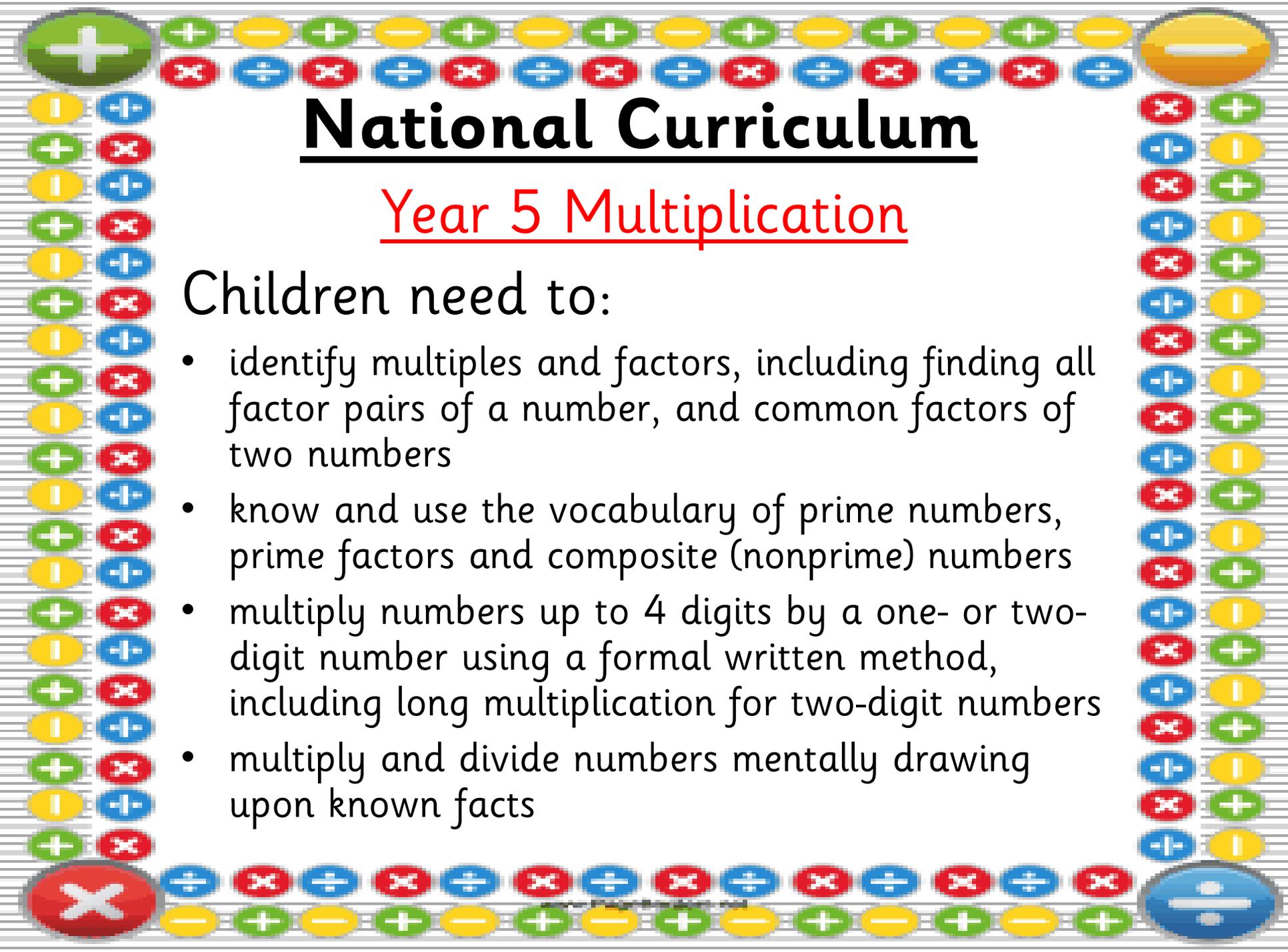


Aims of today

- To outline the Upper KS2 Maths Curriculum for multiplication
- 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

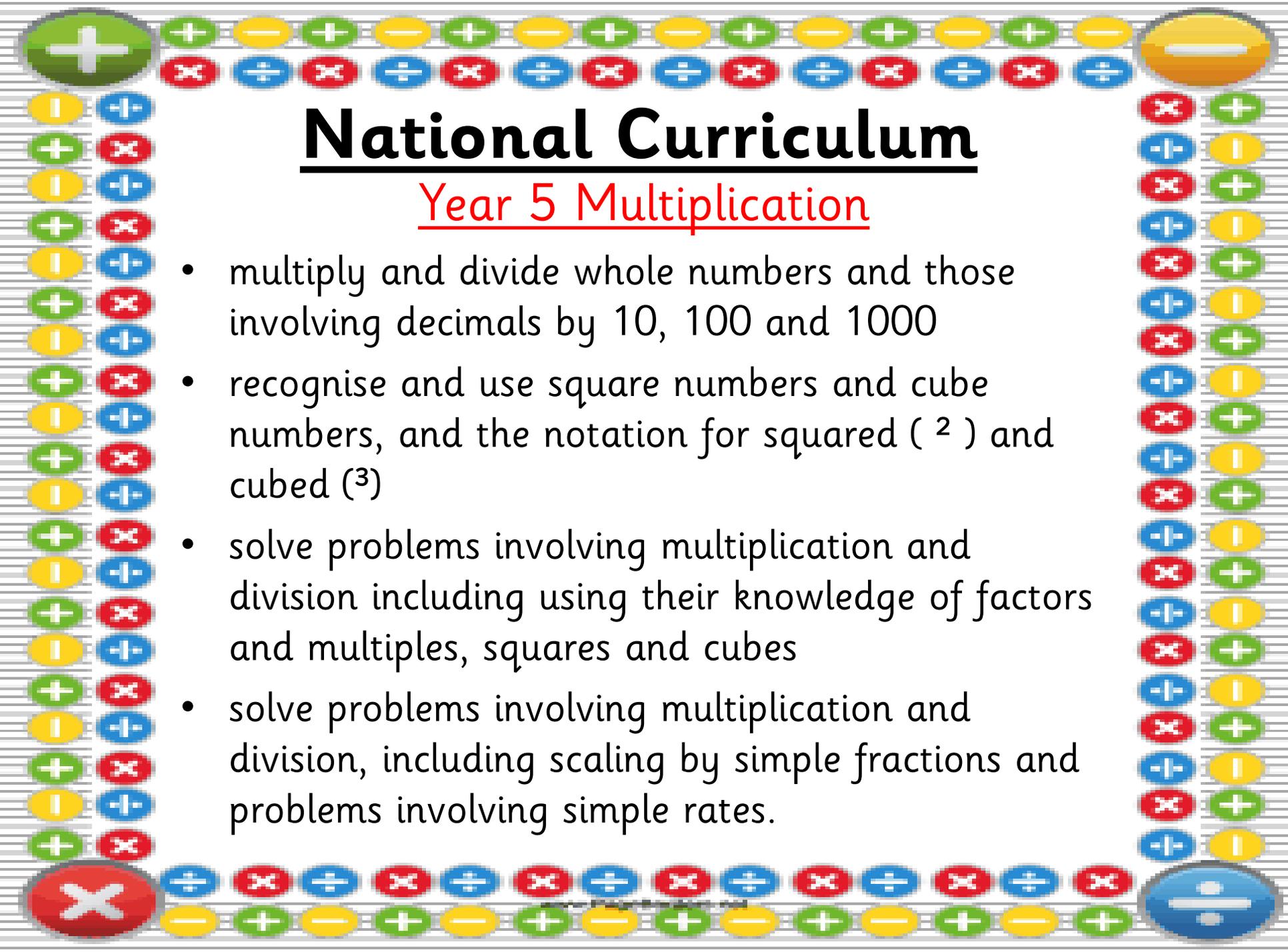


National Curriculum

Year 5 Multiplication

Children need to:

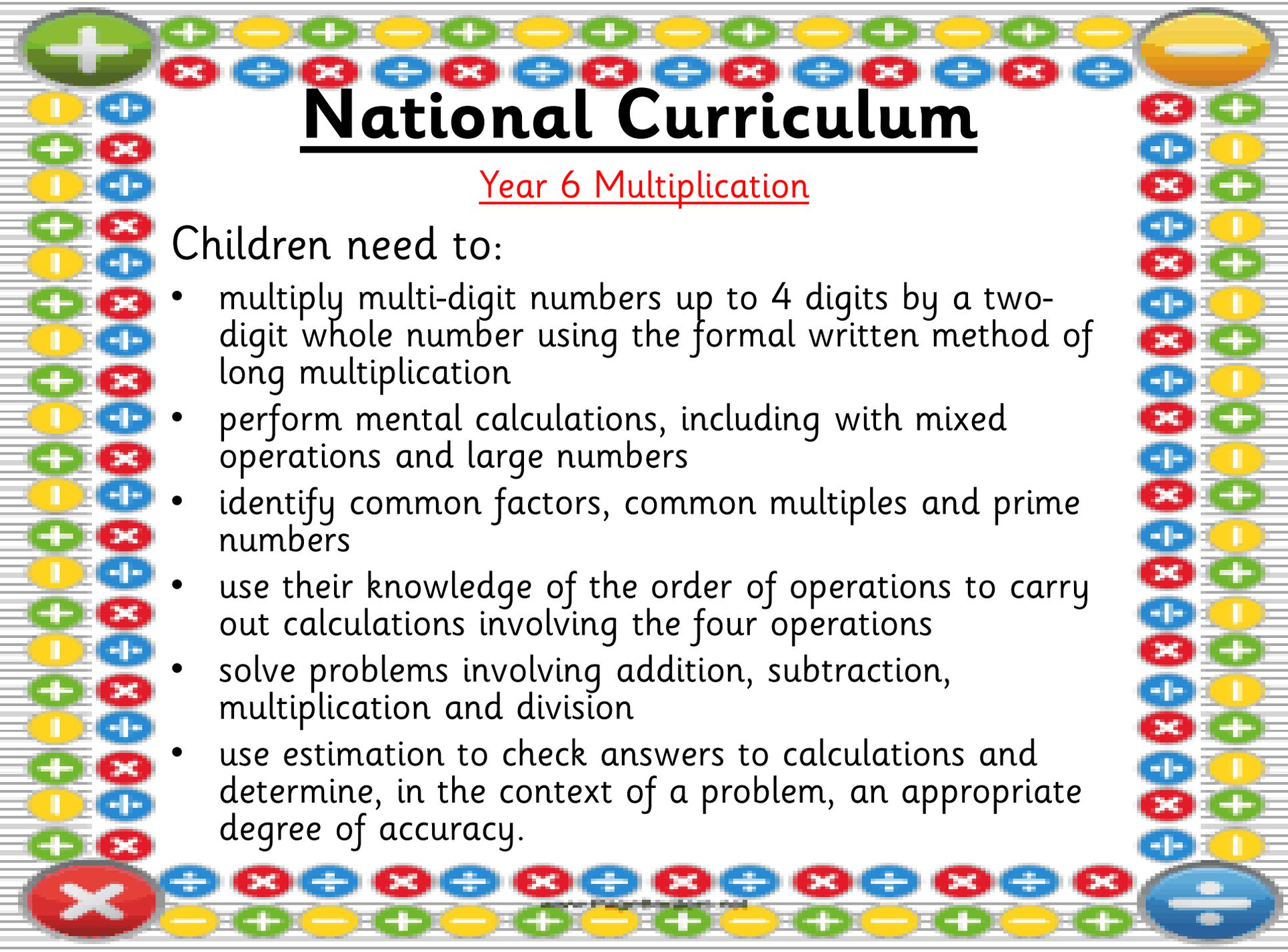
- identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
- know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers
- multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
- multiply and divide numbers mentally drawing upon known facts



National Curriculum

Year 5 Multiplication

- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
- recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
- solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes
- solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

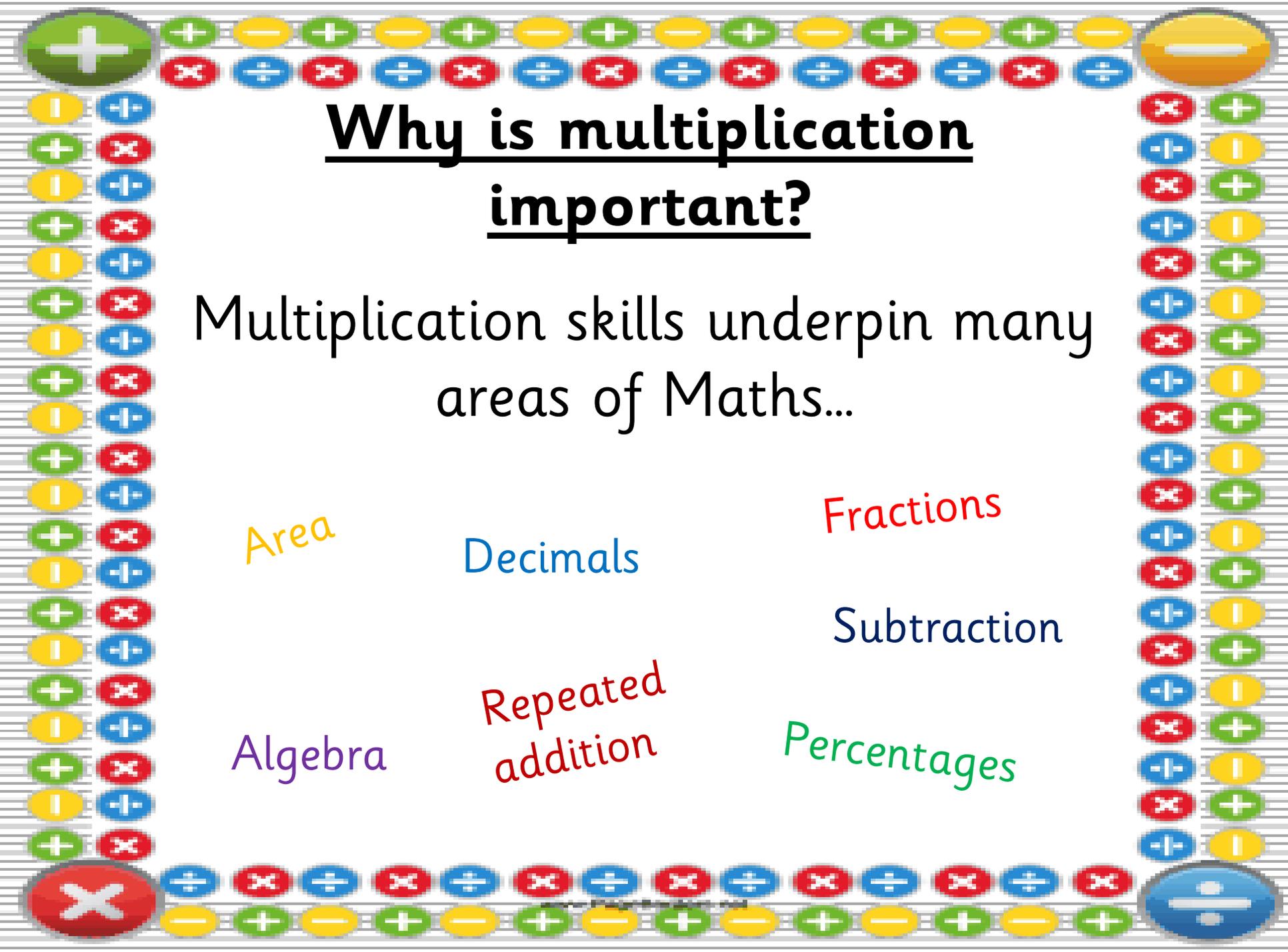


National Curriculum

Year 6 Multiplication

Children need to:

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers
- use their knowledge of the order of operations to carry out calculations involving the four operations
- solve problems involving addition, subtraction, multiplication and division
- use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.



Why is multiplication important?

Multiplication skills underpin many areas of Maths...

Area

Decimals

Fractions

Subtraction

Algebra

Repeated
addition

Percentages

Why is multiplication important?

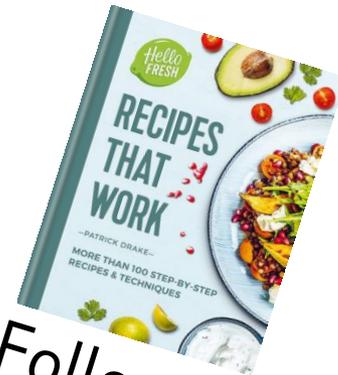
Multiplication skills are needed in
everyday life...



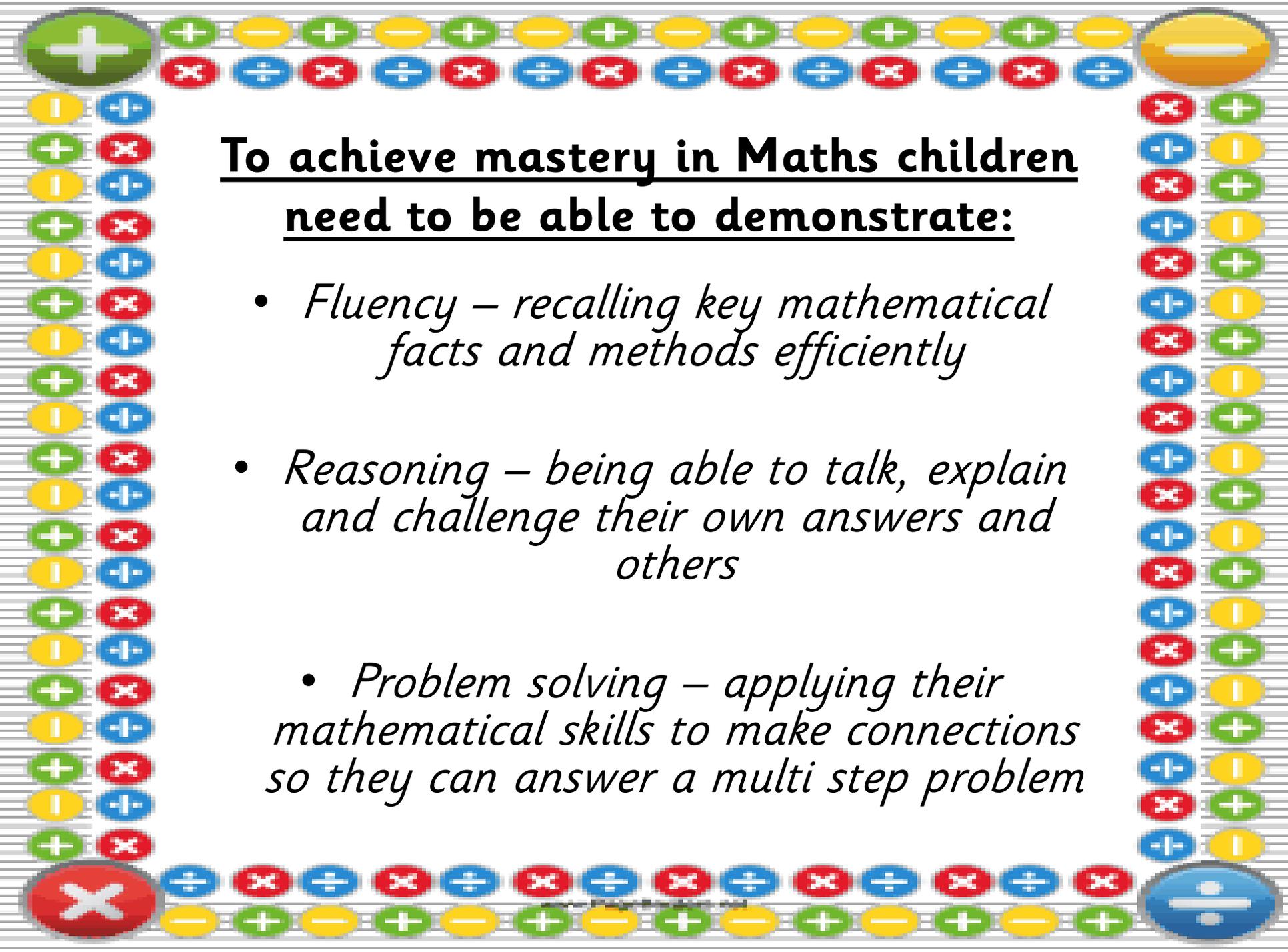
Offers when
shopping

Attraction	Price for adults	Price for children
White Water	£49.90	£29.90 (max)
Thames Speed Boat Tour	Between £34.95 - £48.50	Between £20.95 - £29.50

Planning days out



Following
recipes



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 times tables fortune tellers

12x	12x2	12x3	12x
12x9	24	36	12x4
108		48	
12x8	96	09	12x5
12x7	84	72	12x6
12x			12x

- Create 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!

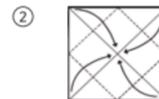
18	12	24	8	10	24	6	15
36	30	12	9	2	5	4	18
4	24	4	8	6	8	15	3
10	12	25	15	20	6	16	8
36	12	12	30	5	12	5	30
10	25	1	9	5	6	10	20
18	20	9	10	16	15	4	3
1	30	4	20	2	3	6	15

12 Times Table Fortune Teller

Instructions



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



Fold all four corners to the centre.



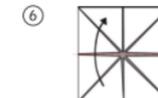
Turn paper over.



Once again, fold all corners to the centre.



Fold paper in half and unfold.



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

7



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

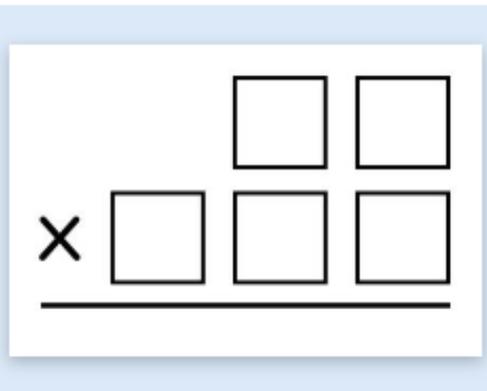
Supporting at home

- Game –
Roll the result!

What you need: pen and paper or mini whiteboard, dice

How to play:

- In pairs, each draw a 3- by 2-digit numbers column multiplication but with empty boxes, as below



- Take it in turns to roll a die and choose in which place value of which number to place that digit in the multiplication
- Once all 5 boxes have been filled, complete the multiplication – the person with the biggest final value wins
- You could change this to make the winner the person with the smallest final value!

Make it easier:

- Change it to a 3- by 1-digit multiplication (or 2- by 1-digit)

Make it harder:

- Change it to a 4-by 2-digit multiplication
- Use a 9-sided die

Supporting at home

- Ask them to help order shopping or dinner



- Help with cooking – working out quantities for recipes



- Help plan a day out – cost per person etc.

Attraction	Price for adults	Price for children
White Water	£49.90	£49.90 (Min)
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A decorative border surrounds the text, consisting of various mathematical symbols in colored circles. The top border features a row of plus, minus, multiply, and divide symbols. The left and right borders are vertical columns of plus, minus, multiply, and divide symbols. The bottom border features a row of plus, minus, multiply, and divide symbols.

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 Upper 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

- Loop cards – each lesson has a mental maths starter

Can you find the answer to your question?

Now find the person that has your answer on the top of their card.

1. 100	2. 520	3. 82×9	4. 50×2	5. 8×65
6. 288	7. 483	8. 195	9. 95×5	10. 720
11. 69×7	12. 738	13. 106	14. 486	15. 3×65
16. 96×3	17. 53×2	18. 90×8	19. 475	20. 9×54

Activities

- 'Fill in the missing numbers to solve $3 \times 5 \times 2$ in two different ways.'

$$3 \times 5 \times 2 = \square \times 2$$
$$= \square$$

$$3 \times 5 \times 2 = 3 \times \square$$
$$= \square$$

- 'Which calculation do you find easier? Choose either A or B in each case, and explain your answer.'

A	B
$(25 \times 4) \times 8$	$25 \times (4 \times 8)$
$(182 \times 2) \times 2$	$182 \times (2 \times 2)$
$(3 \times 3) \times 3$	$3 \times (3 \times 3)$
$(16 \times 50) \times 2$	$16 \times (50 \times 2)$

'Which do you find the simplest way to solve $6 \times 2 \times 5$? Explain your answer.'

- $6 \times 2 \times 5$
- $2 \times 5 \times 6$
- $6 \times 5 \times 2$

Activities

A circus has 17 clowns.

Each clown needs 5 custard pies.

One custard pie uses 35ml of cream.

How much cream does the circus use in total?

Calculate the following:

$$38 \times 12$$

$$39 \times 12$$

$$37 \times 11$$

What's the same and what's different?

True or False?

- $5,463 \times 18 = 18 \times 5,463$
- I can find the answer to $1,100 \times 28$ by calculating $1,100 \times 30$ and subtracting 2 lots of 1,100
- $702 \times 9 = 701 \times 10$

Tabby says,

"If I multiply 23×57 , I can just do these calculations, 20×50 and 3×7 and then add the totals."

Do you agree? Convince me!

Any questions

