = 12$$

$$10 + \underline{\hspace{1cm}} = 16$$

$$16 + \underline{\hspace{1cm}} = 21$$

$$\underline{\hspace{1cm}} + 11 = 14$$

$$4 + \underline{\hspace{1cm}} = 12$$

Half ? = double 6

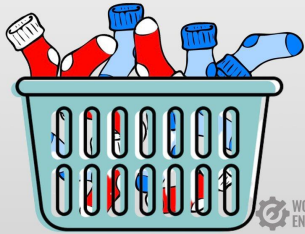
Reasoning

Trial and error, real-life problems, applying core knowledge.

THE COLORED SOCKS

Ten blue socks and ten red socks are all mixed up in a laundry basket . The room is in pitch darkness and you need two matching socks.

What is the smallest number of socks you must take out of the basket in order to be certain that you have a pair that match?



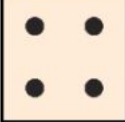
WORLD OF ENGINEERING

	x		÷		=	2
-		+		-		
	+		-		=	2
x		÷		+		
	x		+		=	22
=		=		=		
7		2		13		

	+		=	30		
	+		=	20		
	+		=	8		
	+		×		=	<div style="border: 2px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"></div>



				<div style="border: 1px dashed black; width: 60px; height: 60px;"></div>	<div style="border: 1px dashed black; width: 60px; height: 60px;"></div>
				<div style="border: 1px dashed black; width: 60px; height: 60px;"></div>	<div style="border: 1px dashed black; width: 60px; height: 60px;"></div>

Times Tables

- Fundamental to Numeracy
- Even more important as your child progresses in Maths e.g. *simplifying fractions, ratio*
- Games – tennis, cricket.

Number relationships: Teulu ffeithiau / Fact families

It is vital that pupils see relationships between:

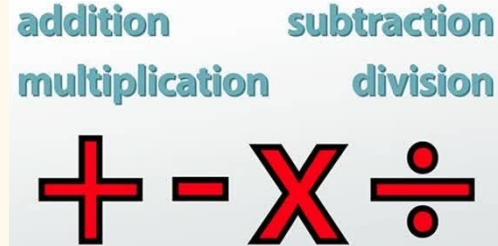
a). The operations $+-$

b). The operations $+x$

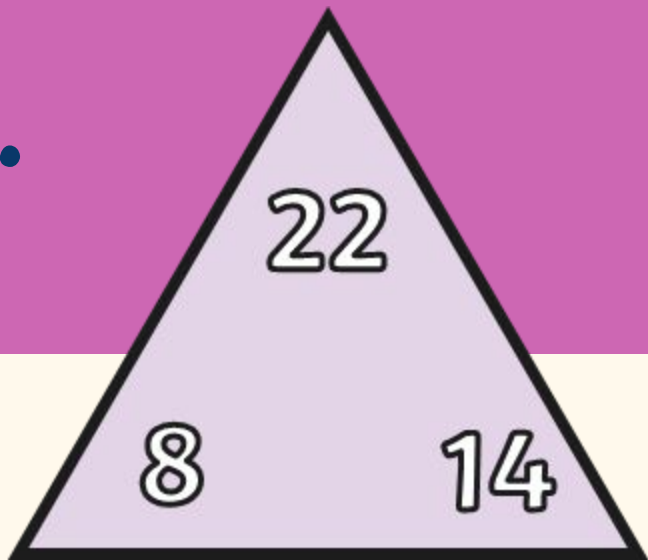
c). The operations $x\div$

d). The operations $\div-$

e.g.



1.

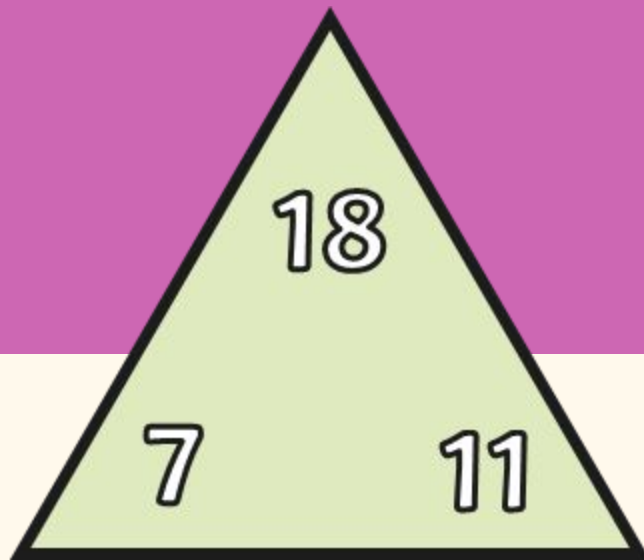


$$+ =$$

$$+ =$$

$$- =$$

$$- =$$



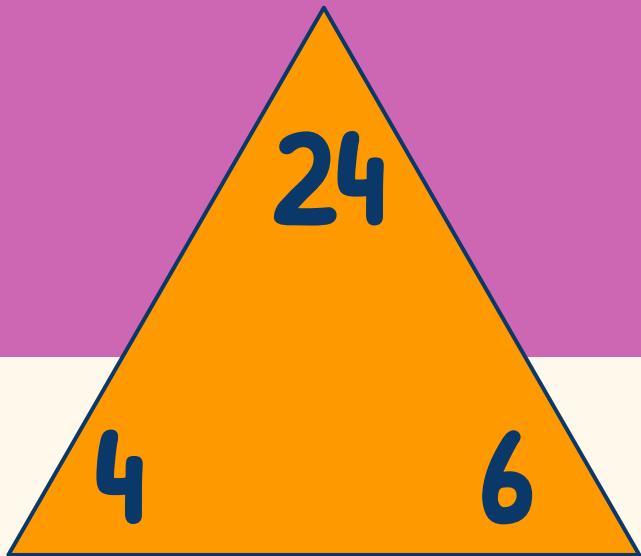
$$+ =$$

$$+ =$$

$$- =$$

$$- =$$

2.

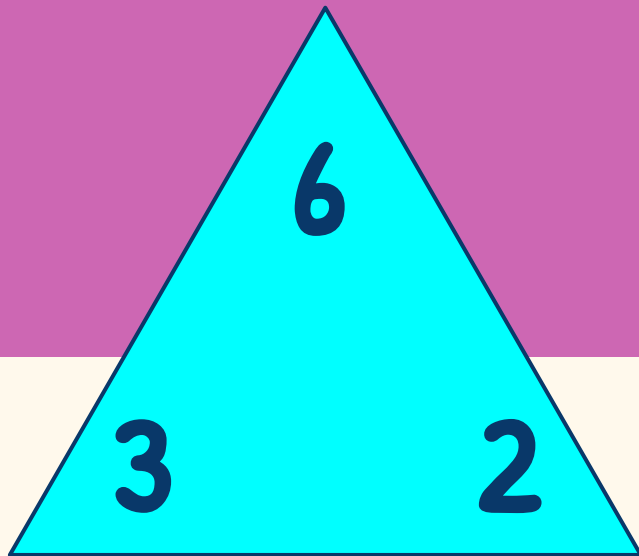


$$x =$$

$$x =$$

$$\div =$$

$$\div =$$



$$x =$$

$$x =$$

$$\div =$$

$$\div =$$

Number relationships: Tablau / Times tables

$7 \times 4 = 28$ felly:

$7 \times 0.4 =$

$7 \times 40 =$

$7 \times 400 =$

B₂

$7 \times 5 = 35$ felly:

$0.7 \times 5 =$

$70 \times 5 =$

$700 \times 5 =$

B₂

How can I support my child?

Learn-Its

Times Tables!

Help your child practise their 'Learn Its' at home.
Introduce 1, 2 or even 3 new facts each week.

Practice

Create, download, alter, flip any numeracy questions you see.

$$16 \quad 7 = 9$$

$$5 + ? = 12$$

How many people are in Asda right now?
How tall is that door?
What is the opposite of multiplication?

Encourage, support & praise

Support with homework using the examples given by the teacher. Ask your child to talk through the examples and relate this to work they have been doing in class - **encourage them to teach you!**

Today's aims:



Big Maths

Offer opportunity to observe a CLIC session (mental arithmetic)



Numeracy

Overview of how we approach Numeracy at YGC



New curriculum

Ensure parents have access the curriculum and numeracy Framework



Resources

Provide resources and practice papers



What is Big Maths?



A **“Whole School Primary Maths Programme”**

Time for a short video: <https://www.bigmaths.com/>



What is Big Maths?



Mapped to Your Curriculum

Big Maths planning describes a minimum, yet high expectation journey. The Big Maths framework is broken down into termly chunks linked to your curriculum's expectations. Basic Skills are always prioritised, informing which Wider Maths skills can be considered.

Getting the chronology right is key to a smooth journey. Basic Skills progress in chronological order... **C**ounting skills feed into **L**earn Its (Number Facts) which feed into **I**t's Nothing New which, you guessed it, feed into **C**alculation. That's **CLIC**...

By splitting maths into
Basic Skills and Wider Maths,
Big Maths has changed the game.

It is so simple!

Teach the Basic Skills, make sure
you leave no learning gaps, then
add Wider Maths skills.



Why Big Maths?



- ✓ Clear progression from year to year
- ✓ Consistent methods taught and language used throughout the school
- ✓ Build on prior learning and ensure children are secure in their knowledge
- ✓ Objectives are aligned to National Curriculum objectives*
- ✓ Clear links with AFL so evidence can be gathered easily to inform planning/assessment
- ✓ Improve mental maths skills and general numeracy across the school.



Big Maths – how is it used?



Daily CLIC sessions ~20 minutes

Counting - 5 minutes

Learn Its - 5 minutes

It's Nothing New - 5 minutes

Calculations - 5 minutes

Getting the chronology right is key to a smooth journey. Basic Skills progress in chronological order... **C**ounting skills feed into **L**earn Its (Number Facts) which feed into **I**t's Nothing New which, you guessed it, feed into **C**alculation. That's **CLIC**...



Big Maths – how is it assessed?



How are pupils assessed?

1. **Big Maths Beat That** – timed challenge where children answer 'Learn Its' questions. The aim is to beat their previous score.
2. **CLIC** – 10 questions relating to concepts taught at children's individual level. Once they have scored 10 out of 10 for three consecutive weeks they move on to the next level.
3. **SAFE** – Shape, Amount, Eractions, Explaining Data
4. **Problem solving & reasoning** activities – opportunities to apply strategies.



Name: _____

Class: _____

Date: _____



1 Place in order
 8.97 8.79 9.87

2 Half of 784 is

3 $135 + 10 =$

4 Write down 6 factors
 of 56:

5 $764 - 18 =$

6 $785 + 87 =$

7 $4 \times 68 =$

8 $58 \div 3 =$

9
$$\begin{array}{r} 415 \\ - 39 \\ \hline \end{array}$$

10
$$\begin{array}{r} 74 \\ \times 4 \\ \hline \end{array}$$

MY LAST SCORE?!

HAVE I BEAT THAT?!

10

SAFE (Wider Maths)

S	Progress Drive	Steps	Progress Drive	Steps
	1. Explore & Draw	30	3. 3D Shapes	30
	2. 2D Shapes	28	4. Position & Direction	38

A	Progress Drive	Steps	Progress Drive	Steps
	1. Amounts of Distance	38	5. Amounts of Temperature	18
	2. Amounts of Mass	20	6. Amounts of Time	34
	3. Amounts of Money	20	7. Amounts of Time: Telling the Time	18
	4. Amounts of Space	32	8. Amounts of Turn	36

F	Progress Drive	Steps	Progress Drive	Steps
	1. Fractions of a Whole	20	5. Fractions: It's Nothing New	8
	2. Fractions of a Set	14	6. Fractions: Calculation	28
	3. Fractions: Counting	20	7. Percentages	14
	4. Fractions: Learn Its	10	8. Ratio	14

E	Progress Drive	Steps	Progress Drive	Steps
	1. Diagrams & Tables	26	4. Line Graphs	10
	2. Bar Charts	12	5. Pie Charts	12
	3. Averages	14	6. Probability	18

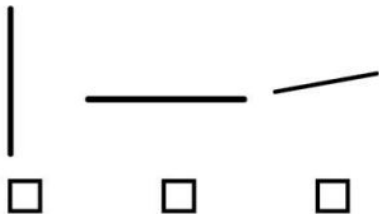
S

A

F

E

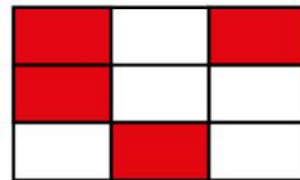
1 Tick the vertical line



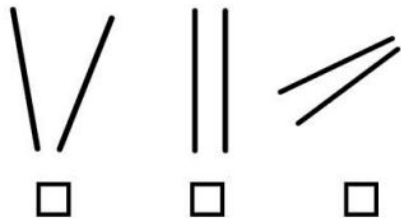
4 Write in >, <, or =



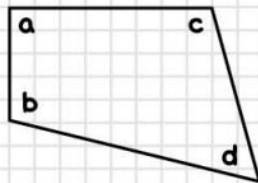
7 Write as a fraction



2 Tick the parallel lines



5

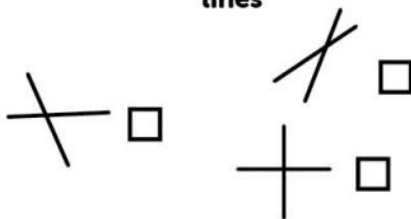


_____ is a right angle

8 Write as a mixed number



3 Tick the perpendicular lines



6 Tick which is true?

$$\frac{3}{4} = 1 \quad \square \quad \frac{5}{4} = 1 \quad \square$$

$$\frac{4}{4} = 1 \quad \square$$

9

$$\frac{8}{9} - \frac{3}{9} =$$

10

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

Learn-Its (timed)



LEARN ITS Challenges!

Steps 10, 11 & 12

Name: _____

Class: _____

Date: _____

Step 10

$9 \times 3 =$	$2 \times 3 =$
$8 \times 3 =$	$3 \times 1 =$
$10 \times 3 =$	$7 \times 3 =$
$3 \times 4 =$	$3 \times 6 =$
$5 \times 3 =$	$3 \times 3 =$

Step 11

$7 \times 4 =$	$5 \times 4 =$
$4 \times 9 =$	$4 \times 8 =$
$1 \times 4 =$	$10 \times 4 =$
$4 \times 6 =$	$2 \times 4 =$
$4 \times 4 =$	$3 \times 4 =$

Step 12

$8 \times 7 =$	$10 \times 8 =$
$2 \times 8 =$	$1 \times 8 =$
$8 \times 4 =$	$8 \times 8 =$
$8 \times 3 =$	$8 \times 9 =$
$6 \times 8 =$	$5 \times 8 =$

Learn Its Timings

Step	Addition Learn Its	Multiplication Learn Its	Big Maths Term	Number of Questions in Challenge	Paper Timings		Online Timings	
					Seconds per question	Total time allowed (seconds)	Seconds per question	Total time allowed (seconds)
Ultimate	All '+' facts from 2+2 to 9+9	All 'x' facts from 2x2 to 9x9	Year 5 & 6	72	2	144	3	216
15		X12 Table	Year 4: Term 3	30	2	60	3	90
14		X11 Table	Year 4: Term 2	28	2	56	3	84
13		The Six Fact Challenge!	Year 4: Term 1	26	2	52	3	78
12		X8 Table	Year 3: Term 3	30	2	60	3	90
11		X4 Table	Year 3: Term 2	36	4	144	5	180
10		X3 Table	Year 3: Term 1	41	4	164	5	205
9	5 + 9 6 + 9 7 + 9 5 + 7 5 + 8 6 + 8	X2 Table	Year 2: Term 3	46	4	184	5	230
8	5 + 4 5 + 6 6 + 7 8 + 7 8 + 9	X5 Table	Year 2: Term 2	34	5	170	6	204
7	3 + 8 3 + 9 4 + 7 4 + 8 4 + 9	X10 Table	Year 2: Term 1	27	5	135	6	162
6	6 + 6 7 + 7 8 + 8 9 + 9	Multiples of 2 – In counting	Year 1: Term 3	17	5	85	6	102
5	4 + 2 5 + 2 6 + 2 7 + 2 9 + 2 4 + 3 5 + 3 6 + 3		Year 1: Term 2	15	5	75	6	90
4	1 + 9 = 10 2 + 8 = 10 3 + 7 = 10 4 + 6 = 10 5 + 5 = 10	Multiples of 5 – In counting	Year 1: Term 1	10	5	50	6	60
3	2 + 1 2 + 3	Multiples of 10 – In counting	Reception: Term 3	7	6	42	7	49
2	3 + 3 4 + 4 5 + 5		Reception: Term 2	5	6	30	7	35
1	1 + 1 2 + 2		Reception: Term 1	2	6	12	7	14

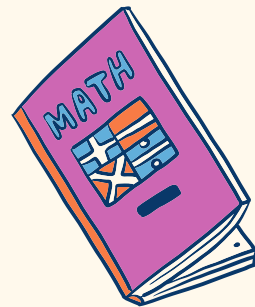
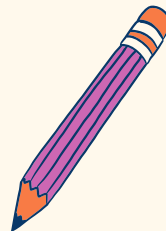
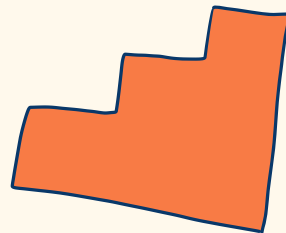
Using Big Maths data to target pupils:

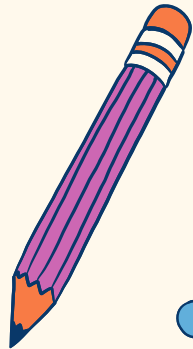
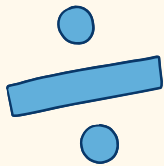
CLIC 15 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
SAFE 11 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
Learn Its 10, 11 & 12 (Sat 8)	9 / 10 10 / 10 2 / 10 Total: 21 / 30	0	25 0
CLIC 16 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
SAFE 12 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
Learn Its Ultimate (Sat 8)	71 / 72 Total: 72 / 72	0	25 0
CLIC 15 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
SAFE 14 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
Learn Its Ultimate (Sat 8)	72 / 72 Total: 72 / 72	0	25 0
CLIC 14 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
SAFE 12 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
Learn Its Ultimate (Sat 8)	70 / 72 Total: 70 / 72	0	25 0
CLIC 16 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
SAFE 12 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
Learn Its 12, 13 & 14 (Sat 8)	10 / 10 6 / 6 11 / 12 Total: 27 / 28	0	25 0
CLIC 10 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
SAFE 8 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
Learn Its 8, 9 & 10 (Sat 8)	14 / 15 16 / 16 10 / 10 Total: 40 / 41	0	25 0
CLIC 16 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
SAFE 12 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
Learn Its 10, 11 & 12 (Sat 8)	10 / 10 10 / 10 9 / 10 Total: 29 / 30	0	25 0
CLIC 12 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
SAFE 10 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0
Learn Its 10, 11 & 12 (Sat 8)	10 / 10 5 / 10 0 / 10 Total: 15 / 30	0	25 0
CLIC 14 (Sat 8)	1 2 3 4 5 6 7 8 9 10	25	0

Mathematics and Numeracy ALE

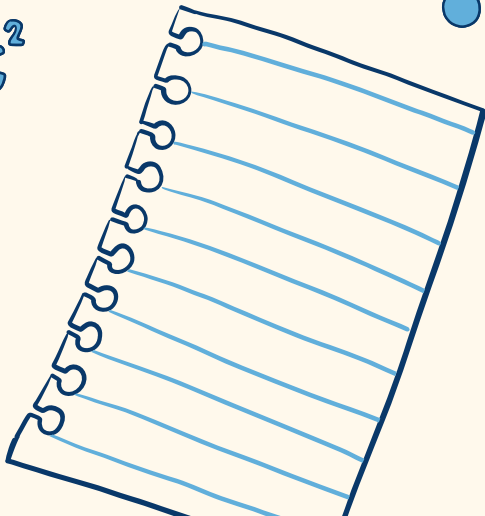
Progression in the Mathematics and Numeracy Area of Learning and Experience involves the development of five connected and interdependent proficiencies which have no hierarchy. These are crucial considerations for schools when designing their curriculum to ensure the progression of learners:

- Conceptual understanding
- Communication using symbols
- Fluency
- Logical reasoning
- Strategic competence





$$a^2 + b^2 = c^2$$



Diolch yn
fawr.
Thank you.

Any further questions?

Useful links:

<https://www.bigmaths.com>

<https://www.ysgolgymraegcaerffili.co.uk/cymorth-rhifedd-numeracy-support>

<https://corbettmathsprimary.com/5-a-day/>

<https://hwb.gov.wales/curriculum-for-wales/mathematics-and-numeracy/>

Diolch.

Feedback:

<https://forms.gle/wsoJVkiQopbF8zep9>

Anonymous

Very quick

Multiple choice

