Welcome to Mathematics

Where everyone counts!

Numeracy Matters

Follow us on Twitter: @bluecoatmaths

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In the media...

Why it matters

The ability to understand and use numbers is also called numeracy. Numeracy is central to modern adult life because numbers are everywhere.

A lot of well-paying jobs involve working with numbers. People who are bad with numbers often perform worse in these jobs, including banking. It can therefore be hard for people who are bad with numbers to find employment and progress in their jobs.

Feeling that we "don't get" numbers or that we're no good at maths can mean we avoid them. But that only makes matters worse – especially where money is concerned. Knowing about numbers helps us make sense of bills, budgets, baking and big decisions.

Nearly half of all adults in the UK struggle with everyday maths which can mean it's hard to get to grips with news about the economy, difficult to get jobs or qualifications, and to support children with their learning. Low confidence with numbers can also affect well-being and have a knock-on effect on how our children feel about maths. By contrast, feeling good about using numbers helps us feel better prepared to navigate changing and challenging times.

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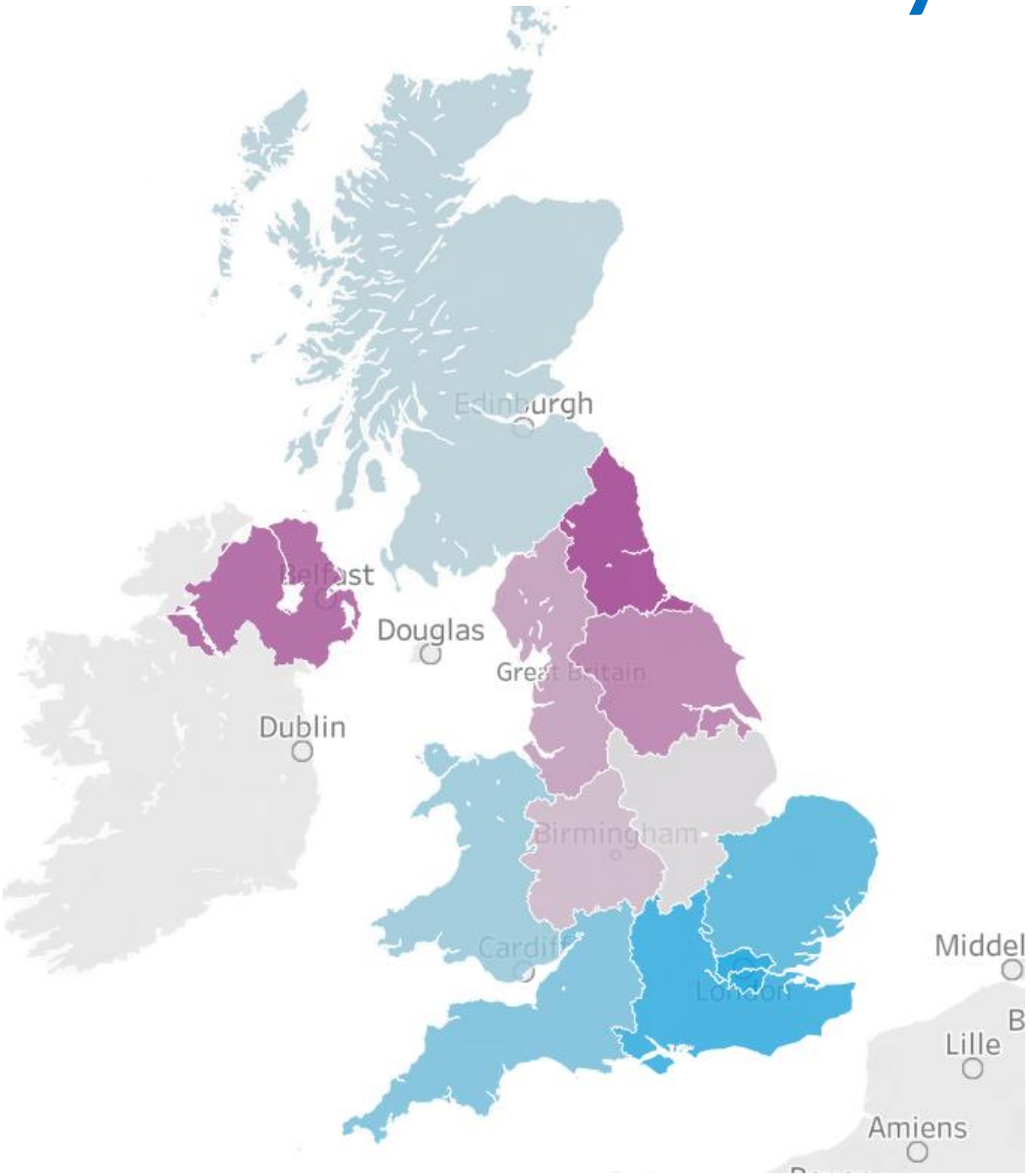
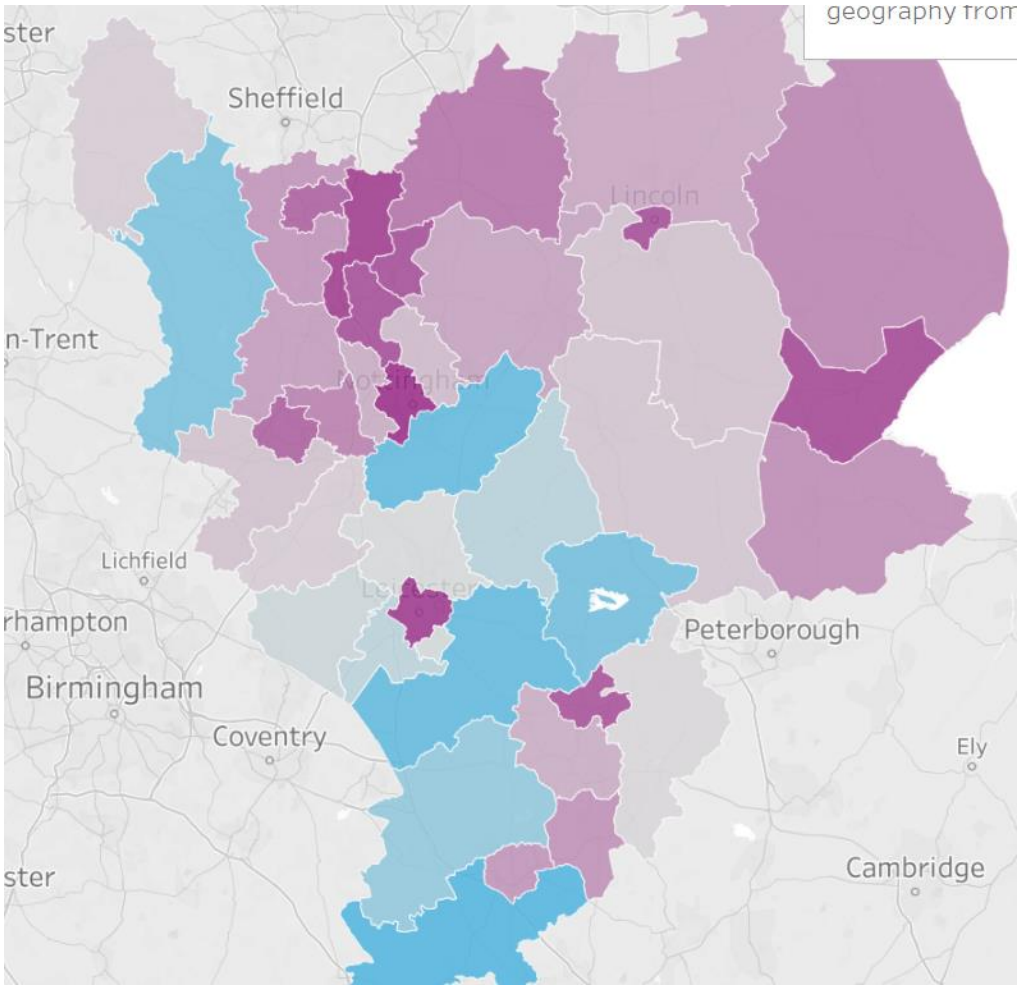
UK numeracy index



An area with greater need

National Numeracy
Getting on with numbers

UK numeracy index



An area with greater need

National Numeracy
Getting on with numbers

What's the issue?

Too many children start to fall behind in maths early on and that failure is compounded over the years.

Very many young people leave school without the numeracy skills needed for life. The gap between low and high achievers is greater in maths than in any other subject. This is not a new situation but it is one that successive governments have failed to resolve.

We want all children to see maths as something they can learn and something that is relevant to their lives after school. Whether or not they proceed to higher maths, all children need to develop confident numeracy skills that will serve them well throughout life.

Maths: Can it be learnt?

30% wrongly assume that maths is a talent you are born with, rather than a skill that can be learnt

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What is Numeracy?

Numeracy

-Number Skills

-Problem Solving

-Logical Reasoning

Numeracy compliments literacy and is sometimes called ‘mathematical literacy’.

Both skills are needed in order to function in modern life.

Being numerate is as much about thinking and reasoning logically as about ‘doing sums’.

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What is Numeracy?

Numeracy skills are used:

- at work
- in practical everyday activities
- in managing finances
- as supportive parents
- as health patients making sense of health information,
- as citizens

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Helping your child with Numeracy

Top tips for parents and families:

Be positive about maths. Don't say things like "I can't do maths" or "I hated maths at school"; your child might start to think like that themselves.
Point out the maths in everyday life. Include your child in activities involving maths such as using money, cooking and travelling.
Praise your child for effort rather than talent - this shows them that by working hard they can always improve.
If you struggle with maths yourself - try our free online tool the National Numeracy Challenge to improve your maths level.

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Understanding the methods

National Numeracy
Getting on with numbers

Asking your child to explain their method – get them to teach it to you.

Use the Knowledge Organiser.

Mathematics **Year 7 Spring 1** **Applications of Number**

Bluecoat Wollaton
believe in yourself, in others, in God

Section A: Key vocabulary

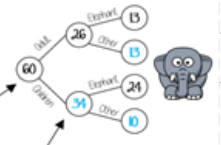
Tier 3	Definition
Commutative (ad)	Result of an operation is not affected by the order
Associative (ad)	Result of an operation is not affected by groupings
Multiples (n)	Found by multiplying any number by positive integers
Factors (n)	Integers that multiply together to get another number
Quotient (n)	The result of a division
Dividend (n)	The number being divided
Divisor (n)	The number we divide by

Tier 2	Definition
Perimeter (n)	The total length around the outside of a 2D object
Area (n)	The space inside a 2D object
Polygon (n)	A 2D shape made from straight lines
Balance (n)	The amount of money in a bank account
Credit (n)	Money that goes into a bank account
Debit (n)	Money that comes out of a bank account
Profit (n)	The increase in money after something is sold
Convert (v)	Change into a different form of equal value
Frequency (n)	The number of people or things in a group
Array (n)	An arrangement of items in rows and columns
Chart (n)	A visual representation of numerical values
Rectangle (n)	A four-sided polygon with two pairs of parallel lines and four right-angles
Triangle (n)	A three-sided polygon
Parallelogram (n)	A four-sided polygon with two pairs of parallel lines
Milli-	Prefix meaning one thousandth of
Centi-	Prefix meaning one hundredth of
Kilo-	Prefix meaning one thousand times

Section B: Important Ideas / Concepts/ Questions

Frequency Trees

60 people visited the zoo one Saturday morning.
26 of them were adults. 13 of the adult's favourite animal was an elephant. 24 of the children's favourite animal was an elephant.

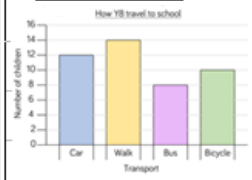


The overall total "60 people"

A frequency tree is made up from part-whole models. One piece of information leads to another

Probabilities or statements can be taken from the completed trees
e.g. 34 children visited the zoo

Bars and Line Charts



A bar chart is a way of displaying data in groups. The frequency of each group is shown by the height of the bar.

Order of Operations

Brackets
Indices or roots
Multiplication or division
Addition or subtraction

If operations are on the same 'level' you work from left to right

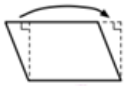
Area of Polygons

Area is measured by how many squares (cm², mm² or m²) you can fit into the shape.

E.g. In the rectangle to the right, you can fit 6 squares, therefore it has an area of 6.

Rectangle
Base x Perpendicular height

Parallelogram/ Rhombus
Base x Perpendicular height



Triangle
½ x Base x Perpendicular height

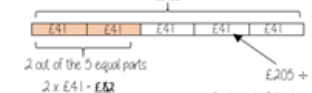
A triangle is half the size of the rectangle it would fit in

Section C: Subject Specific Support

Bar Models for Fractions

The bar represents the whole amount

Find $\frac{2}{5}$ of £205



2 out of the 5 equal parts
2 x £41 = £82

£205 ÷ 5 = £41
Each part of the bar model represents £41

Access **Hegarty Maths** on a computer, tablet device or smartphone for additional support:
www.hegartymaths.com
Select **Bluecoat Wollaton Academy**

Topic	Videos
Written methods of Operations	18—22, 143
Multiply/Divide by Powers of 10	15, 16
Perimeter of Polygons	548-552
Area of Polygons	553-558
Maths with Money	743-749
Displaying Data	422-425, 369, 370
Mean (Average)	405-408
Fractions of an Amount	77-80
Percentage of an Amount	84-87

Concepts you have seen before: Operations (addition, subtraction, multiplication, division); inverse; placeholder; place value; fractions; percentages; shape names; commutative relationships; finding missing values; solving; equals.

Understanding the methods

National Numeracy
Getting on with numbers

Asking your child to explain their method – get them to teach it to you.

Use the Knowledge Organiser.

Explaining that with maths there is often more than one way to solve a problem. Show each other how you do it – and remember, neither of you are wrong!

Be **positive about maths** is just as important in supporting your child's learning! Make sure you talk positively about maths and how you use it in real life – this will help your child stick with it.

Asking your child's teacher if they can share an explanation of the methods with you.

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Tips for helping with maths homework

- If you don't know something, that's ok! Try and work out the problem together.
- When your child gets stuck, ask them to explain what they've done so far and what they're finding hard. Try to help them to work out where it is that they've gone wrong.
- With older children, show an interest but let them be more independent and figure out problems for themselves as much as they can.
- If they're doing well, praise your child for the effort they've put in.
- Rephrase questions if needed, using things that your child is interested in.
- You might find it helpful to start a homework routine, setting aside homework time in a quiet place without distractions for your child.
- If the homework is too hard, speak to their teacher.

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Every Day Activities

Take every day opportunities to practise numeracy skills

car journeys, holiday planning, supermarkets

positive attitude to numeracy and maths

equal priority to literacy

support the use of a calculator at home

allows children to tackle more complex problems with increased confidence

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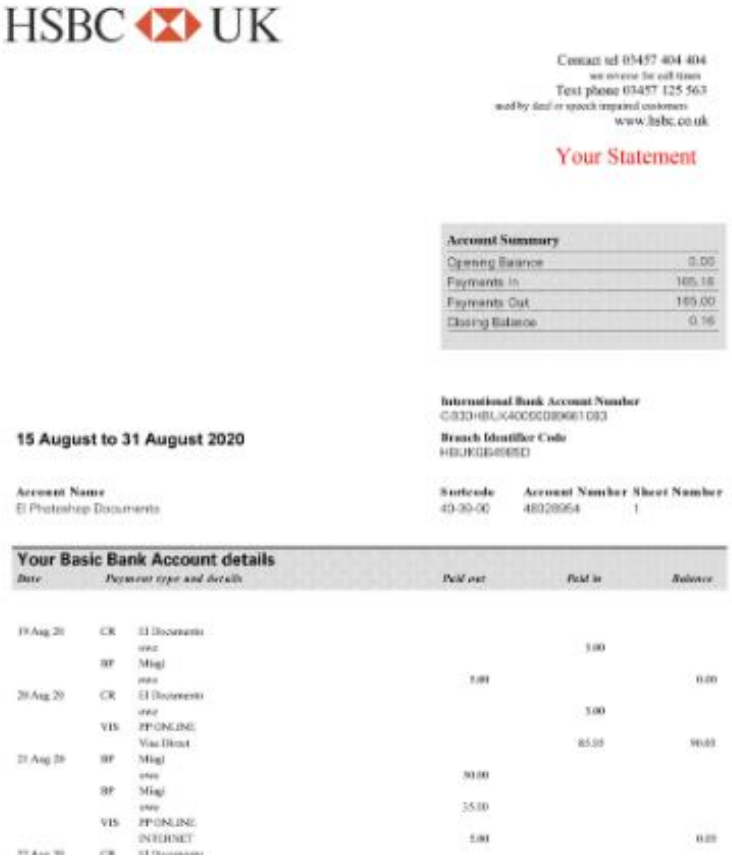
Time to check the finances



HSBC UK

Contact tel 03457 404 404
we reverse for call times
Text phone 03457 125 563
used by deaf or speech impaired customers
www.hsbc.co.uk

Your Statement

Account Summary	
Opening Balance	0.00
Payments In	165.16
Payments Out	165.00
Closing Balance	0.16

15 August to 31 August 2020

International Bank Account Number
GB33HBUK40050380961083

Branch Identifier Code
HBUKGB4005D

Account Name	Sortcode	Account Number	Sheet Number
El Photoshop Documents	40-30-06	48028954	1

Your Basic Bank Account details

Date	Payment type and details	Paid out	Paid in	Balance
19 Aug 20	CR El Documents www		5.00	
	BP Mngl www	5.00		0.00
20 Aug 20	CR El Documents www		5.00	
	VIS PP*ONLINE Visa Direct		85.00	90.00
21 Aug 20	BP Mngl www	50.00		
	BP Mngl www	35.00		
	VIS PP*ONLINE INTERNET	5.00		0.00

In your account you have £64

You have a birthday gift to buy for next week

You are being paid £15 for babysitting

You have £8 in cash

You ned to pay £12 for cinema tickets

Can you buy the jeans?

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Sparx Maths

Students made

83%

more progress with just 15 minutes of practice every week

Students using Sparx Maths Homework made 83% more progress with just 15 minutes of practice (in comparison to those who did no homework). For each further 15 minutes of practice they made 67% more progress.

1 hour

of Sparx Maths a week significantly improves grades

External research conducted by RAND Europe and Cambridge University found that using Sparx Maths for 1 hour a week significantly improves grades.

sparxmaths.com

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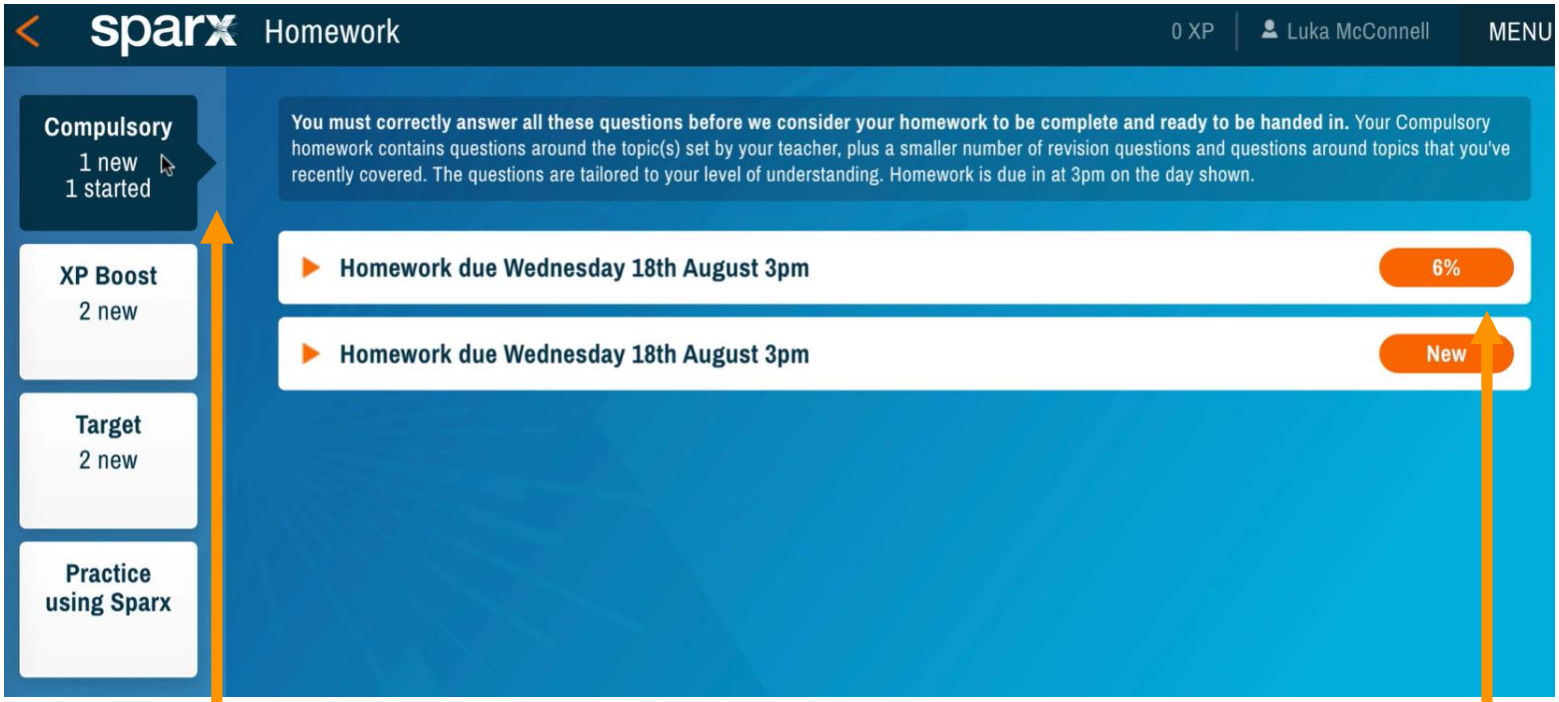
What does homework on Sparx Maths look like?



When you logon to Sparx all homework set will be on the compulsory tab

You can see all previous tasks set, with due dates and percentage of completion.
All students must get this percentage to 100%

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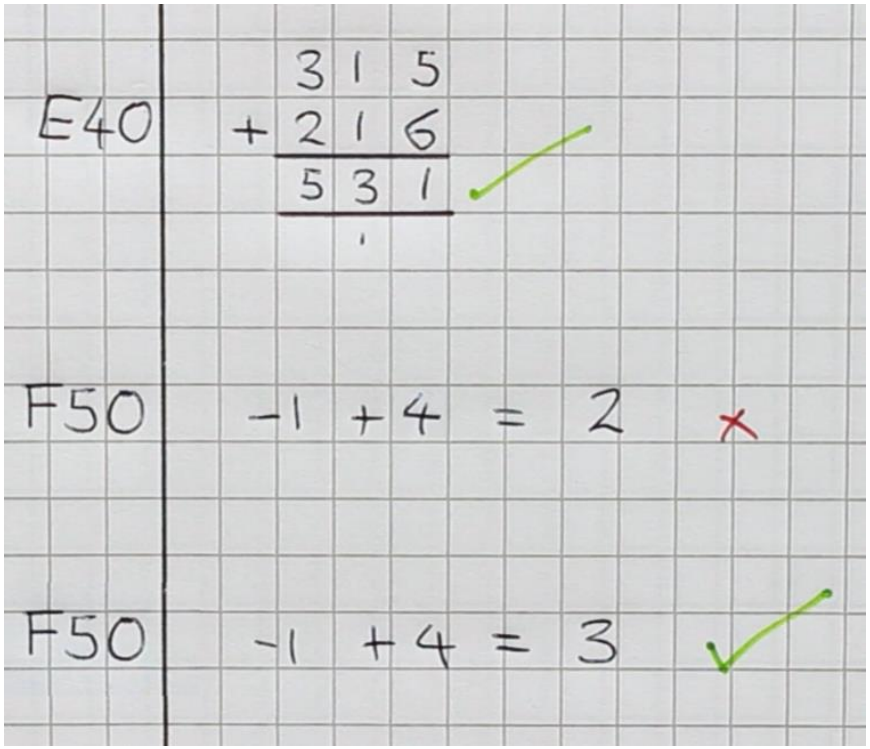
Bookwork and bookwork codes

Bookwork code: F50

Each task will have a bookwork code.

This needs to be written down in the margin before completing the question.

Complete the question in you book, enter the answer into sparx, then either tick or cross your answer

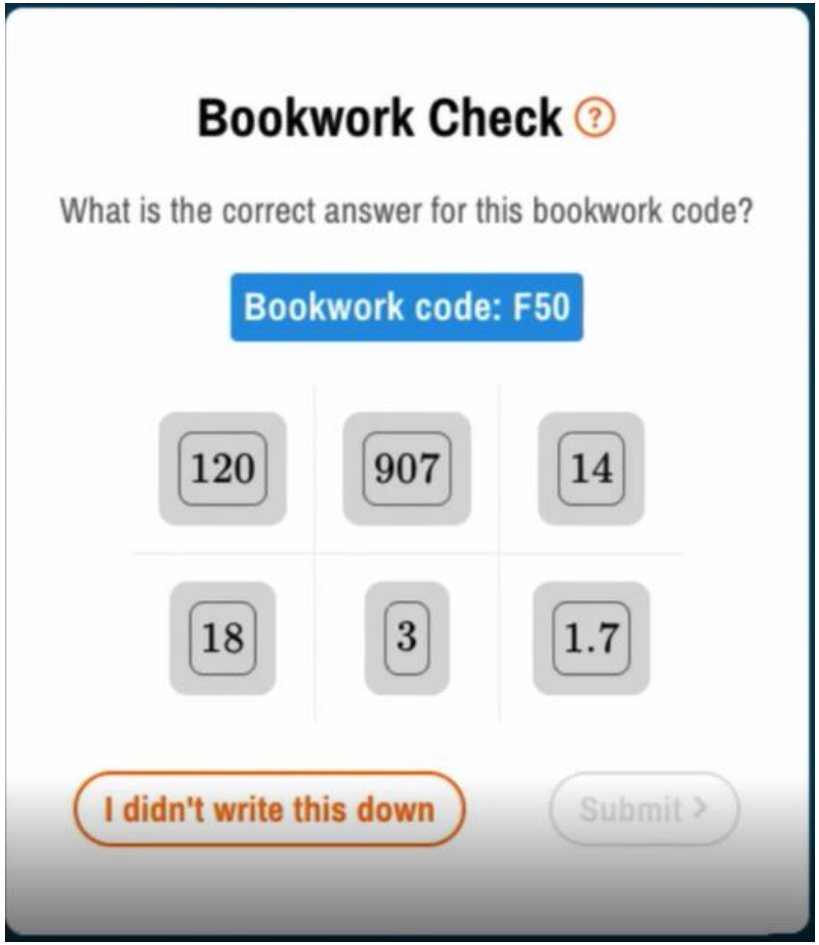


Bookwork checks

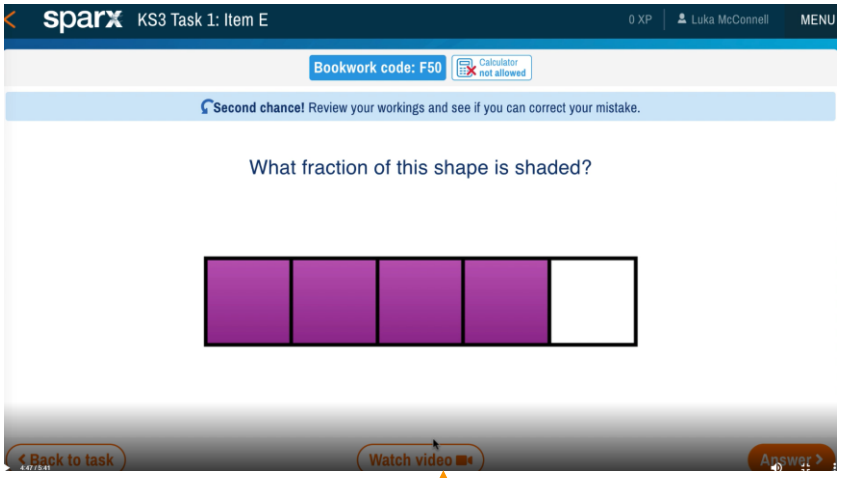
Every so often the student will be prompted to enter an answer to a bookwork code.

This is to check that students are writing down their working out and answers.

Students need to pass these bookwork check. If they fail too many the system will think they need more practice on that question.

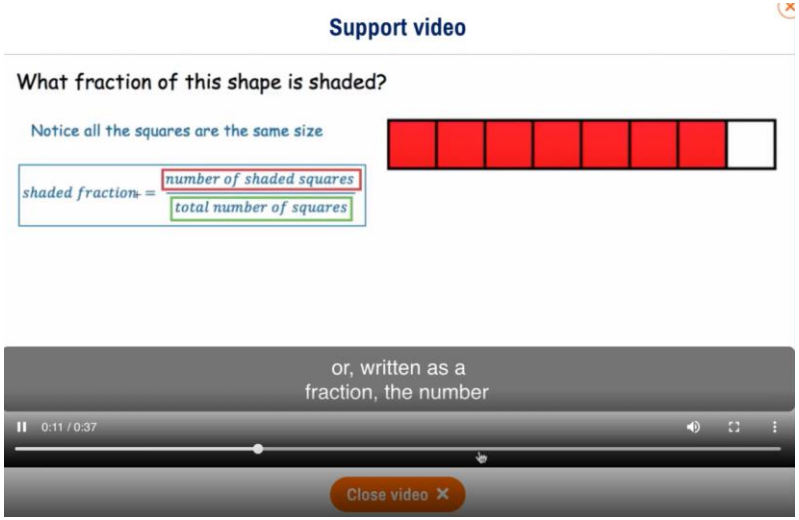


What if your child gets stuck?

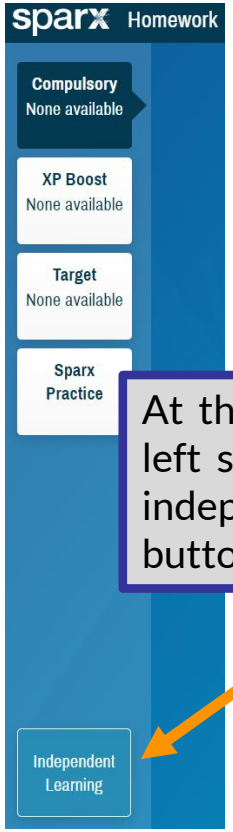


If the video is still no help, they can come to the Maths clinic in IT04 every lunch time to get teacher support.

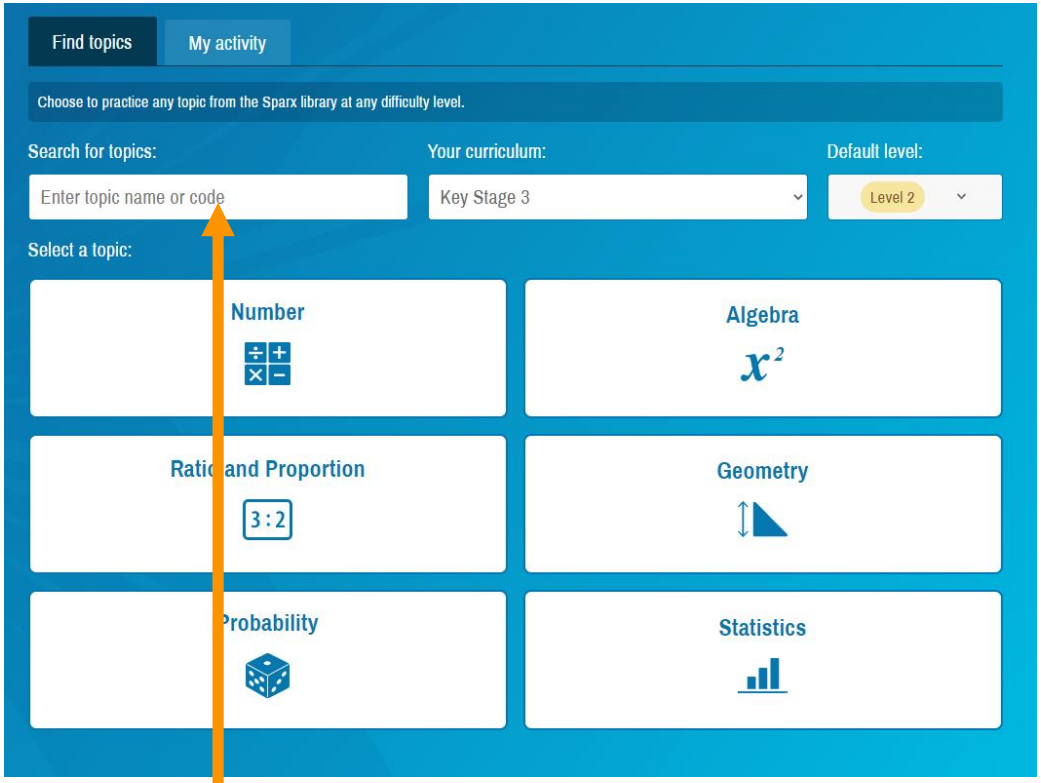
At the bottom of each question there is a 'watch video' button.
Click this to find a walk through video of a similar question.



How to use Sparx Maths for revision and follow up from assessments



At the bottom of the left side, click on the independent learning button



Here you can search via the topic you need to revise or by clip number (if given by teacher).

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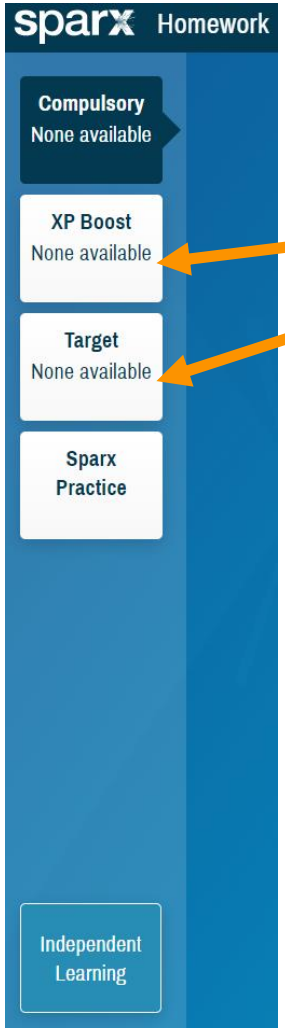
Students can boost their maths also!



By clicking on the XP boost or 'Target' buttons you open up further problems to extend the knowledge and understanding.

What happens when students use Sparx Maths properly?

1) Students start enjoying maths more and understand more in lessons.

2) Students like doing their homework as they feel successful.

3) Students do well in their exams.

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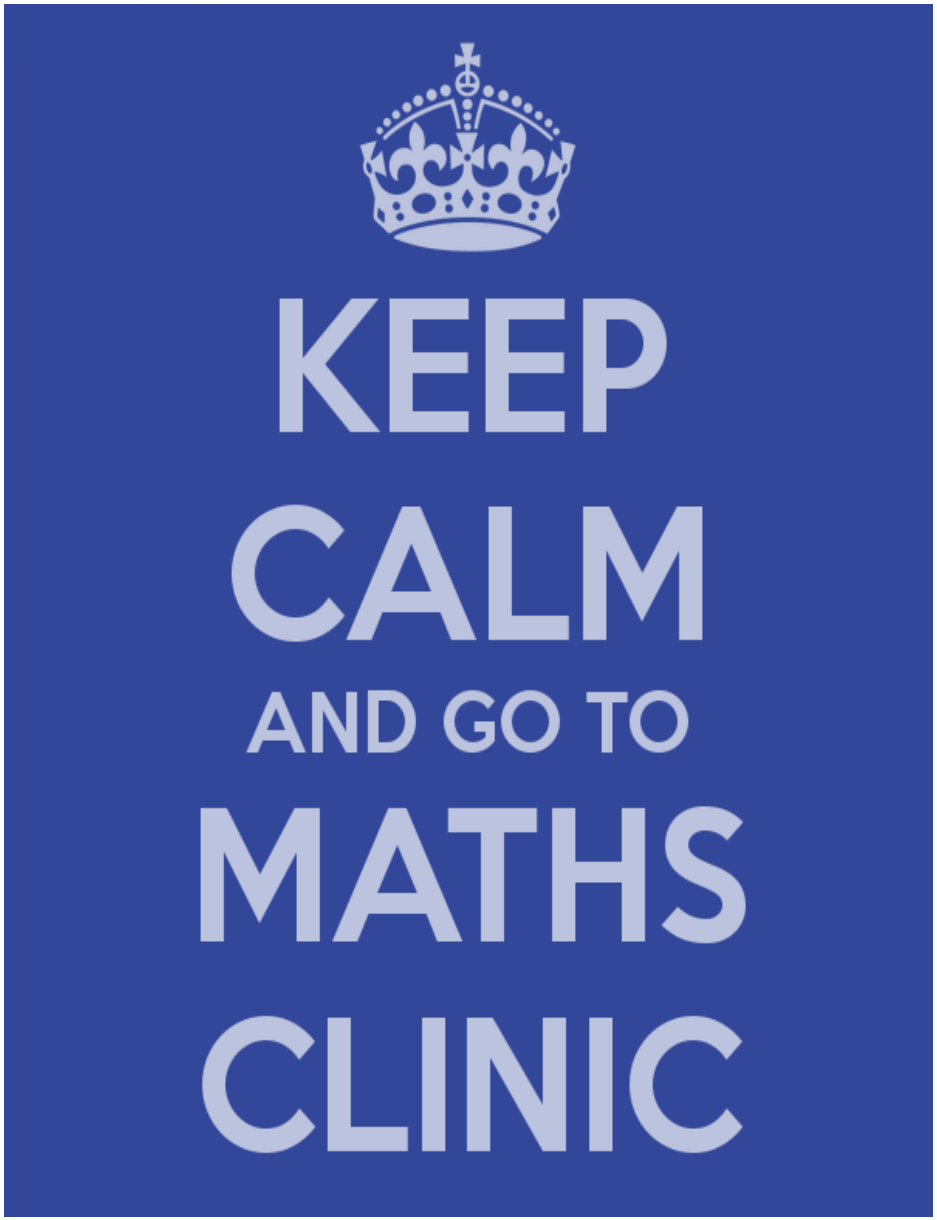

MONDAY

Mr Mosley & Mrs Sharpe

TUESDAY

Mrs Grimshaw & Miss Fenojo

WEDNESDAY

Miss Moore & Miss Fenojo

THURSDAY

Mrs Roper & Mrs Grimshaw

FRIDAY

Mrs Begum & Mr Tilson

Every Lunchtime in IT04

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TIMES TABLES ROCKSTARS

It's a sad truth that not all students know their times tables off by heart. By not having this basic building block, problem-solving later on is always going to be light on solving and big on problems. Since 2013, thousands of schools have adopted TT Rock Stars and their pupils too are enjoying a faster times tables recall speed and more confidence in maths.

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Times Tables Rock Stars

- **Times Tables Rock Stars** is a carefully sequenced programme of daily times tables practice.
- This is personalised for each student depending on the areas on which the student struggles.
- The creation of an Avatar and the different competitive games make for a fun experience during the learning.

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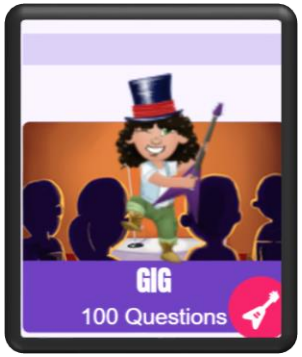

Online games

Gig and Garage go together to make Automatic Training Mode.
Probably the most personalised times tables training in the world!

Why are we using TTRS?

- It has already been a tried and tested program for primary schools, it has become used extensively – a lot of our year 7's are familiar with it already. We will keep up this momentum.
- Times Tables Rock Stars assists rapid recall – "what is 6×7" etc. – for numerical fluency.
- If this is instinctive it allows for confidence with using numbers.

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National Numeracy
Getting on with numbers

Number Confidence Week | Go to the Challenge

Supporting children | Numeracy for work | Managing money | About numeracy | About us | Support us

It's Number Confidence Week!

Nervous about numbers? We can help!

Whether you're anxious about making ends meet, applying for a job or helping children with maths, Number Confidence Week is here to help you feel better about numbers!

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