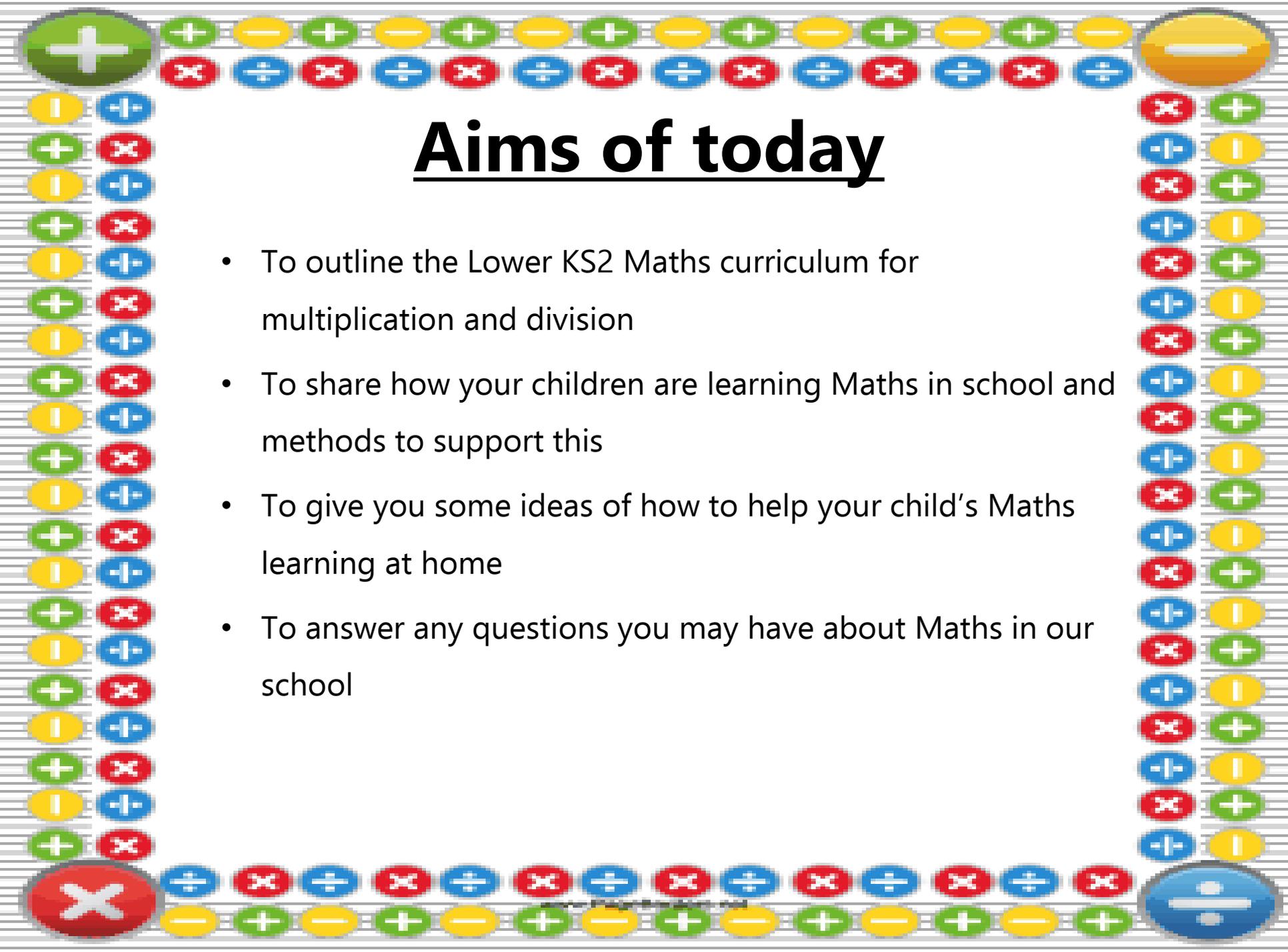


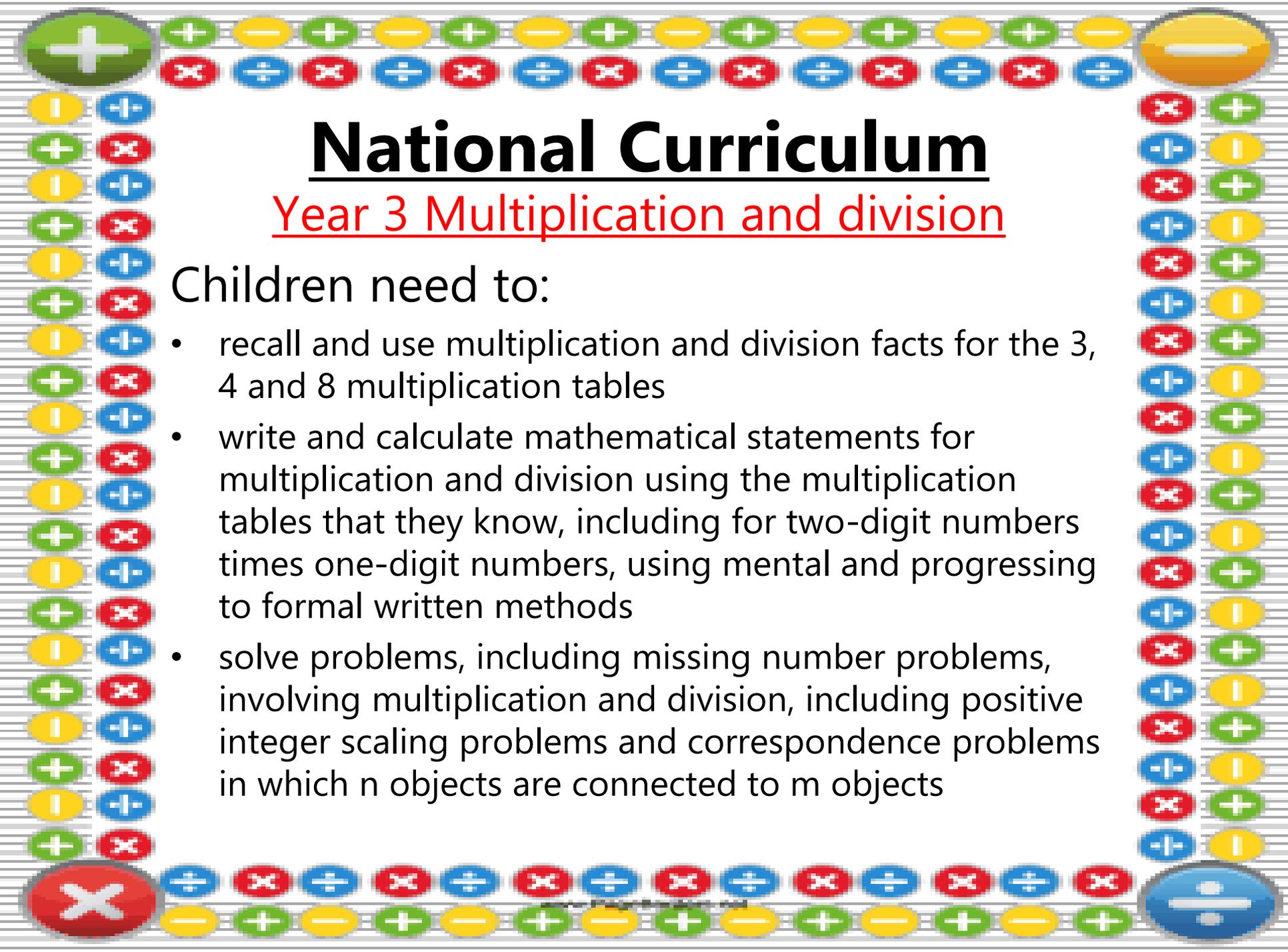
Supporting and learning together

Multiplication and division
Lower Key Stage 2
Year 3 & 4



Aims of today

- To outline the Lower KS2 Maths curriculum for multiplication and division
- To share how your children are learning Maths in school and methods to support this
- To give you some ideas of how to help your child's Maths learning at home
- To answer any questions you may have about Maths in our school

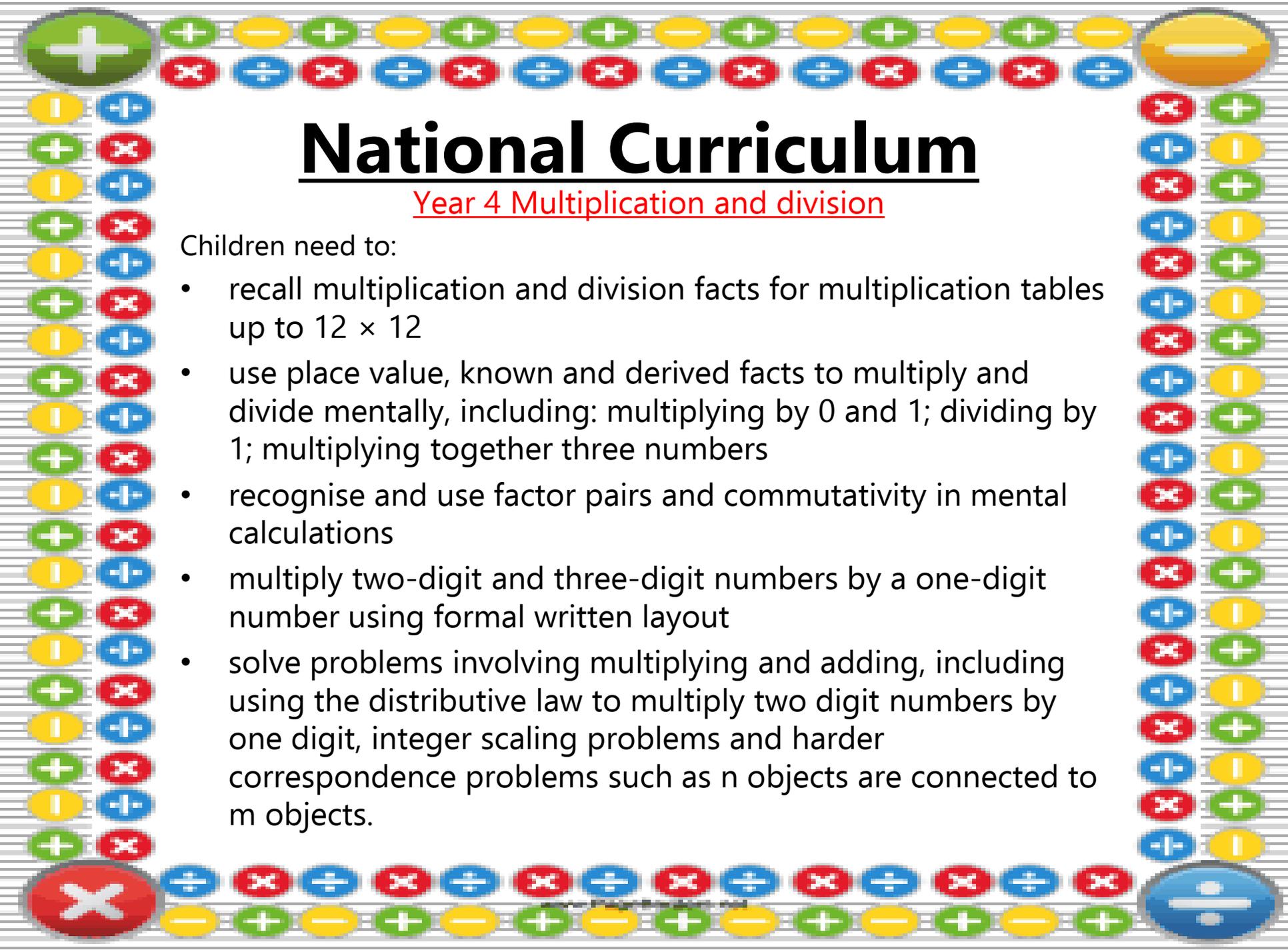


National Curriculum

Year 3 Multiplication and division

Children need to:

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects



National Curriculum

Year 4 Multiplication and division

Children need to:

- recall multiplication and division facts for multiplication tables up to 12×12
- use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- recognise and use factor pairs and commutativity in mental calculations
- multiply two-digit and three-digit numbers by a one-digit number using formal written layout
- solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Weekly times tables session

	<u>Autumn 1</u>	<u>Autumn 2</u>	<u>Spring 1</u>	<u>Spring 2</u>	<u>Summer 1</u>	<u>Summer 2</u>
Reception <i>(For ELG)</i>	Recall number pairs to 5 (with subtraction facts) and no visual support, recall some pairs to 10, recall double facts to 10					
Year 1	Review pairs to 5 Pairs to 10 Double facts to 10	Counting in 10s	Counting in 5s	Counting in 2s	Mixed counting – 10s, 5s, 2s x1	
Year 2	Review counting in 2s, 5s and 10s. x10	x5	x2	Division facts for x10, x5, x2	Mixed times tables for 10, 5, 2 and division facts	
Year 3	Review x10, x5, x2	x4	x8	x3	Mixed times tables for 4, 8, 3 and division facts Review x10, x5, x2	
Year 4	Review x10, x5, x2 x4, x8, x3 x6	x9	x7	x11 x12	Year 4 test RECAP	Division facts for all
Year 5 / 6	Review all tables and corresponding division facts where necessary					

Year 4 Multiplication check

- In the summer term, the children in Year 4 will be tested on their times tables recall by the government.



https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1031901/2022_Information_for_parents_Multiplication_tables_check.pdf

Year 4 Multiplication check

Multiplication tables check

Do you have a child in year 4 at primary school?

If so, your child will be participating in the multiplication tables check in June. The purpose of the check is to determine whether your child can fluently recall their times tables up to 12, which is essential for future success in mathematics. It will also help your child's school to identify if your child may need additional support.

What is the Multiplication tables check?

It is an on-screen check consisting of 25 times table questions. Your child will be able to answer 3 practice questions before taking the actual check. They will then have 6 seconds to answer each question. On average, the check should take no longer than 5 minutes to complete.

What if my child cannot access the check?

There are several access arrangements available for the check, these can be used to support pupils with specific needs. Your child's teacher will ensure that the access arrangements are appropriate for your child before they take the check in June.

The check has been designed so that it is inclusive and accessible to as many children as possible, including those with special educational needs or disability (SEND) or English as an additional language (EAL). However, there may be some circumstances in which it will not be appropriate for a pupil to take the check, even when using suitable access arrangements. If you have any concerns about your child accessing the check, you should discuss this with your child's headteacher.

Do I need to do anything to prepare my child for the check?

No, you do not need to do anything additional to prepare your child for the check. As part of usual practice, teachers may ask you to practise times tables with your child.

Schools will have unlimited access to a try it out area from March. They can use this to make sure pupils have the necessary support required to access the check. This includes opportunities for pupils to familiarise themselves with the check application and try out any access arrangements that may be required.

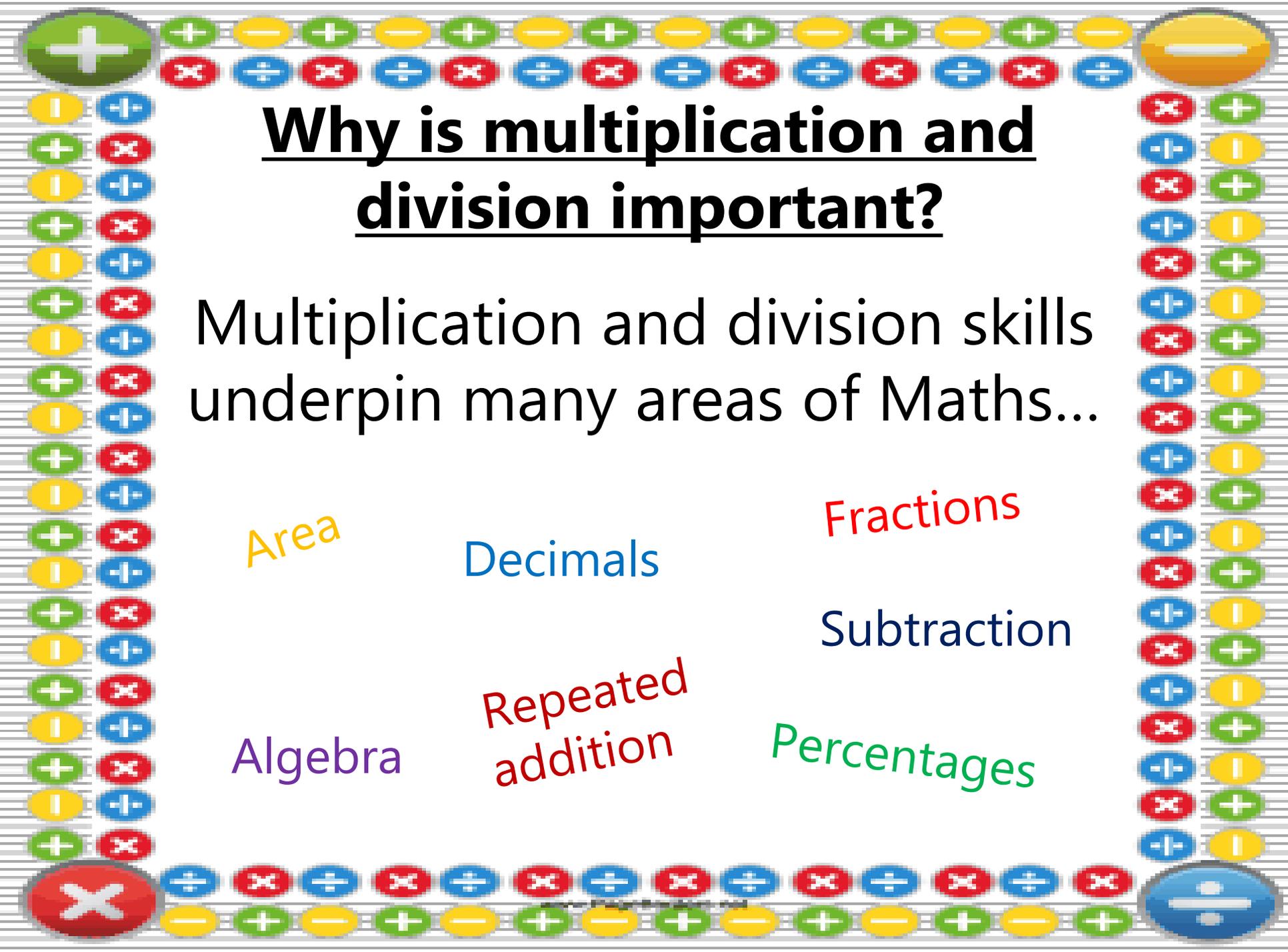
How will the results be used?

Schools will have access to all their pupils' results, allowing those pupils who need additional support to be identified.

Will I receive feedback on my child's check?

Yes. Your child's teacher will share your child's score with you, as they would with all national curriculum assessments. There is no pass mark for the check.





Why is multiplication and division important?

Multiplication and division skills underpin many areas of Maths...

Area

Decimals

Fractions

Subtraction

Algebra

Repeated addition

Percentages

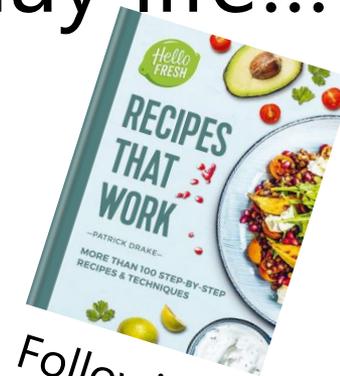
Why is multiplication and division important?

Multiplication and division skills are needed in everyday life...

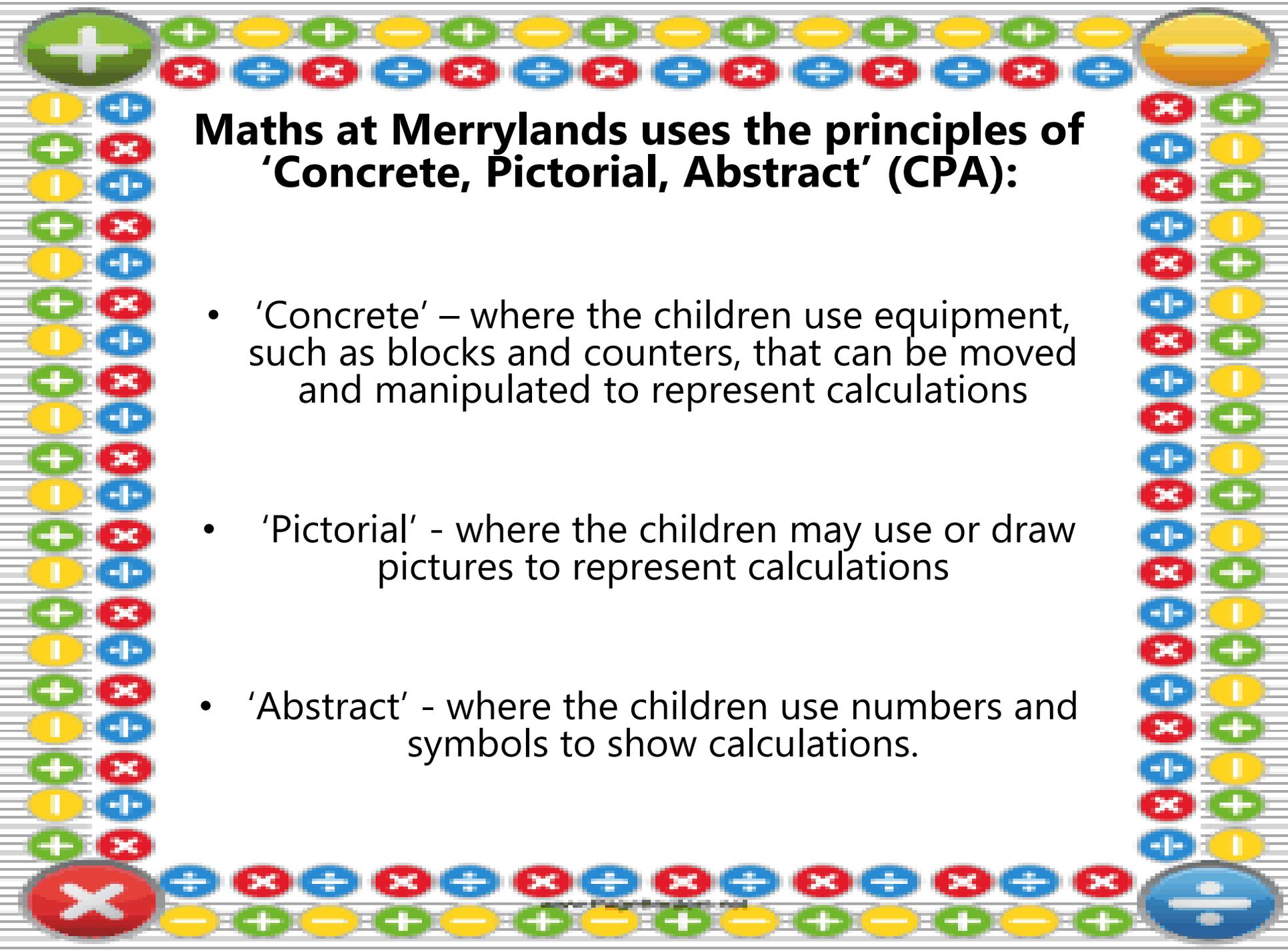
Shopping



Equipment for building

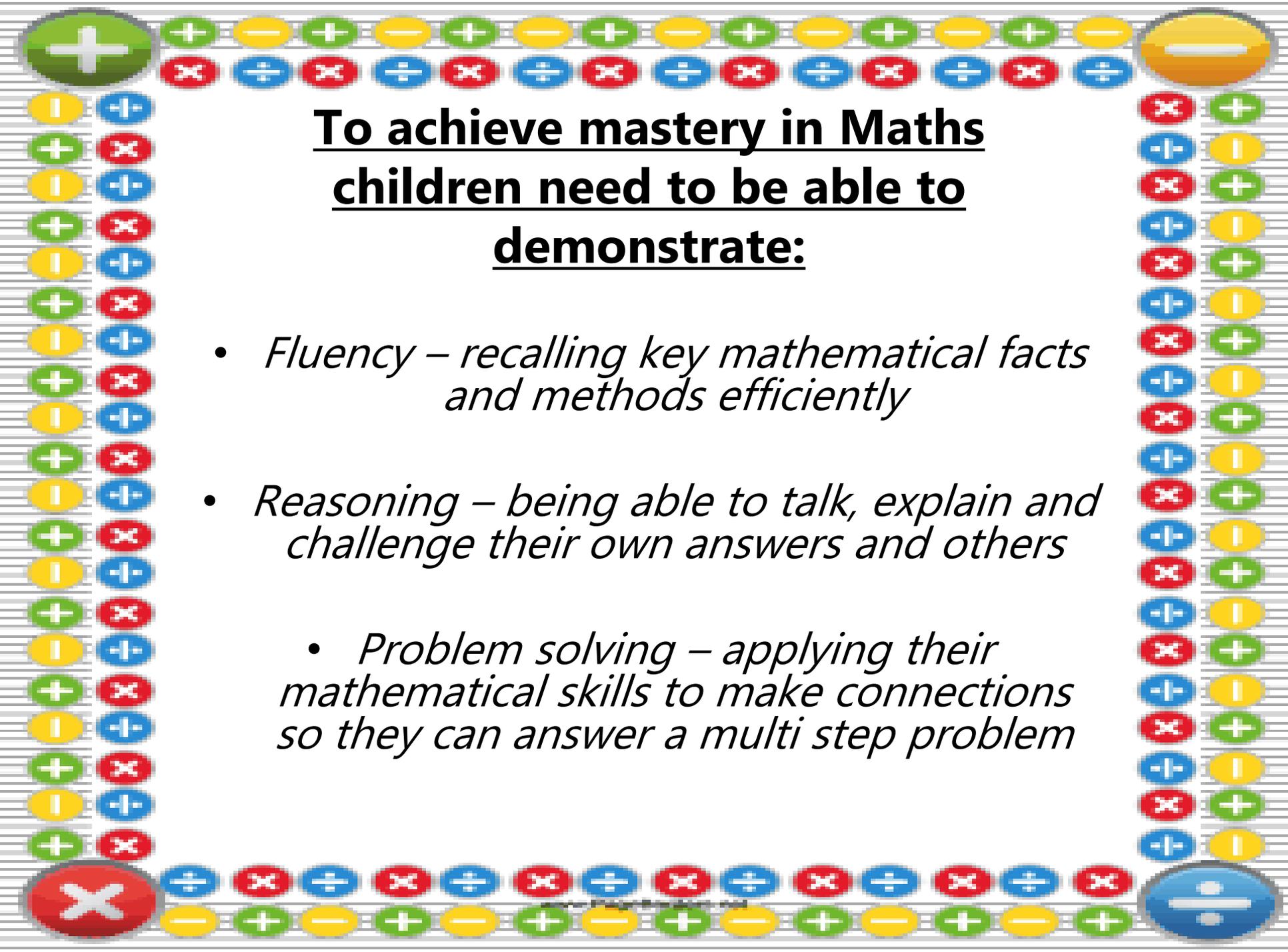


Following recipes

A decorative border surrounds the text, consisting of various mathematical symbols in colored circles. The top border features a sequence of plus, minus, multiplication, and division symbols. The left and right borders are vertical columns of plus, minus, multiplication, and division symbols. The bottom border also features a sequence of plus, minus, multiplication, and division symbols.

Maths at Merrylands uses the principles of 'Concrete, Pictorial, Abstract' (CPA):

- 'Concrete' – where the children use equipment, such as blocks and counters, that can be moved and manipulated to represent calculations
- 'Pictorial' - where the children may use or draw pictures to represent calculations
- 'Abstract' - where the children use numbers and symbols to show calculations.



To achieve mastery in Maths
children need to be able to
demonstrate:

- *Fluency – recalling key mathematical facts and methods efficiently*
- *Reasoning – being able to talk, explain and challenge their own answers and others*
 - *Problem solving – applying their mathematical skills to make connections so they can answer a multi step problem*

Supporting at home

- Make your own pairs or snap cards

$6 \times 4 =$	24
$7 \times 4 =$	28
$8 \times 4 =$	32
$9 \times 4 =$	36
$10 \times 4 =$	40

x	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

- Fill in empty multiplication grids

Supporting at home

- 1 minute challenge – how many facts can you recall in 1 minute? Can you beat your score?



- Create your own board games

Multiplication Dice Game Worksheet

How to play:

1. Roll a pair of dice.
2. Multiply your 2 numbers.
3. Colour your answer in on the grid.
4. The first person to colour 4 in a row wins!

18	12	24	8	10	24	6	15
36	30	12	9	2	5	4	18
4	24	4	8	6	8	15	3
10	12	25	15	20	6	16	8
36	12	12	30	5	12	5	30
10	25	1	9	5	6	10	20
18	20	9	10	16	15	4	3
1	30	4	20	2	3	6	15

Supporting at home

- Make times tables fortune tellers for the tables your child is learning

12 ×	12 × 2	12 × 3	12 ×
12 × 9	24	36	12 × 4
12 × 8	96	48	12 × 5
12 ×	12 × 7	72	12 ×
12 ×	84	12 × 6	12 ×

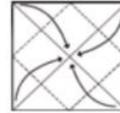
Instructions

①



With pictures face down, fold on both diagonal lines. Unfold.

②



Fold all four corners to the centre.

③



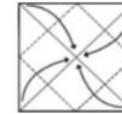
Turn paper over.

⑦



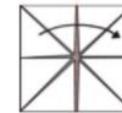
Slide thumbs and forefingers under the squares and move the fortune teller back and forth to play.

④



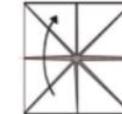
Once again, fold all corners to the centre.

⑤



Fold paper in half and unfold.

⑥



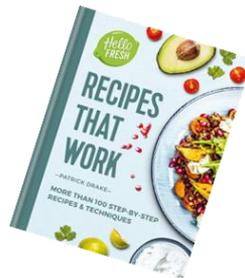
Fold in half from top to bottom. Do not unfold.

Supporting at home

- Ask them to help order shopping or dinner

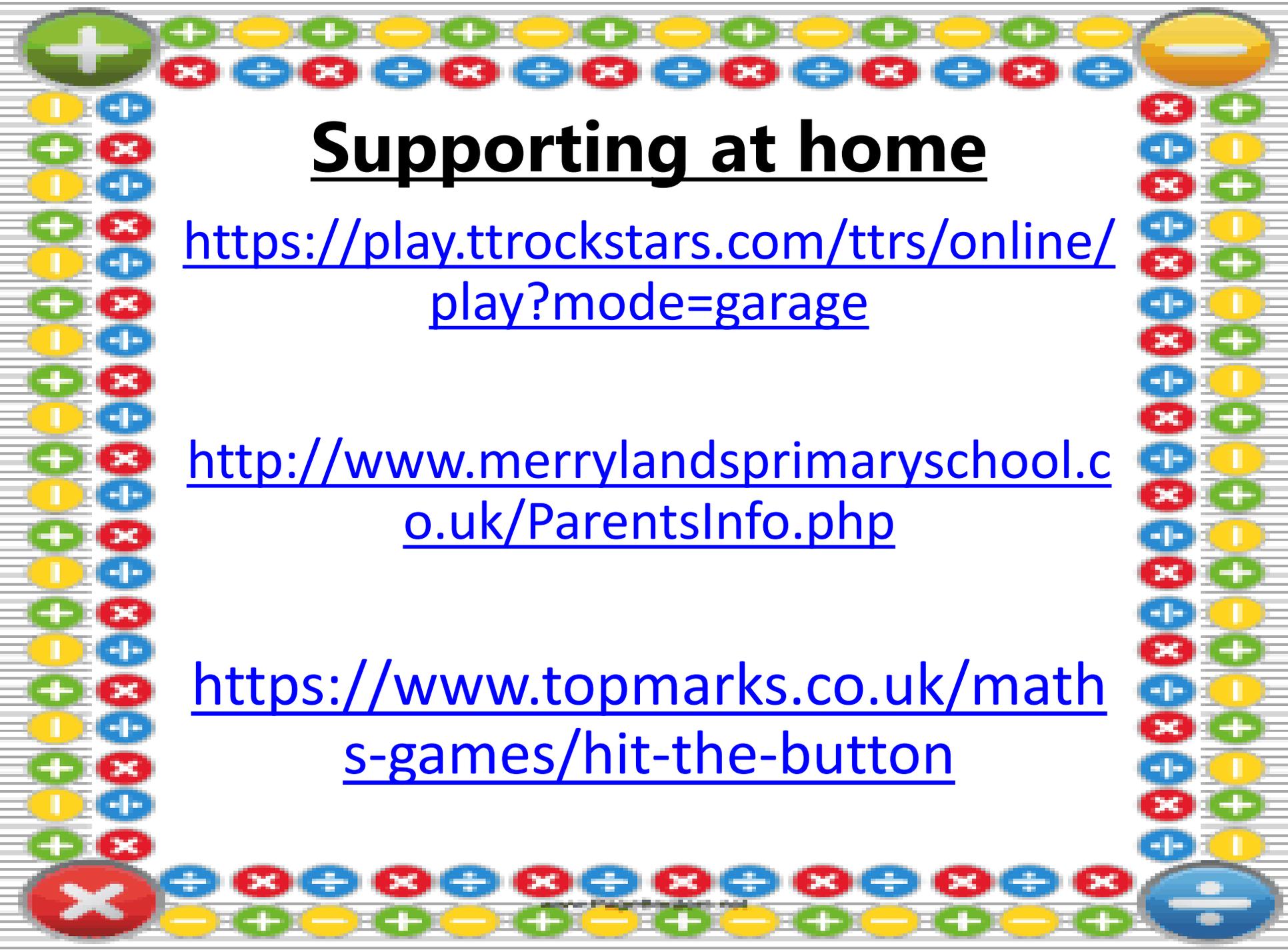


- Help with cooking – working out quantities for recipes



- Work out quantities needed for building something e.g. how many screws do I need?



A decorative border surrounds the text, consisting of various mathematical symbols in colored circles. The top border features a row of plus and minus signs, followed by a row of multiplication and division signs. The left and right borders are vertical columns of plus, minus, multiplication, and division signs. The bottom border features a row of multiplication and division signs, followed by a row of plus and minus signs. The symbols are arranged in a repeating pattern of colors: green, yellow, red, and blue.

Supporting at home

[https://play.ttrockstars.com/ttrs/online/
play?mode=garage](https://play.ttrockstars.com/ttrs/online/play?mode=garage)

[http://www.merrylandsprimaryschool.c
o.uk/ParentsInfo.php](http://www.merrylandsprimaryschool.co.uk/ParentsInfo.php)

[https://www.topmarks.co.uk/math
s-games/hit-the-button](https://www.topmarks.co.uk/maths-games/hit-the-button)

Lesson outline

In Lower KS2, we work towards this type of lesson:

- A mental maths starter
- Introduce learning and recap prior knowledge
- Model skills needed and vocabulary
- Answer a question as a class using skills and correct vocabulary
- Children to independently answer a question
- Discuss as a class
- Children then answer a range of questions linked to new learning
- Discuss new learning and address misconceptions



Lesson



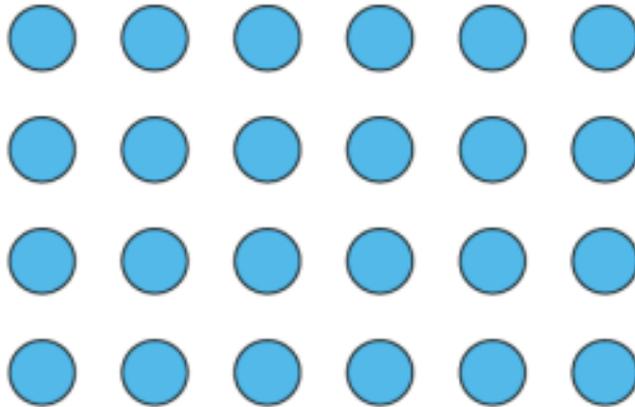
Mental starter

- Roll the dice – each lesson has a mental maths starter
- Roll the dice and times that number by 4



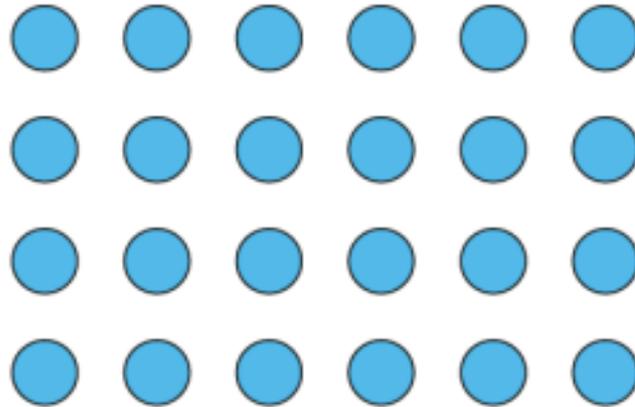
Lesson

'Circle the groups of six and complete the sentence.'



There are ____ groups of six.

'Circle the six equal groups and complete the sentence.'



There are six groups of ____.

Lesson

$$6 \times \square = 24$$

$$\square \times 6 = 24$$

- *'Does this represent a fact in the six times table?'*



Activity - Year 3

Complete:

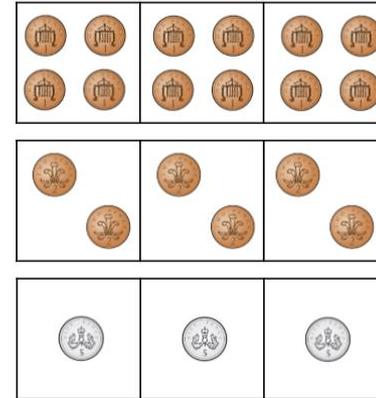
	Add It
Say it There are ___ equal groups with ___ in each group. There are ___ altogether.	Multiply it

There are 8 children.
Each child has 3 sweets.
How many sweets altogether?

Use concrete or pictorial representations to show this problem.

Write another repeated addition and multiplication problem and ask a friend to represent it.

Which row of money is the odd one out?



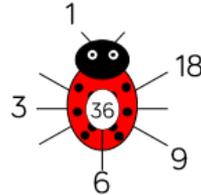
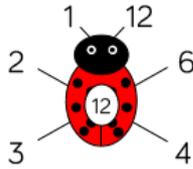
Explain why.

Fill in the table to show that multiplying by 8 is the same as double, double and double again.

6	6	6	6	6	6	6	6
$6 \times 2 = \underline{\quad}$		$6 \times 2 = \underline{\quad}$		$6 \times 2 = \underline{\quad}$		$6 \times 2 = \underline{\quad}$	
$\underline{\quad} \times 2 = \underline{\quad}$				$\underline{\quad} \times 2 = \underline{\quad}$			
$\underline{\quad} \times 2 = \underline{\quad}$							

Activity - Year 4

Here is an example of a factor bug for 12
Complete the factor bug for 36



Are all the factors in pairs?

Draw your own factor bugs for 16, 48, 56 and 35

Here is one batch of muffins.



Teddy bakes 11 batches of muffins.
How many muffins does he have altogether?

In each batch there are 3 strawberry, 3 vanilla, 4 chocolate and 2 toffee muffins.
How many of each type of muffin does Teddy have in 11 batches?

Teddy sells 5 batches of muffins.
How many muffins does he have left?

Fill in the blanks.



$$2 \times 10 = \underline{\quad}$$

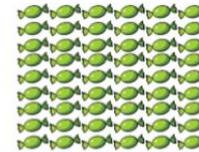
$$2 \times 1 = \underline{\quad}$$

$$2 \text{ lots of } 10 \text{ doughnuts} = \underline{\quad} \quad 2 \text{ lots of } 1 \text{ doughnut} = \underline{\quad}$$

$$2 \text{ lots of } 11 \text{ doughnuts} = \underline{\quad}$$

$$2 \times 10 + 2 \times 1 = 2 \times 11 = \underline{\quad}$$

Amir and Whitney both receive some sweets.



Amir

I have more sweets because I have more rows.

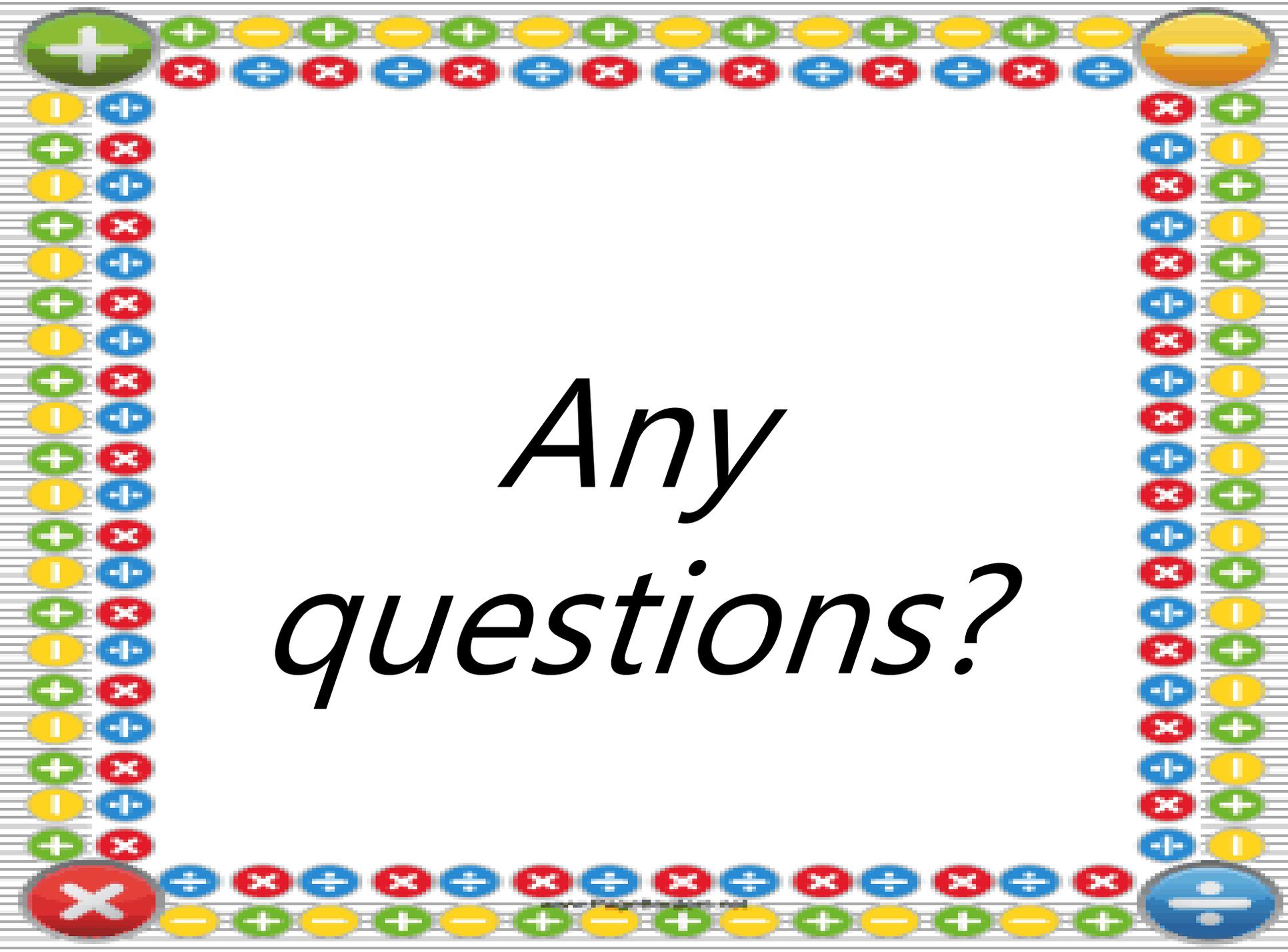


Whitney

I have more sweets because I have more in each row.



Who has more sweets? Explain your reasoning.



*Any
questions?*