THE NORWOOD SCHOOL

MATHEMATICS

YEAR 7 Numeracy Booklet Booklet 2022-2023

NAME:

FORM:

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Contents

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- Each week you will be set one piece of compulsory intendent learning from your maths teacher, which they will check you have completed.
- This must be completed in your orange homework book
- The work from this booklet can also be completed in your orange book.
- The work in this booklet is for lesson consolidation, revision, and some extra maths challenge!

Learning Journey

Spring Half Term One:
Ratio and Scale

Contents:

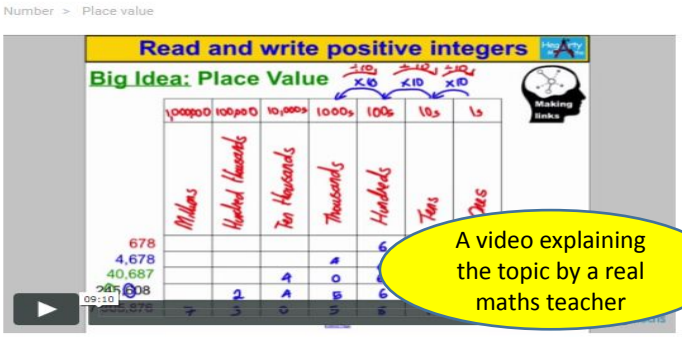
These are the topics we are covering each week this term. Tick the 'Red' 'Amber' or 'Green' column depending on how well you think you have understood each topic.

Spring 1	Topic	R	A	G
Week 1	Negative Numbers			
Week 2 and 3	Expressions			
	Collecting Like Terms			
	Expanding			
	Factorising			
Week 4 and 5	Balancing Equations			
	Inequalities			
Week 6	Exploring Equations and Inequalities			

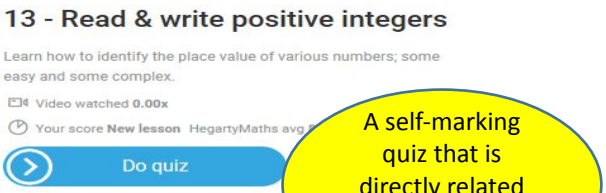
hegartymaths

"BELIEF + HARD WORK + SUPPORT = SUCCESS."

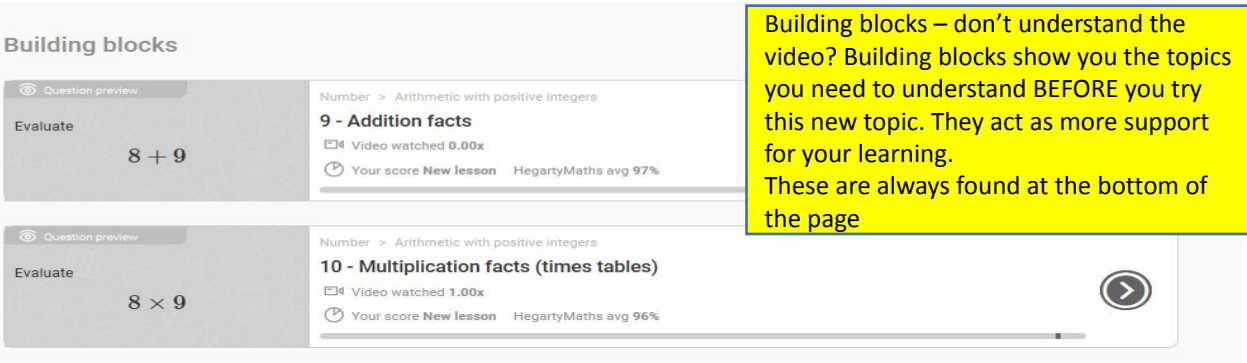
What does independent learning on Hegarty Maths look like?



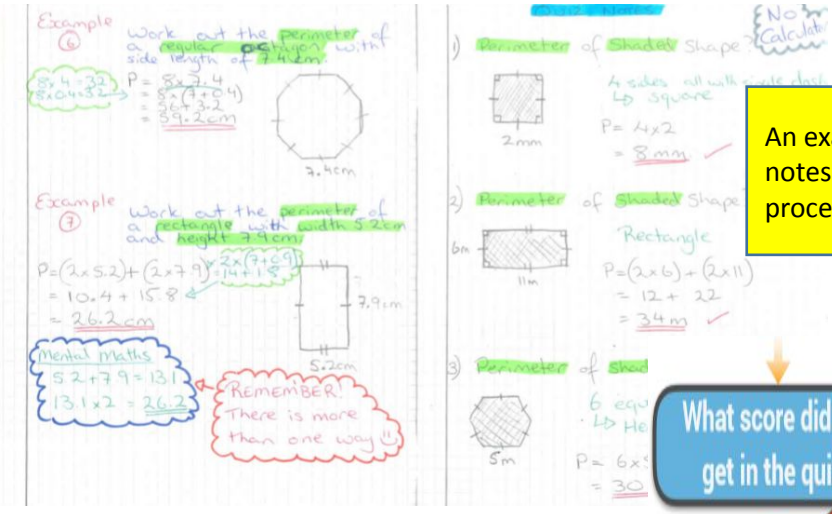
A video explaining the topic by a real maths teacher



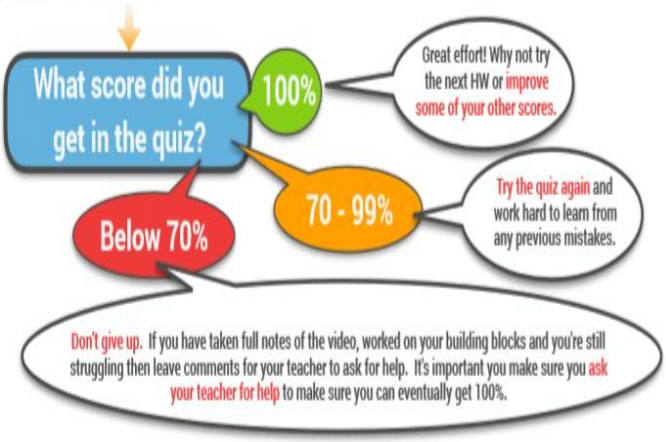
A self-marking quiz that is directly related to the video – no trick questions



Building blocks – don't understand the video? Building blocks show you the topics you need to understand BEFORE you try this new topic. They act as more support for your learning.
These are always found at the bottom of the page

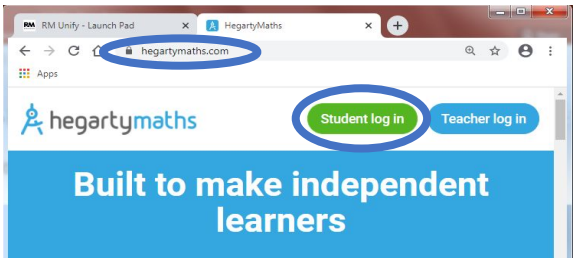


An example of great work – copying the notes and practicing showing off your process when attempting the questions



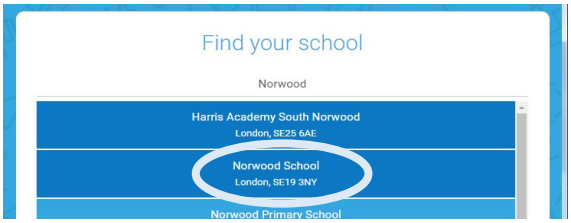
Don't forget to write a comment to your teacher if you get something wrong – they'll be able to help you!

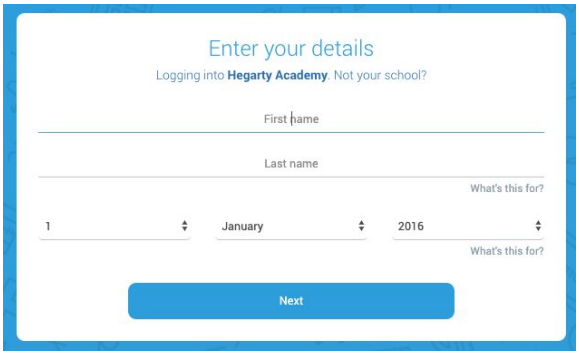
How to log into HegartyMaths



Step 1
From the website, www.hegartymaths.com, click on "Student log in"

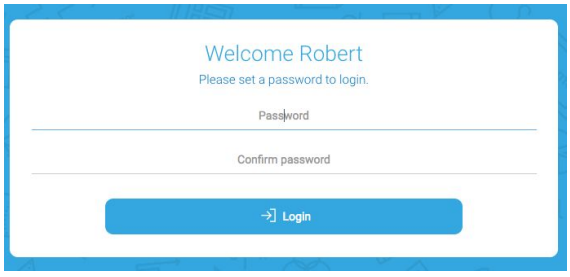
Step 2
Type in 'Norwood' to find our school. It will be the second option

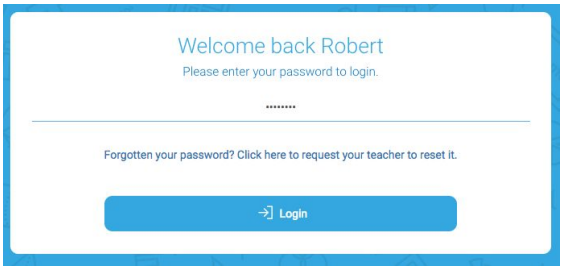




Step 3
Enter First name, Last name, and Date of birth. These must be the same as the details on the school register. Names are cAsE insEnsiTivE, so it doesn't matter if you write them in *lower* case or *UPPER* case or a *MiX*.

Step 4
The first time you log in, the system asks you to choose a password which you will need to write twice. Create a memorable password so you do not forget it. Only a teacher can reset a student password, so choose carefully! (Maybe write it down inside the cover of your Maths book?). Passwords ARE case sensitive!





The next time you log in, you'll just be asked for your password once.

If you have forgotten your password, click the link to request your teacher to reset it. They won't get the message until the next time they log in to HegartyMaths themselves, so don't leave your homework until the last minute!

This is a list of Hegarty clips and quizzes that run alongside the lessons we are doing this term.

- Type the clip number into the search bar on the Hegarty Maths website, and it will take you to the right video and quiz.
- Write the examples from the video in your Hegarty Maths book.
  Try to answer the examples before they are explained by Mr Hegarty – are you getting them right or did you make some mistakes?
- Complete the quiz, writing out your process in your Hegarty maths book.
- Need some extra help? You can try the 'building blocks' tasks for some support on skills you might need
- Want to push yourself? Try the next clip to see where the maths will go!

If you want some extra practice, or need some more help understanding what we covered in the lesson, you should try out the clip labelled 'consolidate'.

Once you have done these, or you want something a little harder to challenge yourself, try the clip labelled 'extend'.

When you have completed the task, you can tick it off here!

Autumn 2	Topic	Consolidate		Extend	
			✓		✓
Week 1	Negative Numbers	42		44	
		43			
Week 2 and 3	Expressions	151		153	
		152			
	Collecting Like Terms	156		157	
	Expanding	160		162	
	Factorising	168		169	
Week 4 and 5	Balancing Equations	178			
	Inequalities	267		269	
				270	
Week 6	Exploring Equations and Inequalities	552			

Maths Vocabulary

Spring Half Term One:
Ratio and Scale

A definition of the word will go here

Extra comments on the word will go here. A space for your own word at the end!

(Example)

✔

✘

This space will include examples of the word, things that are **CORRECT**

This space will include non-examples of the word, things that are **WRONG**

Either a single number or variable, or numbers and variables multiplied together.

Terms are separated by + or − signs

Term

A way of writing a single number using algebra.

The value of the expression is dependent on the value of the variable.

Expression

An equation says that two things are equal.

Equations are only true for certain values. It will have an = sign

Equation

A symbol for a value we don't know yet. It is usually a letter like x or y.

It is called a variable because we can substitute it for different values, so it can 'vary'

Variable

A fixed value.

In algebra, a constant is a number on its own (not multiplied by a variable)

Constant

A number used to multiply a variable.

Sometimes a letter stands in for the number

Coefficient

Putting values where the letters are.

You need to carry out the operations to get the final value

Substitute

An inequality compares two values, showing if one is less than, greater than, or simply not equal to another value.

Works like an equation

Inequalities

✔

> greater than	≥ greater than or equal
< less than	≤ less than or equal

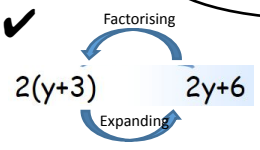
These are all wrong!

Writing an expression as a product of its common factors

Putting the brackets into the expression

Factorising

✔



Investigative Maths

On the next few pages are some investigations and challenges surrounding the topics you are doing.

Use the blank space to make notes to try out the investigations, and answer the questioned posed.

Some have right or wrong answers, but some are more open to what your thoughts on them might be!

Creepy Crawlies Investigation

Ross collects lizards, beetles and worms.

He has more worms than lizards and beetles together.

Altogether in the collection

there are twelve heads and

twenty-six legs.

How many lizards does Ross have?

If everyone in your (immediate) family had to shake each other person's hand, how many handshakes would it take?

Fill in the table below

Number of People	Total number of handshakes
1	
2	
3	
4	
5	
6	
7	

There is a special name for these numbers. Google it and find out!

The numbers are called _____ numbers.

Imagine you have **two of each** of the 'weights' on the right.

Different combinations of the weights available allow you to make different totals.

For example:

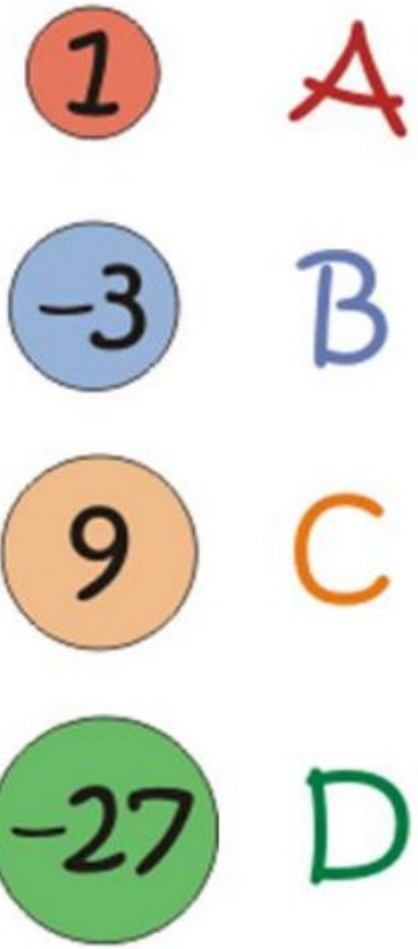
$B + C = 6$
$B + 2C = 15$
$A + 2B + C = 4$
$2A + B + 2C + D = -10$

The largest total you can make is 20 (check you agree).

The smallest total you can make is - 60 (again, check you agree).

Can you make all the numbers in between?

Is there always a unique way of producing a total, or can different combinations produce the same total?

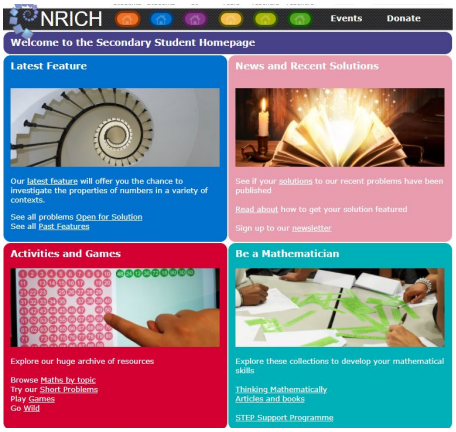


Note: You only have 2 of each weight

Weekly questions

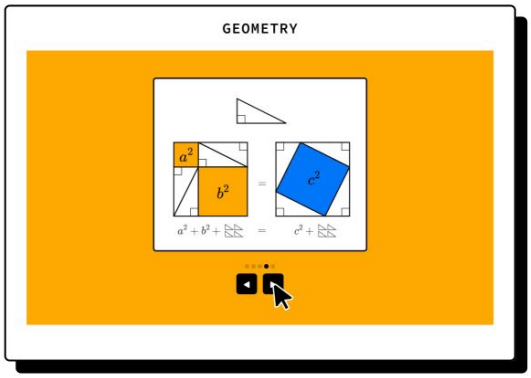
Extend your learning online!

Here are some great websites and resources to extend your learning online!



Nrich.com
Nrich has some great investigations, as well as daily and weekly puzzles.

Brilliant.org
Brilliant replaces lecture videos with hands-on, interactive lessons. It's a better (and more fun) way to learn.



Just need some practice?

Here are some interactive ways to practice your key maths skills.

Sumdog
Engaging and multiplayer maths based games Proven to accelerate progress.

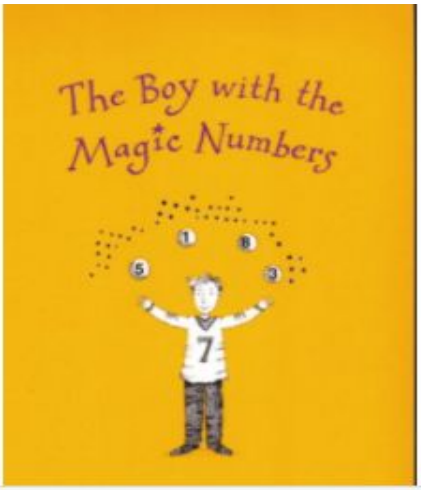
Khan Academy
A nonprofit with the mission to provide a free, world-class education for anyone, anywhere.

KHANACADEMY

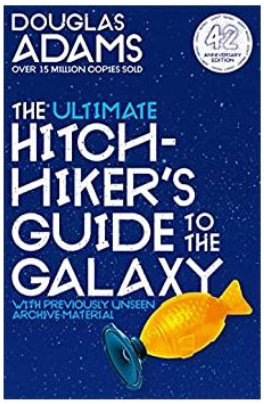
Recommended Reads!

Each maths teacher has suggested a maths based book you might enjoy! Some fictional, some factual!

Mr Hayes



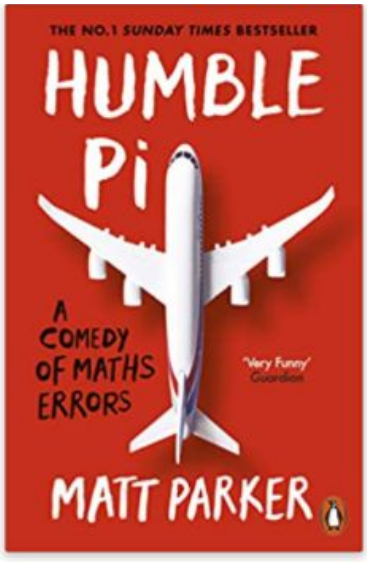
Ms Ene



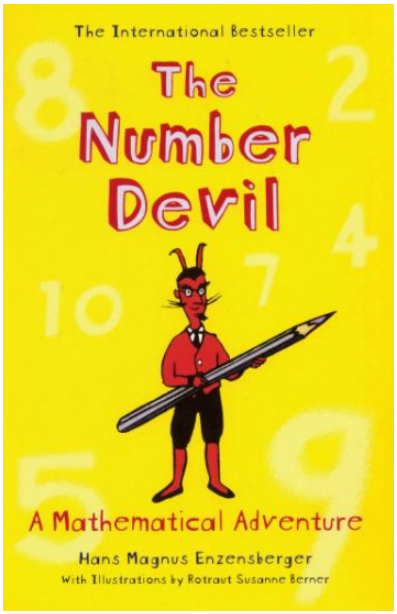
Ms LT

'Sushi Kokuu Hen'

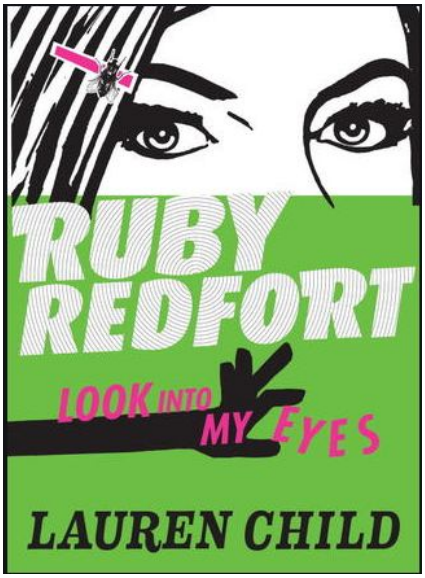
Mr Brown



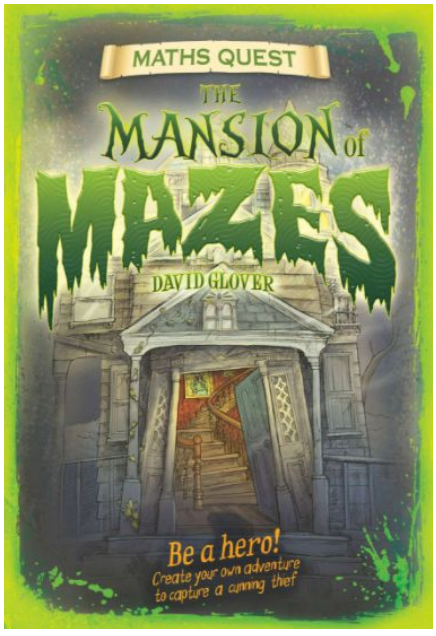
Mr Evans



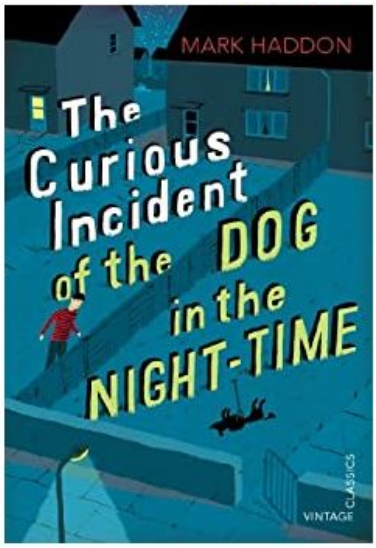
Ms Bell



Ms Howie



Mr U



For more information or guidance on completing your Independent Learning Booklet, speak to or email your Maths teacher:

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