Ashleworth C of E and Churcham Primary Schools'

Maths statement of intent

Subject leader: Esther Deackes

Maths is essential to everyday life, whether it be working out the cost of shopping or working out how long you've got before your favourite TV show. We use Maths everyday and as a result, we ensure that our children are fluent in the fundamentals of Mathematics and are able to apply these skills to reason and solve problems.

How do we teach Maths at Ashleworth C of E and Churcham Primary School?

At Ashleworth and Churcham, we teach stimulating and engaging Maths lessons everyday in both classes. We make sure our lessons are challenging for all children through our 'Do it, Twist it, Solve it' approach.

'Do it' tasks develop children's fluency of skills. This includes using mathematical methods accurately and recalling facts efficiently. 'Twist it' tasks encourage children to use the skills learnt in the 'Do it' task to reason logically. This includes proving, explaining and justifying answers using correct mathematical vocabulary. 'Solve it' tasks require children to use their skills to solve problems with perseverance. 'Solve it extensions' have recently been brought in to challenge those GDS children further – these are used from either WRH or Head Start Mastery Problem Solving books.

We also have a vocabulary session each week which focuses on a specific language and vocabulary to develop their understanding and skills. These sessions will focus on the wording of questions and support the children with their definitions of mathematical language. These sessions happen on a Friday, in readiness for the following week – pre-teaching vocabulary.

Curriculum overview

White Rose Hub

WRM – Year 1 – Scheme of Learning 2.0

Year 1 – Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value (within 10)				Number: Addition and Subtraction (within 10)				Geometry: Shape	Number: Place Value (within 20)		Consolidation
Spring	Number: Addition and Subtraction (within 20)				Number: Place Value (within 50) (Multiples of 2, 5 and 10 to be included)			Measurement: Length and Height		Measurement: Weight and Volume		Consolidation
Summer	Number: Multiplication and Division (Reinforce multiples of 2, 5 and 10 to be included)			Number: Fractions		Geometry: position and direction		Number: Place Value (within 100)	Measurement : money	Time		Consolidation

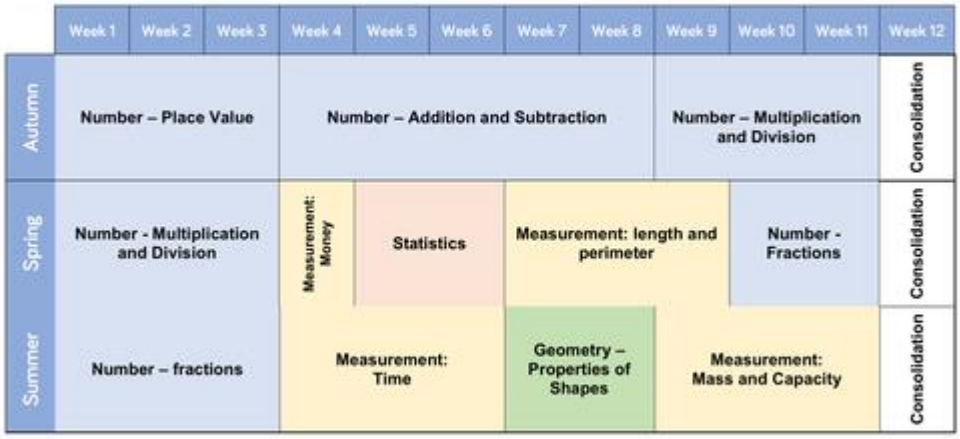
WRM – Year 2 – Scheme of Learning 2.0

Year 2 – Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place value			Number: Addition and Subtraction					Measurement: Money		Number: Multiplication and Division	
Spring	Number: Multiplication and Division		Statistics		Geometry: Properties of Shape			Number: Fractions			Measurement: length and height	Consolidation
Summer	Position and direction			Problem solving and efficient methods		Measurement: Time			Measurement: Mass, Capacity and Temperature		Investigations	

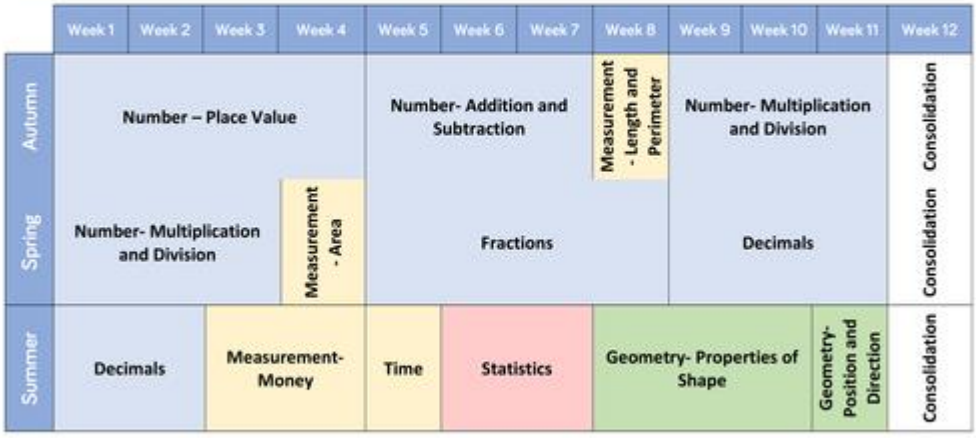
WRM – Year 3 – Scheme of Learning 2.0

Year 3 – Yearly Overview



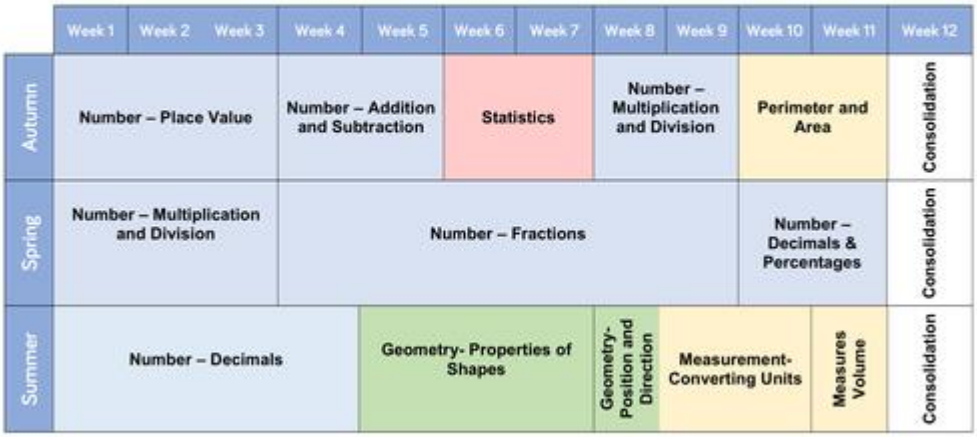
WRM – Year 4 – Scheme of Learning 2.0

Year 4 – Yearly Overview



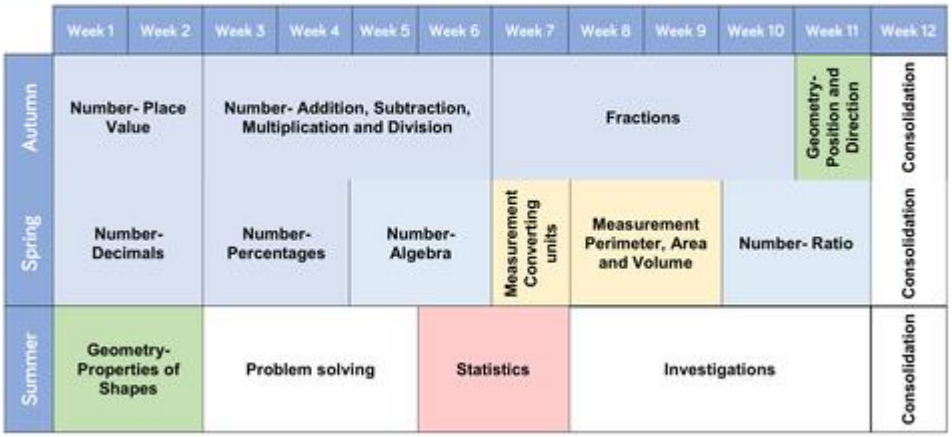
WRM – Year 5 – Scheme of Learning 2.0

Year 5 – Yearly Overview



WRM – Year 6 – Scheme of Learning 2.0

Year 6 – Yearly Overview



Curriculum:

At both schools, we follow White Rose Hub overviews. We have put the curriculum into 'small steps' so that children can always see what they have learnt and what they are moving onto next; these are assessed daily by teachers and children (self-assessed). Here is an example of Y6 small steps:

Year 6 - Number - Four Operations

Teacher assessment	Small steps	Child's assessment
✓	Add whole numbers with more than 4 digits	✓
✓	Subtract whole numbers with more than 4 digits	✓
✓	Inverse operations (addition and subtraction)	✓
✓	Multi-step addition and subtraction problems	✓
✓	Add and subtract integers	✓
	Multiply 4-digits by 1-digit	
	Multiply 2-digits (area model)	
	Multiply 2-digits by 2-digits	
	Multiply 3-digits by 2-digits	
	Multiply up to a 4-digit number by a 2-digit number	
✓	Divide 4-digits by 1-digit	
✓	Divide with remainders	
✓	Short division	
✓	Division using factors	

Examples of children's learning

17/11/21 (I)

TBAT use long division.

DO IT:

Tommy uses this method to calculate 372 divided by 15
He has used his knowledge of multiples to help.

			2	4	r	1	2
1	5	3	7	2			
	–	3	0	0			
			7	2			
	–		6	0			
			1	2			

1 × 15 = 15
2 × 15 = 30
3 × 15 = 45
4 × 15 = 60
5 × 15 = 75
10 × 15 = 150

Use this method to calculate:

1) 271 ÷ 17 2) 623 ÷ 21 3) 842 ÷ 32

1) 15 r 17 ✓
2) 29 r 14 ✓
3) 26 r 10 ✓

TWIST IT:

A school needs to buy 380 biscuits for parents' evening.
Biscuits are sold in packs of 12

How many packets will the school need to buy? 32

Answer: 32 = Twist it ✓

SOLVE IT:

Here are two calculation cards.

A = 396 ÷ 11

B = 832 ÷ 11

Whitney thinks there won't be a remainder for either calculation because 396 and 832 are both multiples of 11

Rosie disagrees, she has done the written calculations and says one of them has a remainder.

Who is correct? Explain your answer.

Rosie is correct because one of them has a remainder and one doesn't

doesn't
– doesn't
– doesn't

18/11/21 (I)

TBAT use long division.

DO IT:

Amir used this method to calculate 1,426 divided by 13

			1	0	9	r	9
1	3	1	4	2	6		
	–	1	3	0	0		(× 100)
			1	2	6		
	–		1	1	7		(×9)
					9		

Use this method to calculate:

1) 2,637 ÷ 16 2) 4,453 ÷ 22 3) 4,203 ÷ 18

1) 164 r 13 ✓
2) 202 r 9 ✓
3) 233 r 7 ✓

TWIST IT:

A large bakery produces 7,849 biscuits in a day which are packed in boxes.
Each box holds 64 biscuits.

How many boxes are needed so all the biscuits are in a box?

123 boxes are needed. ✓

SOLVE IT:

Class 6 are calculating three thousand, six hundred and thirty-three divided by twelve.

Rosie says that she knows there will be a remainder without calculating.

Is she correct?
Explain your answer.

What is the remainder?

£ % Super Maths Well Done! + = × ÷

SOLVE IT EXTENTION:

Amir has multiplied 47 by 36

x		4	7
		3	6
	2	8	2
	1	4	1
3	2	3	

Alex says,

Amir is wrong because the answer should be 1,692 not 323

Who is correct?
What mistake has been made?

Alex is right because he forgot to add a Zero

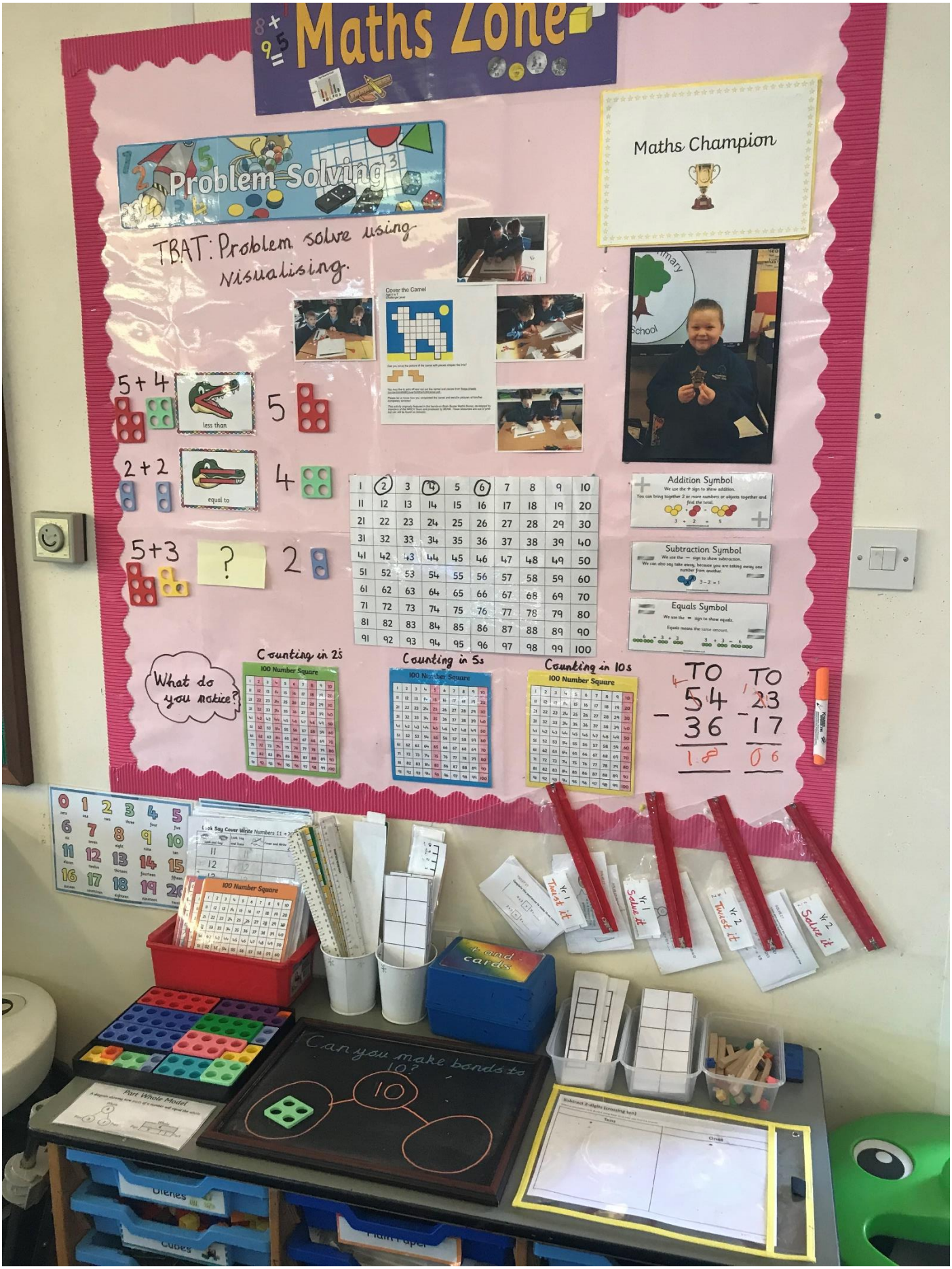
Challenge yourself + have a go at solving it extension.

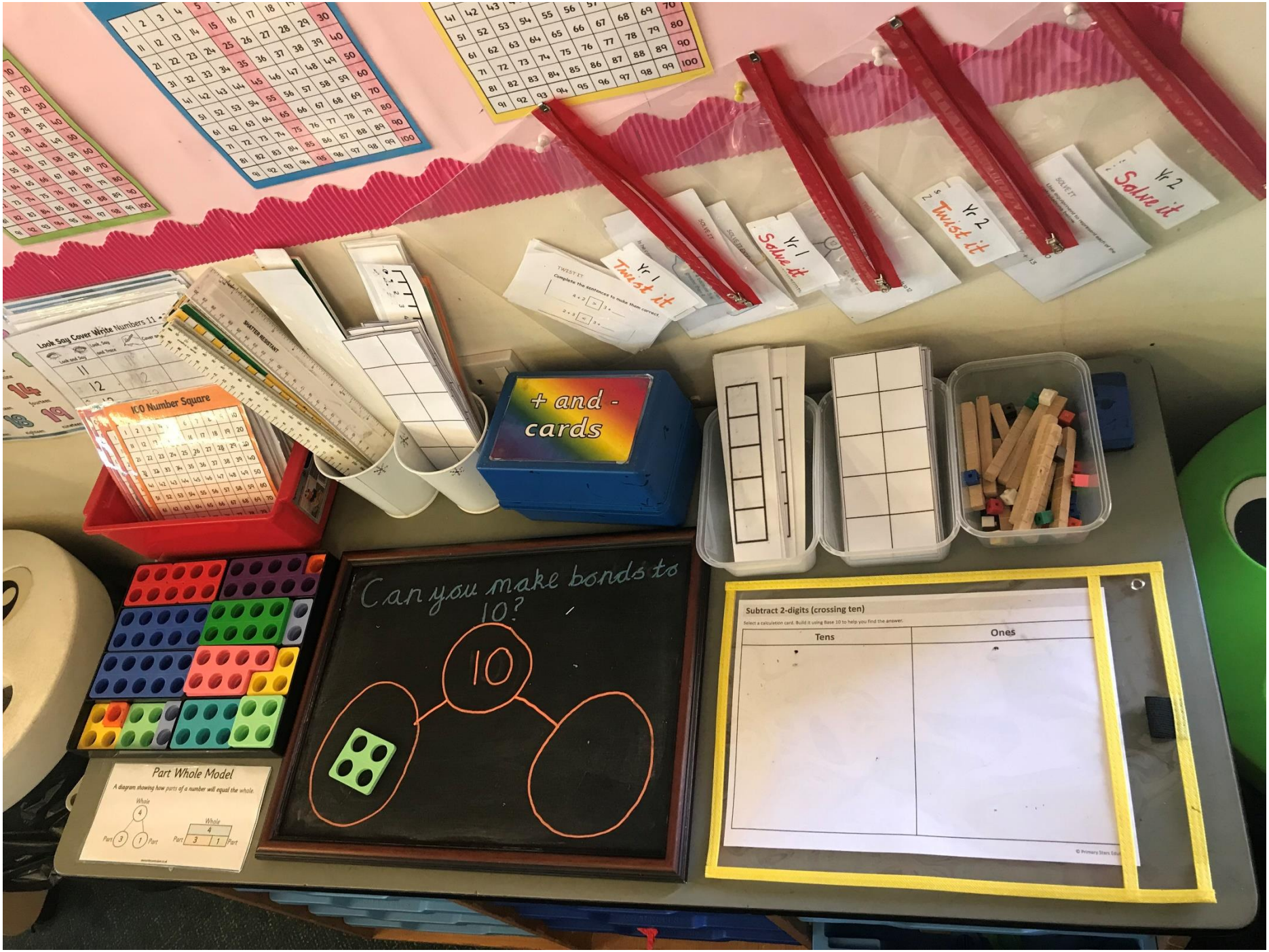
47
x 36
282
1410
1692

Our Maths working walls

In all classrooms, we have a Maths working wall and a vocabulary board. We make sure Mathematical vocabulary is also displayed to encourage children to use it independently when justifying and explaining an answer. Methods are

shown, examples of children's work, resources and questions to extend/support their learning/thinking.


Maths Zone
Problem Solving
TBAT: Problem solve using visualising.
Maths Champion
Cover the Camel
5+4
less than
5
2+2
equal to
4
5+3
?
2
What do you notice?
Counting in 2s
Counting in 5s
Counting in 10s
100 Number Square
Addition Symbol
Subtraction Symbol
Equals Symbol
TO
54
36
18
TO
23
17
06
Can you make bonds to 10?
10
Part Whole Model
Yr 1 Twist it
Yr 1 Solve it
Yr 2 Twist it
Yr 2 Solve it
Sound cards
Tens
Ones
Cubes
Plain Paper


Look Say Cover Write Numbers 11 - 20
1C0 Number Square
+ and - cards
Yr 1 Twist it
Yr 1 Solve it
Yr 2 Twist it
Yr 2 Solve it
Can you make bonds to 10?
10
Part Whole Model
A diagram showing how parts of a number will equal the whole.
Whole
Part
Part
Subtract 2-digits (crossing ten)
Tens
Ones

Maths Zone

Problem Solving

TBAT: Problem solve using visualising.

Cover the Camel

Age 5 to 7
Challenge Level

Can you cover the picture of the camel with pieces shaped like this?

You may like to print off and cut out the camel and pieces from these sheets
numberkit/child/Cover%20the%20Camel.pdf

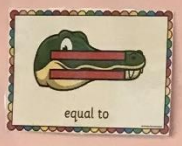
Please let us know how you completed the camel and send in pictures of him/her completely covered!

This activity originally featured in the hands-on Brain Buster Maths Books, developed by members of the NRICH Team and produced by BEAM. These resources are out of print but can still be found on Amazon.

Maths Champion

5 + 4 = 5

2 + 2 = 4



5 + 3 = ? 2

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

Addition Symbol

We use the + sign to show addition.
You can bring together 2 or more numbers or objects together and find the total.

3 + 2 = 5

Subtraction Symbol

We use the − sign to show subtraction.
We can also say take away, because you are taking away one number from another.

3 − 2 = 1

Equals Symbol

We use the = sign to show equals.
Equals means the same amount.

6 = 3 + 3 3 + 3 = 6

What do you notice?

Counting in 2s

100 Number Square

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

Counting in 5s

100 Number Square

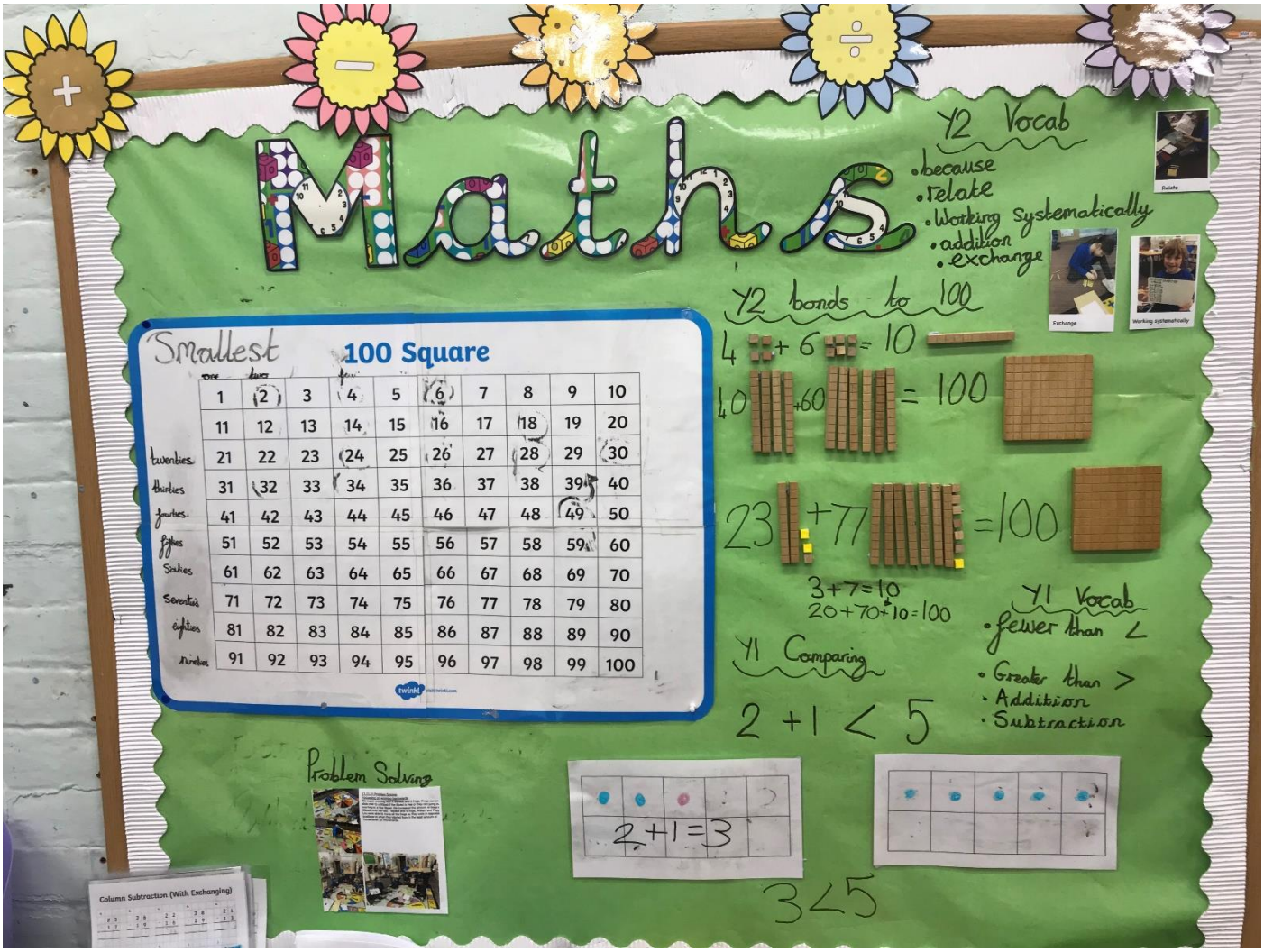
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

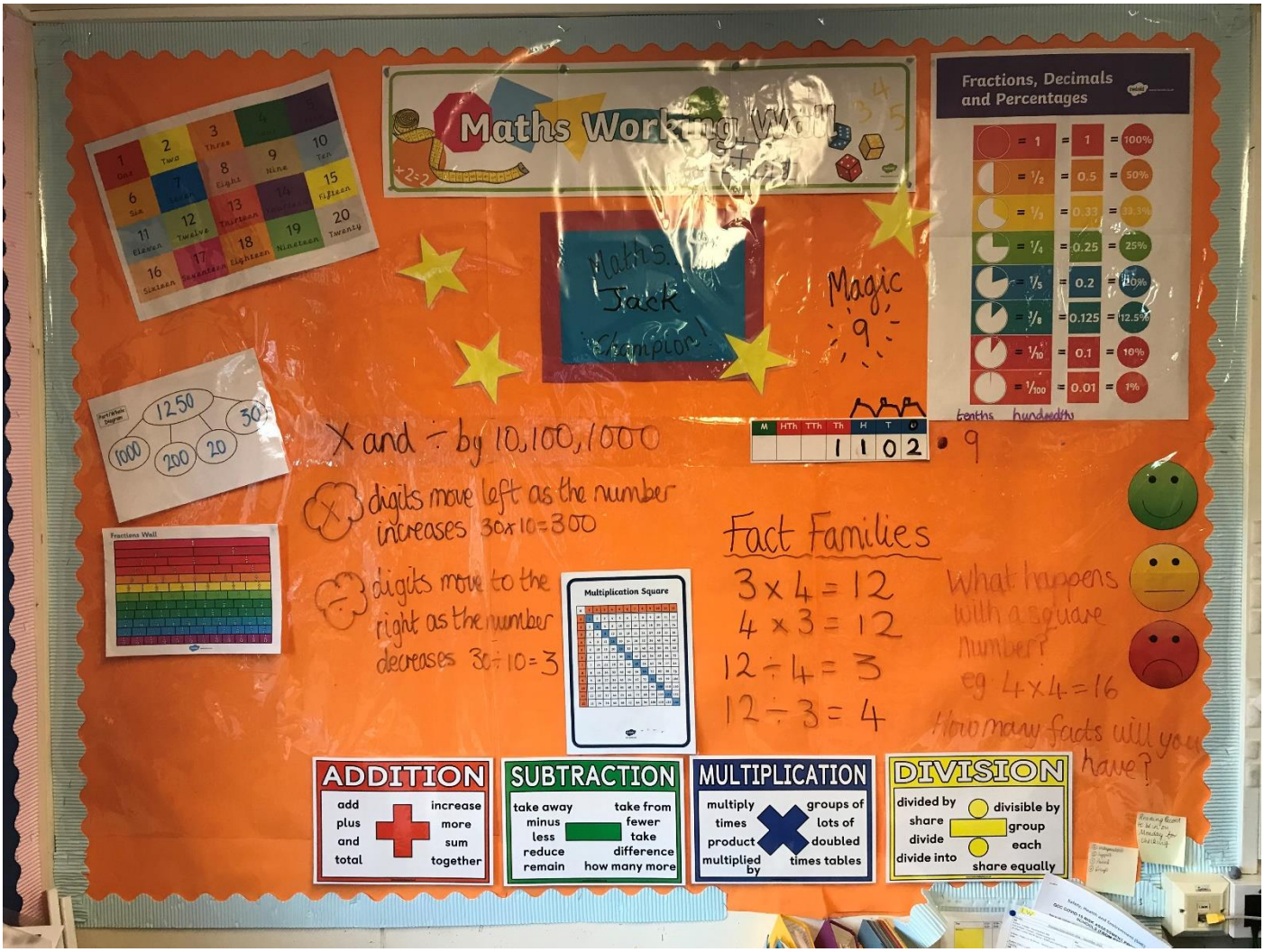
Counting in 10s

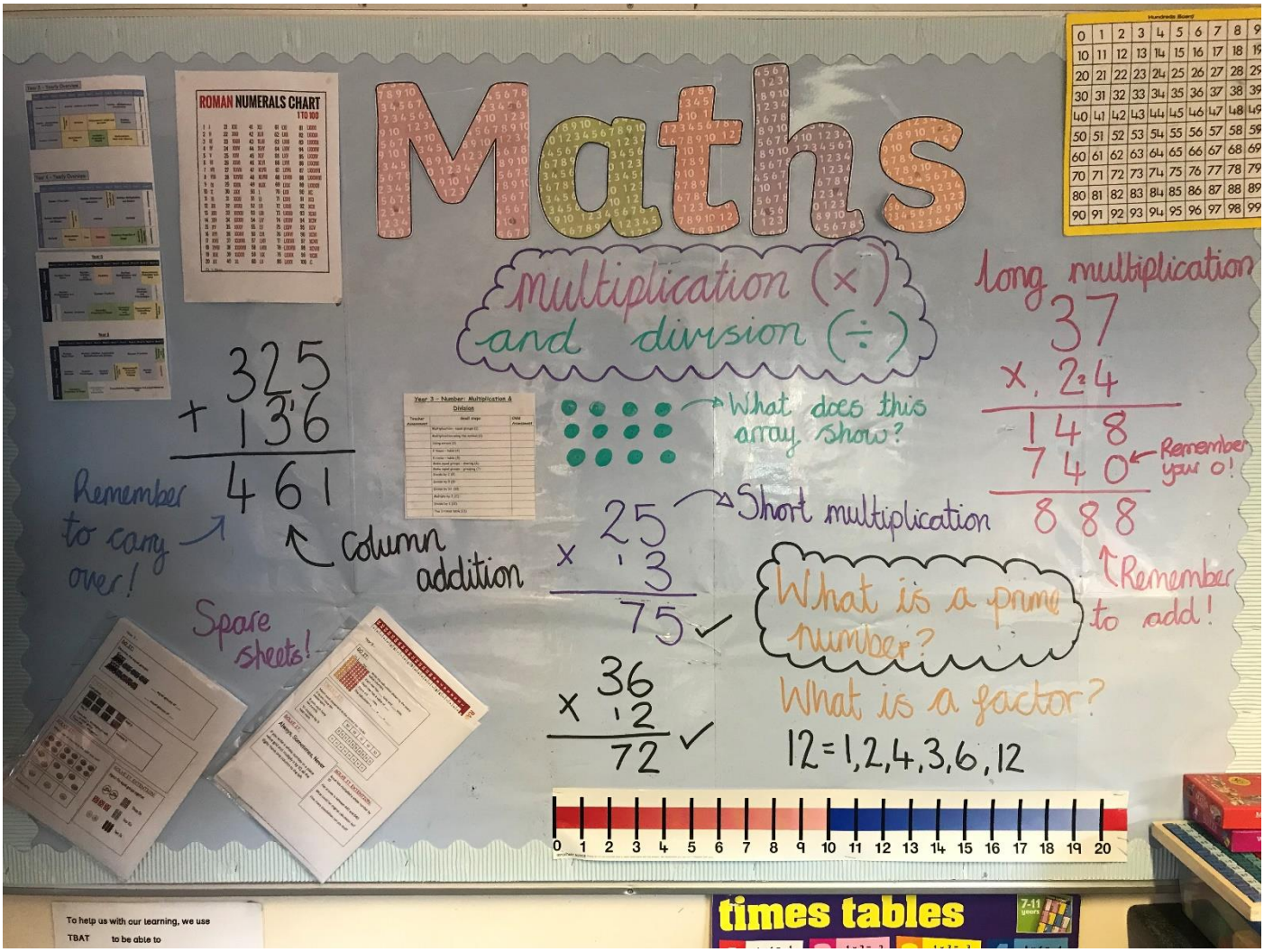
100 Number Square

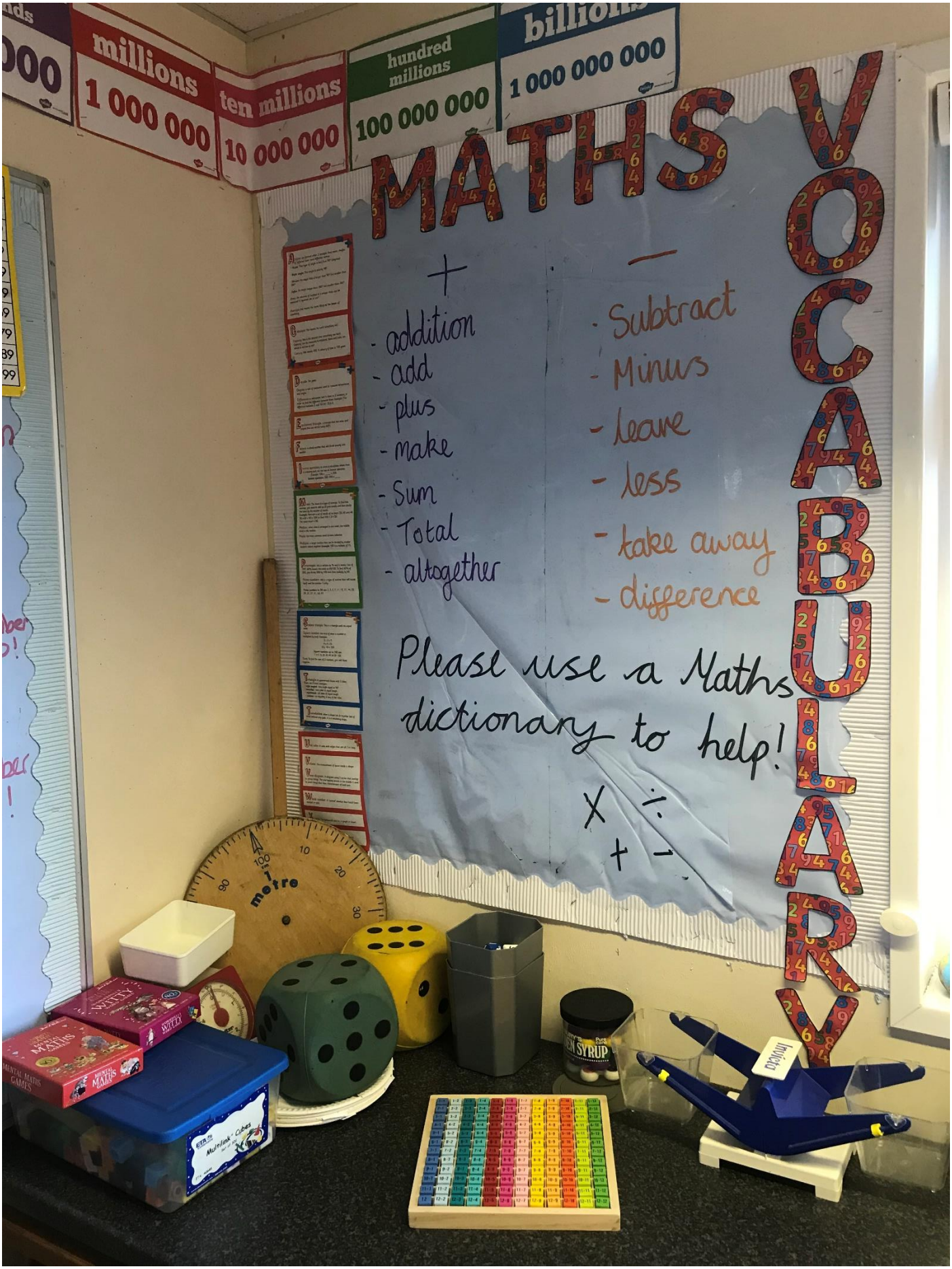
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

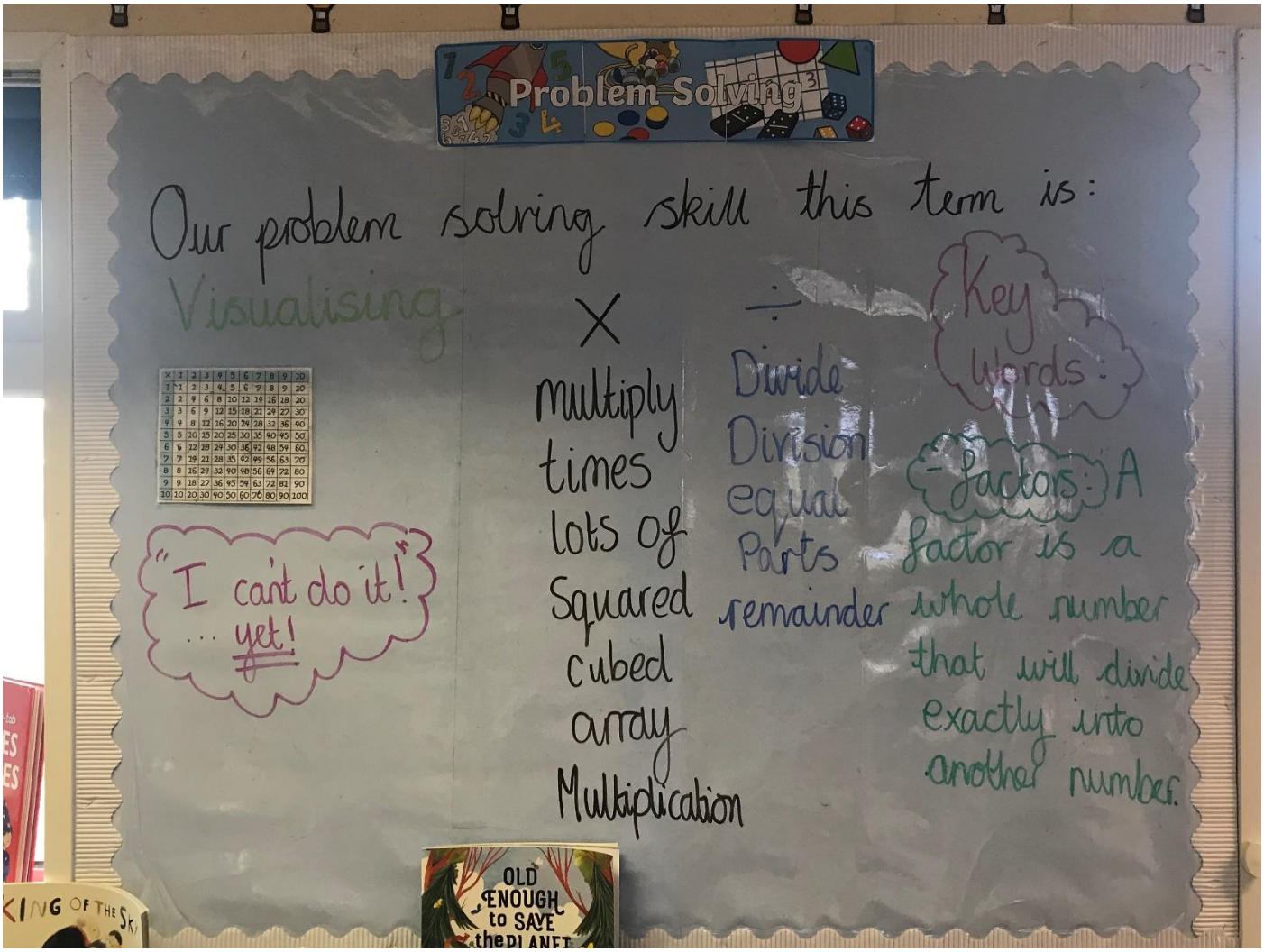
TO
54
− 36
18


Maths
Y2 Vocab
because
relate
Working systematically
addition
exchange
Y2 bonds to 100
4 + 6 = 10
40 + 60 = 100
23 + 77 = 100
3 + 7 = 10
20 + 70 + 10 = 100
Smallest
100 Square
twenties
thirties
forties
fifties
Sixties
Seventies
eighties
nineties
Y1 Comparing
2 + 1 < 5
Y1 Vocab
fewer than <
Greater than >
Addition
Subtraction
Problem Solving
2 + 1 = 3
3 < 5
Column Subtraction (With Exchanging)


Maths Working Wall
Maths Jack
Champion!
Magic 9
Fractions, Decimals and Percentages
tenths
hundredths
X and ÷ by 10,100,1000
digits move left as the number increases 30x10=300
digits move to the right as the number decreases 30÷10=3
Fact Families
3 x 4 = 12
4 x 3 = 12
12 ÷ 4 = 3
12 ÷ 3 = 4
What happens with a square number?
eg 4x4=16
How many facts will you have?
Multiplication Square
ADDITION
add
plus
and
total
increase
more
sum
together
SUBTRACTION
take away
minus
less
reduce
remain
take from
fewer
take
difference
how many more
MULTIPLICATION
multiply
times
product
multiplied by
groups of
lots of
doubled
times tables
DIVISION
divided by
share
divide
divide into
divisible by
group
each
share equally

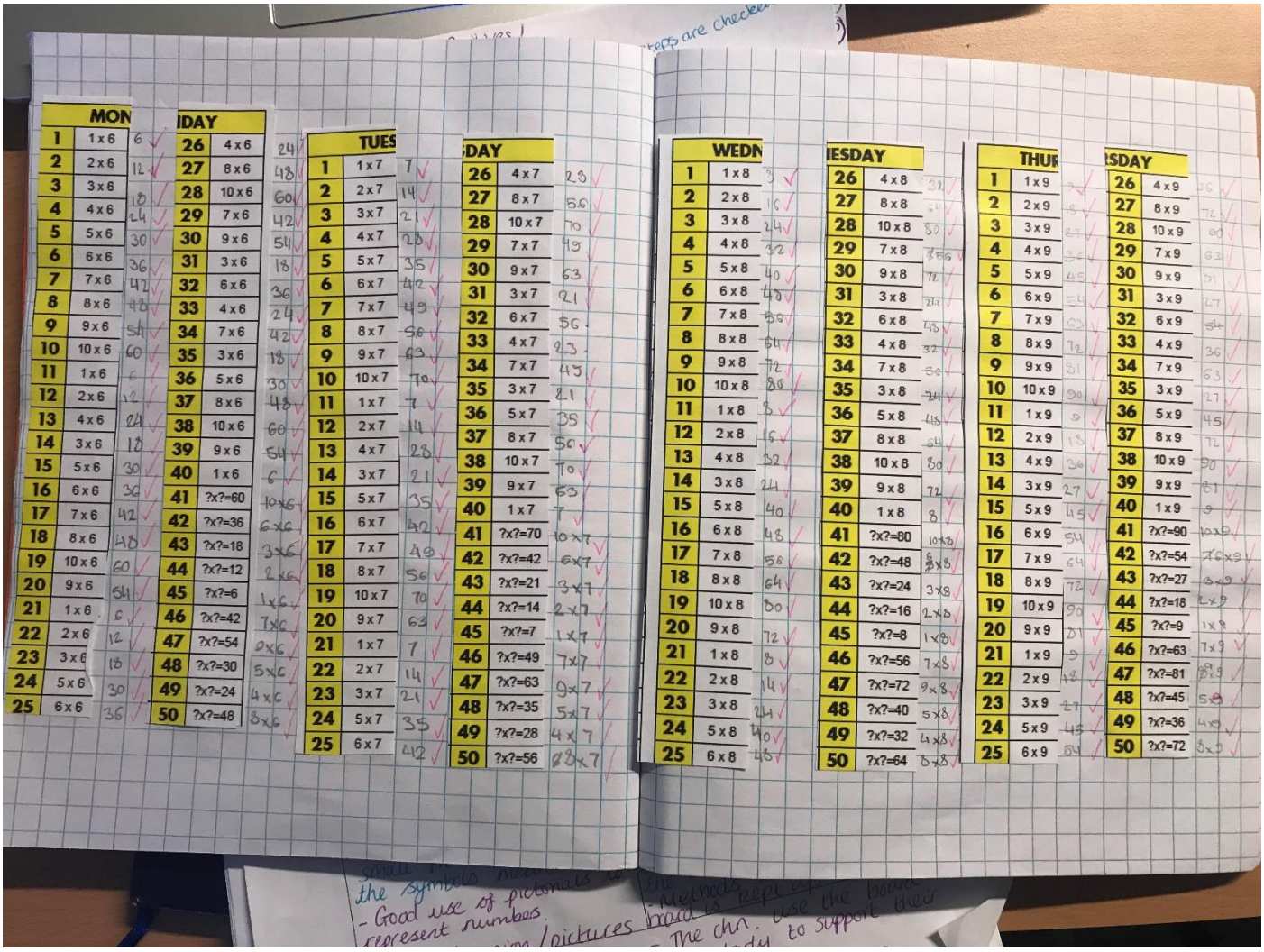

Maths
Multiplication (×) and division (÷)
ROMAN NUMERALS CHART
1 TO 100
Hundreds Board
0 1 2 3 4 5 6 7 8 9
10 11 12 13 14 15 16 17 18 19
20 21 22 23 24 25 26 27 28 29
30 31 32 33 34 35 36 37 38 39
40 41 42 43 44 45 46 47 48 49
50 51 52 53 54 55 56 57 58 59
60 61 62 63 64 65 66 67 68 69
70 71 72 73 74 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
Long multiplication
37
× 24
148
740
888
Remember your 0!
Remember to add!
325
+ 136
461
Remember to carry over!
Column addition
Spare sheets!
What does this array show?
Short multiplication
25
× 3
75
36
× 12
72
What is a prime number?
What is a factor?
12 = 1, 2, 4, 3, 6, 12
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
To help us with our learning, we use
TBAT to be able to
times tables


millions
1 000 000
ten millions
10 000 000
hundred millions
100 000 000
billions
1 000 000 000
MATHS VOCABULARY
+
- addition
- add
- plus
- make
- Sum
- Total
- altogether
−
- Subtract
- Minus
- leave
- less
- take away
- difference
Please use a Maths dictionary to help!
× ÷
+ −
1 metre
Multilink Cubes
Invicta



Regular skills practice

We have a daily arithmetic session where each child completes 'Rainbow Maths'. This gives children the opportunity to consolidate and revisit concepts. Y1-4 have 25 questions and Y5-6 have 50 questions. The children get 10 minutes to complete this.



	MON
1	1 x 6
2	2 x 6
3	3 x 6
4	4 x 6
5	5 x 6
6	6 x 6
7	7 x 6
8	8 x 6
9	9 x 6
10	10 x 6
11	1 x 6
12	2 x 6
13	4 x 6
14	3 x 6
15	5 x 6
16	6 x 6
17	7 x 6
18	8 x 6
19	10 x 6
20	9 x 6
21	1 x 6
22	2 x 6
23	3 x 6
24	5 x 6
25	6 x 6

	IDAY
26	4 x 6
27	8 x 6
28	10 x 6
29	7 x 6
30	9 x 6
31	3 x 6
32	6 x 6
33	4 x 6
34	7 x 6
35	3 x 6
36	5 x 6
37	8 x 6
38	10 x 6
39	9 x 6
40	1 x 6
41	?x?=60
42	?x?=36
43	?x?=18
44	?x?=12
45	?x?=6
46	?x?=42
47	?x?=54
48	?x?=30
49	?x?=24
50	?x?=48

	TUES
1	1 x 7
2	2 x 7
3	3 x 7
4	4 x 7
5	5 x 7
6	6 x 7
7	7 x 7
8	8 x 7
9	9 x 7
10	10 x 7
11	1 x 7
12	2 x 7
13	4 x 7
14	3 x 7
15	5 x 7
16	6 x 7
17	7 x 7
18	8 x 7
19	10 x 7
20	9 x 7
21	1 x 7
22	2 x 7
23	3 x 7
24	5 x 7
25	6 x 7

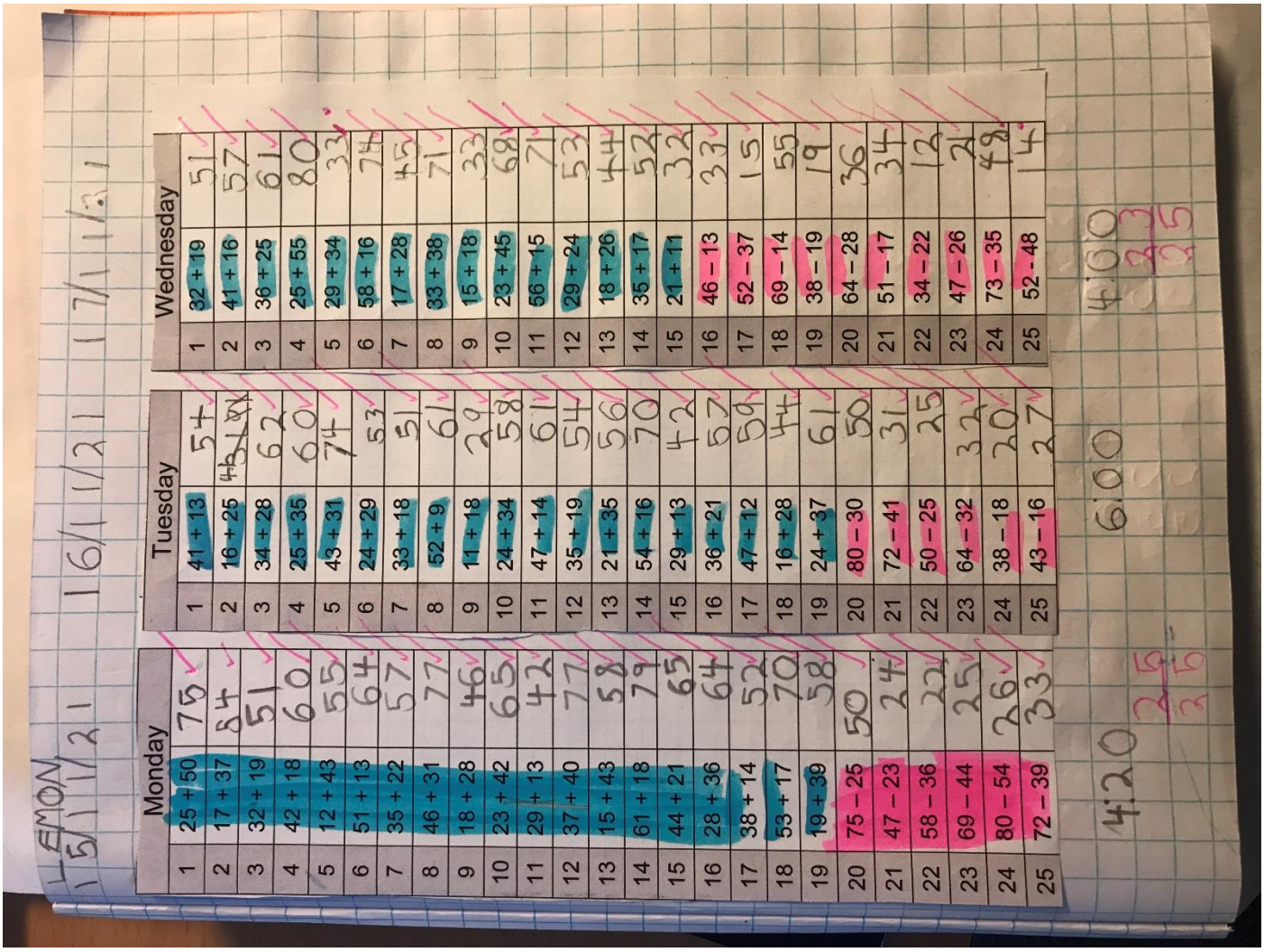
	DAY
26	4 x 7
27	8 x 7
28	10 x 7
29	7 x 7
30	9 x 7
31	3 x 7
32	6 x 7
33	4 x 7
34	7 x 7
35	3 x 7
36	5 x 7
37	8 x 7
38	10 x 7
39	9 x 7
40	1 x 7
41	?x?=70
42	?x?=42
43	?x?=21
44	?x?=14
45	?x?=7
46	?x?=49
47	?x?=63
48	?x?=35
49	?x?=28
50	?x?=56

	WEDN
1	1 x 8
2	2 x 8
3	3 x 8
4	4 x 8
5	5 x 8
6	6 x 8
7	7 x 8
8	8 x 8
9	9 x 8
10	10 x 8
11	1 x 8
12	2 x 8
13	4 x 8
14	3 x 8
15	5 x 8
16	6 x 8
17	7 x 8
18	8 x 8
19	10 x 8
20	9 x 8
21	1 x 8
22	2 x 8
23	3 x 8
24	5 x 8
25	6 x 8

	IESDAY
26	4 x 8
27	8 x 8
28	10 x 8
29	7 x 8
30	9 x 8
31	3 x 8
32	6 x 8
33	4 x 8
34	7 x 8
35	3 x 8
36	5 x 8
37	8 x 8
38	10 x 8
39	9 x 8
40	1 x 8
41	?x?=80
42	?x?=48
43	?x?=24
44	?x?=16
45	?x?=8
46	?x?=56
47	?x?=72
48	?x?=40
49	?x?=32
50	?x?=64

	THUR
1	1 x 9
2	2 x 9
3	3 x 9
4	4 x 9
5	5 x 9
6	6 x 9
7	7 x 9
8	8 x 9
9	9 x 9
10	10 x 9
11	1 x 9
12	2 x 9
13	4 x 9
14	3 x 9
15	5 x 9
16	6 x 9
17	7 x 9
18	8 x 9
19	10 x 9
20	9 x 9
21	1 x 9
22	2 x 9
23	3 x 9
24	5 x 9
25	6 x 9

	SDAY
26	4 x 9
27	8 x 9
28	10 x 9
29	7 x 9
30	9 x 9
31	3 x 9
32	6 x 9
33	4 x 9
34	7 x 9
35	3 x 9
36	5 x 9
37	8 x 9
38	10 x 9
39	9 x 9
40	1 x 9
41	?x?=90
42	?x?=54
43	?x?=27
44	?x?=18
45	?x?=9
46	?x?=63
47	?x?=81
48	?x?=45
49	?x?=36
50	?x?=72



As well as rainbow Maths, outside of the Maths lesson, we practice our times tables 3x a week (minimum) for 15 minutes each time. By the end of Key Stage 1, we aim for children to be able to recall their 2,5,10 and 3 times table. By the end of Year 4, children will be able to recall times tables up to 12 x 12.

How do we assess Maths?

We assess Maths on a daily basis through teacher's marking and children's self-evaluation. This information is then used to plan the subsequent lesson to ensure every child's needs are built on and met.

- Maths is assessed 3 times a year using White Rose Hub's arithmetic and reasoning test papers – termly (see monitoring timetable).
- Reception are assessed against the Early Learning Goals.
- Children are assessed at the end of Years 2 and 6 for the end of Key Stage Statutory assessments.
- We also take part in the Year 4 multiplication check.
- Marking – Brilliant Blue and Think pinks (challenge/extension or a 'check' task; see marking policy).