



# Meet the department...

In the Maths department we have 5 Maths Teachers. Throughout this booklet you will find out about some of our favourite Maths related things. Come back to this page to fill those in, can you find them all?

**MRS DEAMER**

Favourite Number:

Favourite Mathematician:

Favourite topic:

**MR EZEALA**

Favourite Number:

Favourite Mathematician:

Favourite topic:

**MISS LODGE**

Favourite Number:

Favourite Mathematician:

Favourite topic:

**MR SMITH**

Favourite Number:

Favourite Mathematician:

Favourite topic:

**MISS WIGGETT**

Favourite Number:

Favourite Mathematician:

Favourite topic:

# The 24 game...

Try this with your family – who is the quickest?

One of our favourite things to do on transition is to play the 24 game. The aim of the game is to be the first person to make the number 24.

For each game you have 4 numbers, you have to use **ALL** four numbers, you can add, subtract, multiply or divide these to make 24.

Example:



**2 2 6 8**

To make 24, I can do  $(8 - 2) \times (6 - 2)$

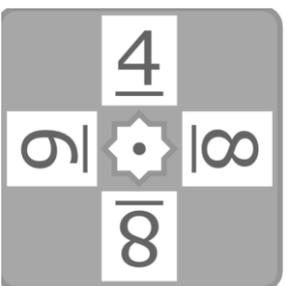
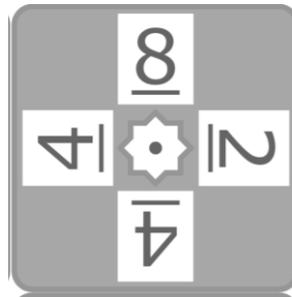
$$8 - 2 = 6$$

$$6 - 2 = 4$$

$$6 \times 4 = 24$$

ONE DOT - EASIEST

Now it's your turn, the 24 cards are below they get harder as you go through.



Miss Lodge has 2 favourite numbers. The first is unlucky for some, her second is the square of 12....

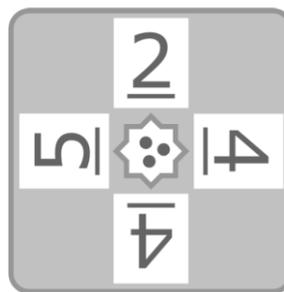
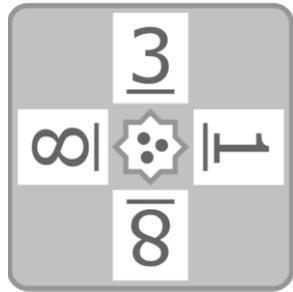
# The 24 game...

Mr Smith's favourite number is the product of  $2 \times 2 \times 2 \times 5 \times 5$

## TWO DOT - MEDIUM



## THREE DOT - HARDER



Miss Wiggett's favourite number is the third square number

# Key Skills...

When you get to a page like this, spend 10 minutes completing the skills check questions based on topics from Y6.

<b>Question 1</b> Write in figures : thirteen thousand, five hundred and two units	<b>Question 2</b> Write in figures : seventy seven thousand, eight tens and three units	<b>Question 3</b> List the factors of 51	<b>Question 4</b> List the factors of 36
<b>Question 5</b> Work out $7 \times 10 =$	<b>Question 6</b> Work out $10 \times 10 =$	<b>Question 7</b> Simplify $\frac{8}{16}$	<b>Question 8</b> Simplify $\frac{12}{42}$
<b>Question 9</b> Find 50% of £180	<b>Question 10</b> Find 25% of £120	<b>Question 11</b> Round 2084 to the nearest 100	<b>Question 12</b> Round 3372 to the nearest 10
<b>Question 13</b> Work out $86 \times 8 =$	<b>Question 14</b> Work out $630 \times 9 =$	<b>Question 15</b> Simplify $5c + 5c + 6c$	<b>Question 16</b> Simplify $10a + 2b + 8a + 7b$
<b>Question 17</b> Work out $39253 + 15736 =$	<b>Question 18</b> Work out $30730 + 18364 =$	<b>Question 19</b> Work out $8 \times 2 - 5$	<b>Question 20</b> Work out $6 + 11 \times 3$

## SKILLS CHECK

Score

[www.mathsbox.org.uk](http://www.mathsbox.org.uk)

Mrs Deamer's favourite topic is sequences. A famous Italian Mathematician was Fibonacci who studied math and theories back in the 11th century. He discovered a pattern called the Fibonacci sequence. It's a series of numbers that starts with 0 and 1, and each number after is found by adding the two previous numbers (0, 1, 1, 2, 3...)The sequence just keeps going on and on.

Can you find the NEXT 10 numbers in the sequence?

# Maths Keywords...

You will come across a lot of new mathematical terminology over the next year. See if you can find the given words in the word search below.

Y R Y A P F F T Z P M M D Q U M Z L N U  
F I J X F U D M E E B U D O N D I M X E  
B D P J B K C D B R U F I H I B Y V W J  
C K H U T U G Z I I Z M D L T V F S F S  
Y P I Z P L N M G M I Q A W S Y V D R Q  
H X A T M Y K O P E L S Q W R E P E W K  
C O D K Q I A Q D T C T E E S M H R U T  
P L A C E V A L U E G Q B T D Z D D M J  
J V B S H U K I N R S M D D A T M N K N  
Z T R K F S L D L P U C M M N M O U G M  
W O O Z D A I P C N R Q E X Z P I H J M  
E M N T M N V Y E C C C Q N A R J T Q N  
U K E I G T V R C F R N B H D Q H Z S X  
P N C X A U A L G N S L B W V I D I D E  
S E T F O U K L W Q C T I R Q N N P N E  
D Z J D Q P T C A R T B U S O R K G B F  
F V N S N I T G B P K G L R W U D J R V  
O F V S G P O L Y G O N Q I X R N R O L  
O U J V F K T B N Q V Z U D U V A D K O  
E L E F T K D W E F Y A C L J T J N R L

Mr Ezeala's favourite number is the fourth prime number

ADD  
ASCENDING  
DECIMAL  
DESCENDING  
ESTIMATE  
HUNDREDS  
PERIMETER

PLACEVALUE  
POLYGON  
ROUND  
SQUARENUMBER  
SUBTRACT  
TENS  
UNITS

Miss Lodge's favourite mathematician is Carol Vordeman. In 1978, when she was 17, she went up to read engineering at Sidney Sussex College, Cambridge. Carol went to Cambridge as one of the youngest women ever admitted at the time.

Carol co-hosted the popular game Countdown from 1982-2008, revealing her intellectual ability by carrying out fast and accurate arithmetic calculations during the numbers game to reach an exact solution if neither contestant was able to do so. Her lasting success on the show led to her becoming one of the highest-paid women in Britain.

# What number am I?

Use the clues below to find the number that I am thinking of!

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Guess my number 1

The number is a multiple of 3

ATM

Guess my number 1

The digital sum is 6

ATM

Guess my number 1

Find the number between 1 and 99

ATM

Guess my number 1

It is more than 5 squared

ATM

Guess my number 1

One of the digits is a 2

ATM

Guess my number 1

It is less than 55

ATM

Guess my number 1

It is not a square number

ATM

# Key Skills...

Mrs Deamer's favourite number is the first perfect number. Research what a perfect number is and find her favourite number!

When you get to a page like this, spend 10 minutes completing the skills check questions based on topics from Y6.

Name :

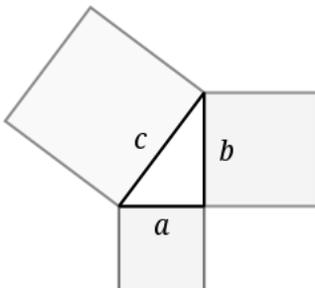
61.2

<b>Question 1</b> Write in figures : six thousand, four tens and six units	<b>Question 2</b> Write in figures : One hundred and twenty six thousand, nine tens and three units	<b>Question 3</b> List the factors of 30	<b>Question 4</b> List the factors of 20
<b>Question 5</b> Work out $306 \times 1000 =$	<b>Question 6</b> Work out $34 \times 1000 =$	<b>Question 7</b> Simplify $\frac{20}{70}$	<b>Question 8</b> Simplify $\frac{18}{63}$
<b>Question 9</b> Find 75% of £720	<b>Question 10</b> Find 75% of £500	<b>Question 11</b> Round 6199 to the nearest 100	<b>Question 12</b> Round 2096 to the nearest 1000
<b>Question 13</b> Work out $77 \times 9 =$	<b>Question 14</b> Work out $397 \times 6 =$	<b>Question 15</b> Simplify $9x + 4x - 3x$	<b>Question 16</b> Simplify $10a + 3b + 7a + 6b$
<b>Question 17</b> Work out $37959 + 32050 =$	<b>Question 18</b> Work out $24509 + 19451 =$	<b>Question 19</b> Work out $5 \times 2 + 2$	<b>Question 20</b> Work out $5 \times 4 + 3$

## SKILLS CHECK

Score

www.mathsbox.org.uk



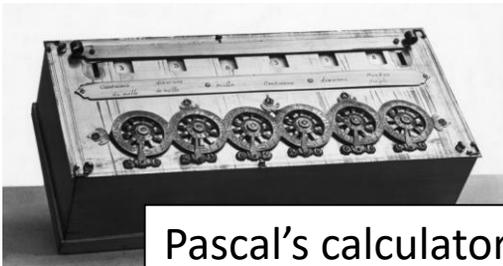
Miss Wiggett's favourite topic is Pythagoras in 3D!!

**Pythagoras** of Samos was a famous Greek mathematician and philosopher (c. 570 – c. 495 BC). He is known best for the proof of the important [Pythagorean theorem](#), which is about right angled triangles. He started a group of mathematicians, called the Pythagoreans, who worshiped numbers and lived like monks.

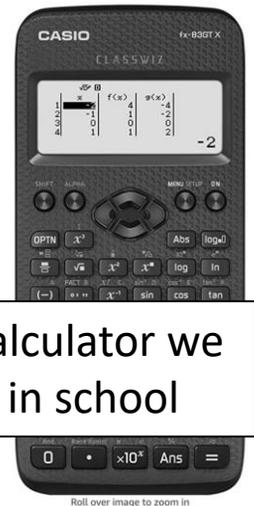
Can you find out what the Pythagorean theorem is? You will use it in Year 9.

# The calculator transformation..

**Blaise Pascal**, in his short 39 years of life, made many contributions and inventions in several fields. He is well known in both the mathematics and physics fields. In mathematics, he is known for contributing Pascal's triangle and probability theory. He also invented an early digital calculator and a roulette machine.



Pascal's calculator



The calculator we use in school

The modern calculator can now be found everywhere, both mini and large versions and is embedded into devices such as laptops and mobile phones. How many devices that have calculators can you find in your house?

# Code Breaking...

## Alan Turing

Alan Turing was a British mathematician. He made major contributions to the fields of mathematics, computer science, and artificial intelligence. He worked for the British government during World War II, when he succeeded in breaking the secret code Germany used to communicate.



In September 1939 Great Britain went to war against Germany. During the war, Turing worked at the Government Code and Cypher School at Bletchley Park. Turing and others designed a code-breaking machine known as the Bombe. They used the Bombe to learn German military secrets. By early 1942 the code breakers at Bletchley Park were decoding about 39,000 messages a month. At the end of the war, Turing was made an Officer of the Most Excellent Order of the British Empire.

Can you crack the code to reveal Mr Smith's favourite topic?

A	B	C	D	E	F	G	H	I	J	K	L	M
55	47	84	10	9	75	59	64	32	15	23	50	26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
80	63	19	3	27	30	21	92	18	35	99	69	199

$12 \times 7 =$	
$9 \times 7 =$	
$104 \div 4 =$	
$37 - 18 =$	
$27 + 36 =$	
$184 \div 2 =$	
$400 \div 5 =$	
$5^2 - 15 =$	

$57 \div 3 =$	
$3^2 =$	
$54 \div 2 =$	
$21 \times 4 =$	
$108 \div 12 =$	
$2 \times 8 \times 5 =$	
$126 \div 6 =$	
$39 + 16 =$	
$108 - 49 =$	
$45 - 6^2 =$	
$13 + 17 =$	

Can you make up some calculations to spell out your name using the same code breaker grid?

Can you make up your own message for a friend to decode?

# Maths Challenges...

Can you solve all the Maths challenges?  
They get more difficult as you get them..

Stickers come in packs of 5.

Max buys 12 packs.



He gave his three friends some stickers.

They each receive the same number.

He has 27 stickers left.

How many stickers did Max give each of his friends?

Here are 3 containers.



- The jug can hold **1500 ml**.
- The bucket can hold **2 litres**.
- The barrel can hold **15 litres**.

Anisa wants to fill the barrel with water.

Find 2 ways that Anisa can fill the barrel using the jug and bucket.

Here is a 3 x 3 grid with some shapes in.

			<b>108</b>
			<b>102</b>
			<b>95</b>

Each shape represents a number.

The sum of each row is shown at the right of the table.

Find the value of each of the shapes.

# Key Skills...

When you get to a page like this, spend 10 minutes completing the skills check questions based on topics from Y6.

Name :

61.5

<b>Question 1</b> Write in figures : nineteen thousand, eight hundred and three units	<b>Question 2</b> Write in figures : six thousand, eight tens and eight units	<b>Question 3</b> List the factors of 99	<b>Question 4</b> List the factors of 28
<b>Question 5</b> Work out $96 \times 10 =$	<b>Question 6</b> Work out $31 \times 100 =$	<b>Question 7</b> Simplify $\frac{6}{33}$	<b>Question 8</b> Simplify $\frac{6}{42}$
<b>Question 9</b> Find 50% of £880	<b>Question 10</b> Find 50% of £360	<b>Question 11</b> Round 3291 to the nearest 10	<b>Question 12</b> Round 1928 to the nearest 100
<b>Question 13</b> Work out $86 \times 6 =$	<b>Question 14</b> Work out $171 \times 2 =$	<b>Question 15</b> Simplify $7y - 4y - 5y$	<b>Question 16</b> Simplify $8a + 4b + 5a + 3b$
<b>Question 17</b> Work out $12389 + 9125 =$	<b>Question 18</b> Work out $29494 + 3633 =$	<b>Question 19</b> Work out $34 - 3 \times 4$	<b>Question 20</b> Work out $21 - 5 \times 2$

## SKILLS CHECK

Score

[www.mathsbox.org.uk](http://www.mathsbox.org.uk)

Mr. Ezeala's  
favourite  
mathematician

### Archimedes

Archimedes was a Greek mathematician famous for his contributions to the field of mathematics, particularly geometry, arithmetic and mechanics. He determined the exact value of pi and coined the famous word "eureka", which is almost unanimously used to express great joy upon any new discovery.

# Maths Challenges...

Can you solve all the Maths challenges?  
They get more difficult as you get them..

Mr. Ezeala's favourite topic to teach is Trigonometry. You will learn more about this later in year 9.

Connor has five times as much money as Jayden.

Connor gives some money to Jayden.

They now have £8.52 each.

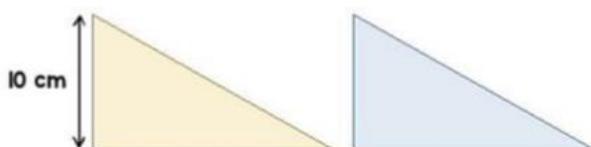
How much did Connor have at the start?

80 people take part in a race.

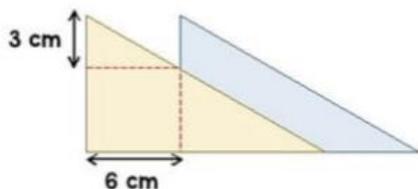
- The ratio of children to adults in the race is **2:3**.
- The mean time for the adults is **2 minutes 15 seconds**.
- The mean time for all 80 people is **3 minutes**.

Find the mean time for the children.

Here are two triangles identical in size.



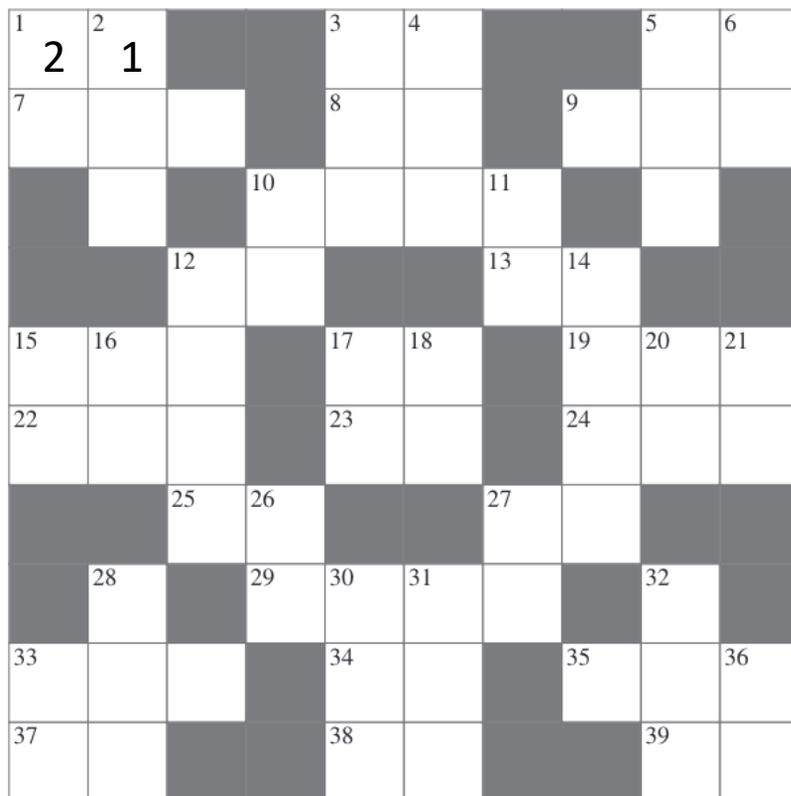
The two triangles are overlapped.



What is the area of the blue triangle showing?

# Cross Number...

USE THE QUESTIONS BELOW TO COMPLETE THE CROSS NUMBER.



Mr. Smith is a big fan of Andrew Wiles. This English mathematician worked on a number of outstanding problems in number theory, but is best known for proving 'Fermat's last theorem'. Many mathematicians had tried to solve it over 300 years, but with no success. Wiles had been fascinated by the problem from the age of 10, when he first saw it.

## ACROSS

1. The number of spots on a standard dice (2)
3. The largest two-digit multiple of 13 (2)
5. One more than 8 ACROSS (2)
7. One quarter of the square of 6 DOWN (3)
8.  $2 \times 2 \times 2 \times 2 \times 2$  (2)
9. A cube number (3)
10.  $15 \text{ ACROSS} + 3 \text{ DOWN} + 6 \text{ DOWN} + 21 \text{ DOWN} + 36 \text{ DOWN}$  (4)
12.  $39 \text{ ACROSS} - 33 \text{ DOWN}$  (2)
13. Twice (1 ACROSS + 1 DOWN) (2)
15.  $1 \text{ DOWN} \times 38 \text{ ACROSS}$  (3)
17.  $36 \text{ DOWN} - 8 \text{ ACROSS}$  (2)
19. A square number (3)
22. The smallest three-digit square number with all its digits different (3)
23.  $1 \text{ ACROSS} + 6 \text{ DOWN}$  (2)
24. A multiple of 4 DOWN (3)
25.  $27 \text{ ACROSS} + 37 \text{ ACROSS}$  (2)
27.  $39 \text{ ACROSS} + 1 \text{ DOWN}$  (2)
29.  $200 \times 12 \text{ ACROSS} + 27 \text{ DOWN}$  (4)
33. 10 times 2 dozen (3)
34. A square of a square number (2)
35.  $5 \times 1 \text{ ACROSS} +$  one-seventh of 12 ACROSS (3)
37. A half of 8 ACROSS (2)
38. A cube number (2)
39. One less than 6 DOWN (2)

## DOWN

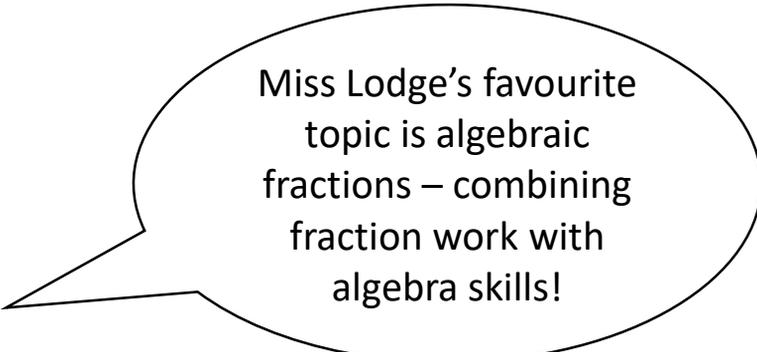
1. A prime number (2)
2. The sum of the first ten prime numbers (3)
3. The number of hours in 39 days (3)
4.  $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$  (3)
5.  $22 \text{ ACROSS} + 28 \text{ DOWN}$  (3)
6. The number of minutes in three-fifths of an hour (2)
10. A multiple of 7 (2)
11.  $3 \times 37 \text{ ACROSS}$  (2)
12.  $(22 \text{ ACROSS} - 6 \text{ DOWN}) \times 9$  (4)
14. A number all of whose digits are the same (4)
15. A prime number (2)
16.  $27 \text{ ACROSS} - 8 \text{ ACROSS}$  (2)
17. A multiple of 9 (2)
18. A prime number (2)
20. A square number (2)
21. The square of a square number (2)
26.  $3 \times 12 \text{ ACROSS}$  (2)
27. Two-thirds of 36 DOWN (2)
28.  $22 \text{ ACROSS} - 1 \text{ DOWN}$  (3)
30.  $1 \text{ ACROSS} \times 26 \text{ DOWN}$  (3)
31.  $25 \text{ ACROSS} + 4 \text{ DOWN} + 5 \text{ DOWN}$  (3)
32.  $17 \text{ DOWN} + 27 \text{ ACROSS}$  (3)
33. The sum of the digits of 1 DOWN, 17 ACROSS and 17 DOWN (2)
36. One and a half times 27 DOWN (2)

Miss Wiggett's favourite mathematician is Dr Hannah Fry. She works alongside a unique mix of physicists, mathematicians, computer scientists, architects and geographers to study the patterns in human behaviour - particularly in an urban setting. Her research applies to a wide range of social problems and questions, from shopping and transport to urban crime, riots and terrorism.

Can you find the mathematical word hidden in the sentence.

The wasp he released made us run. → *sphere*

1. They are all easy. →
2. Too much sun has made crisp her ears. →
3. It always gives me tremendous pleasure. →
4. It is awful to have pains in every part of you. →
5. A fox cub enjoys frolics. →
6. It is, all the same, a surety for good behaviour. →
7. I cannot abide greefly. →
8. Grasp a certificate quickly. →
9. Such a melon ought to be eaten. →
10. These could be such ordeals. →
11. One fact or other is always important. →
12. Why should the imp owe real money to me? →



Miss Lodge's favourite topic is algebraic fractions – combining fraction work with algebra skills!

Mrs Deamer's favourite mathematician is Katherine Johnson. She was an American mathematician whose calculations were critical to the success of the first and subsequent U.S. crewed spaceflights. She earned a reputation for mastering complex manual calculations and helped pioneer the use of computers to perform the tasks. Johnson's work included calculating trajectories, launch windows and emergency return paths for spaceflights.

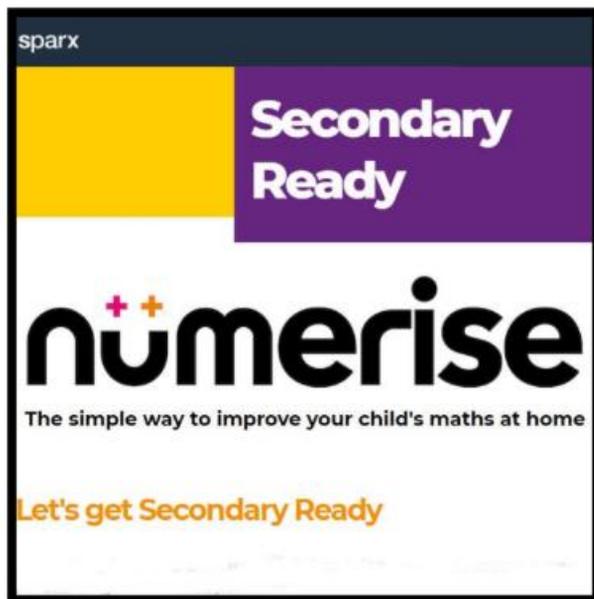
# Word Searches

Each of the blocks of letters below represents a maze. A way has to be found through the maze moving (up and down or across but **not** diagonally) from letter to letter. No letter may be used twice. In some cases arrows show where the maze is to be entered and left. The letters visited must spell words as you go, and these words can be written on the dashed lines to the right of each maze. The number of dashes show how many letters are in each word. The first one has been started.

↓	↑	<i>M E T R E</i>	
M E R E E R U		<i>D E G R E E</i>	
R T G E E A S		<i>D E C I</i> - - - -	
E D E D M M U		- - - - - - - -	↓ ↑
M I C E R E S		- - - - - - - -	C E R T I L - - - - - - - -
A L N V A U Q		- - - - - - - - - -	I R O R L E - - - - -
E H O E I C S		- - - - - - - -	L C T C I N - - - - -
X A G R T A L		- - - - -	E O D A F T - - - - - - - - - -
		- - - - - - - - - -	A A D B T C - - - - - - - -
			R E S U R A - - - - -
			- - - - - - - - - -

↓			
G M E L E P		- - - - - - - - - -	
E O T G N O		- - - - - - - -	
N Y R R A L		- - - - - - - -	
U M B E G Y		- - - - - - - - - -	O I T D I O - - - - - - - -
O S U N O D →		- - - - -	R R A O U B - - - - -
B L L P M I		- - - - - - - - - -	E D T C C N - - - - - - - -
N O I M A R		- - - - - - - -	I N A G T O - - - - - - - - - -
G P R E P Y		- - - - - - - - - -	L Y C O E S ← - - - - - - - - - -
			B U S N R Q - - - - - - - - - -
			M O H R A U - - - - - - - -

We are delighted to let you know that a free online programme was recently launched called 'Secondary Ready' that you can access at home this summer.



Simply register at [numerise.com/secondary-ready](https://numerise.com/secondary-ready) and complete the course. It's only twelve lessons and if you complete them all, you will be super ready for your Year 7 math's lessons. Let us know if you finish it – we can't wait to hear how you get on.

**Completed your booklet? That's incredible, well done! Make sure you bring it with you in September to show us what you've done and we will reward you with some smiley face points!!**