Believe, Nurture, Grow, Flourish Together

# Multiplication and Division Information Evening

Believe, Nurture, Grow, Flourish Together

Tuesday 18th November 2025

# Aims:

- Equip you with a better understanding of how the teaching of multiplication and division progresses from EYFS to Year 6.
- Explain the importance and use of practical equipment to support learning in multiplication and division.
- Improve your understanding of the teaching methods we use in school to support learning of multiplication and division.
- Provide you with practical ways which you can support your children at home.

# Concrete, Pictorial, Abstract

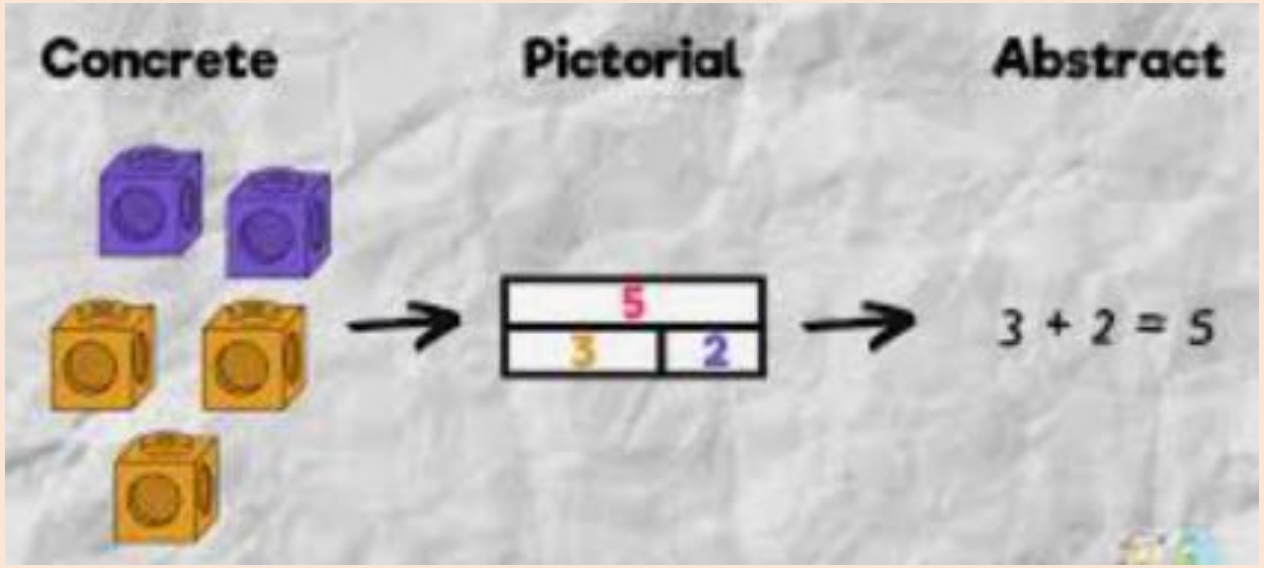
# CPA

**An important principle underpinning all our maths teaching:**

Concrete

Pictorial

Abstract




Concrete Pictorial Abstract (CPA) is a teaching approach that helps children understand abstract concepts by moving from hands-on experience to visual representations and finally to symbolic notation.

# Alphabet Land

Imagine!

There are no numbers,
only letters.

You are in Alphabet Land

# Alphabet Land

Count on with me in ‘a’s starting at a.

# Alphabet Land

Count back with me in ‘a’s starting at letter ‘m’.

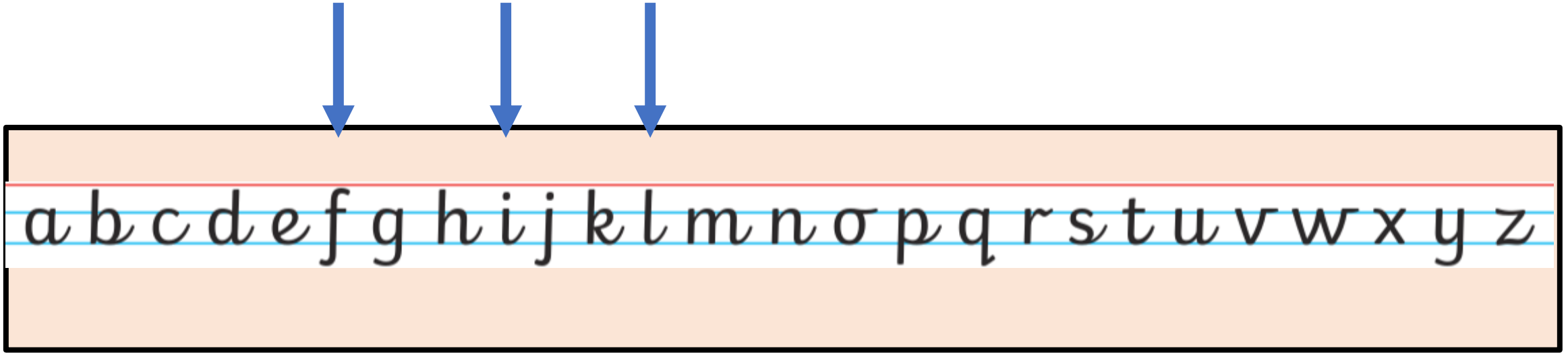
# Alphabet Land

Count up in ‘c’s starting at the letter ‘f’

# Alphabet Land

What would help you?

# Alphabet Land



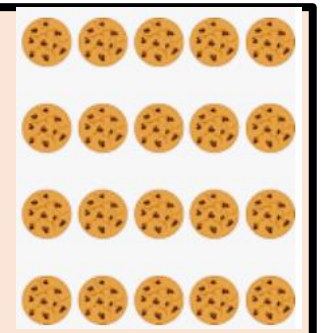

Now count in ‘c’s from the letter f

# CPA

**Concrete**

Children interact with physical, real life objects to solve problems

e.g. Sharing 20 biscuits between 4 friends



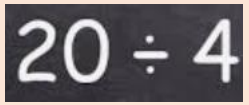
**Pictorial**

Children represent the concrete objects with pictures or diagrams

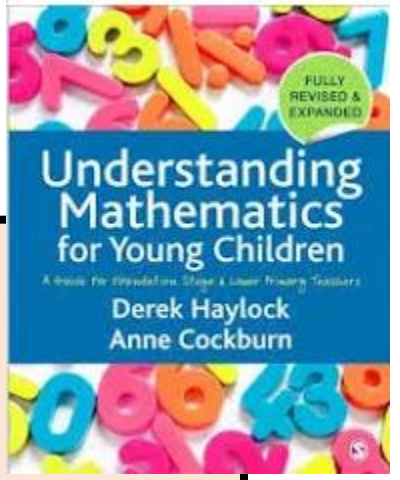
e.g. part whole or bar models


**Abstract**

Children use numbers or symbols to represent the pictures



# CPA and language




Haylock and Cockburn's connective model

- **Four components:**
- This model is built on four key components of mathematical experience: concrete materials, pictures, abstract symbols, and language.
- **Importance of language:**
- It elevates language to the same level as the other three components, recognizing its vital role in mathematical reasoning, problem-solving, and connecting ideas.

Robin Class

# Multiplication and Division in EYFS and Year 1

# Reception

- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

# Year 1

Pupils should be taught to:

- solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

Through grouping and sharing small quantities, pupils begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities.

They make connections between arrays, number patterns, and counting in twos, fives and tens.

# Reception

What does this look like in class?

- Counting objects, actions and sounds.
- Singing counting and number rhymes.
- Playing games which include counting.
- Subitising – encouraging children to show a number of fingers 'all at once' without counting.
- Understanding the 'one more/one less' than relationship between consecutive numbers.
- Making predictions about what the out come will be in stories, rhymes and songs if one is added or if one is taken away.
- Looking at a range of concrete resources and representations of numbers.

# Year 1

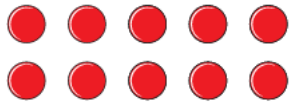
**What does this look like in class?**

- Counting in 2s
- Counting in 5s
- Counting in 10s
- Recognising equal groups
- Adding equal groups
- Making arrays
- Making doubles
- Making equal groups by grouping
- Making equal groups by sharing

# Key vocabulary taught and used

- equal
- groups
- sharing
- **grouping**
- double
- half
- fact family
- partition / partitioning

Make this array.



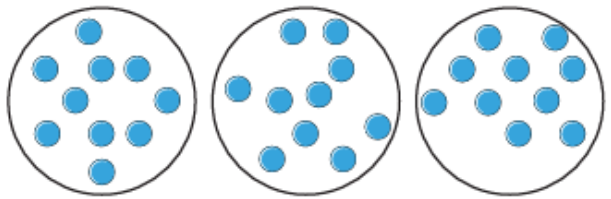
Complete the sentences.

**a)** There are ☐ counters in each row.

There are ☐ rows.

There are ☐ counters altogether.

**b)**



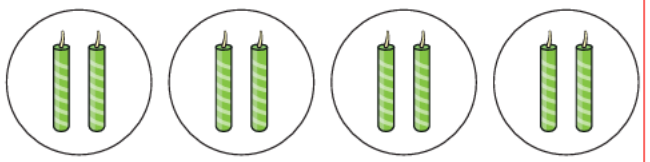
There are ☐ counters altogether.

There are ☐ equal groups of ☐ counters.

Match the doubles to the additions.

| | |
|---|---|
| Double 3 | 6 + 6 |
| Double 6 | 7 + 7 |
| Double 10 | 3 + 3 |
| Double 7 | 10 + 10 |

**3** How many candles are there?



☐ + ☐ + ☐ + ☐ = ☐

There are ☐ candles.

Here are some socks.

**a)** Draw lines to match the pairs of socks.

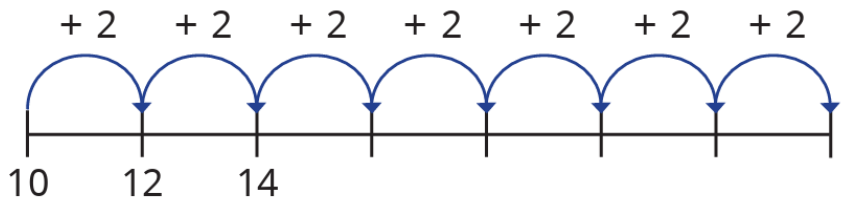
**b)** Complete the sentences.

There are ☐ socks altogether.

There are ☐ socks in each pair.

There are ☐ pairs of socks.

**c)**



Kingfisher Class

# Multiplication and Division in Year 2

# Year 2

## Number - multiplication and division

Pupils should be taught to:

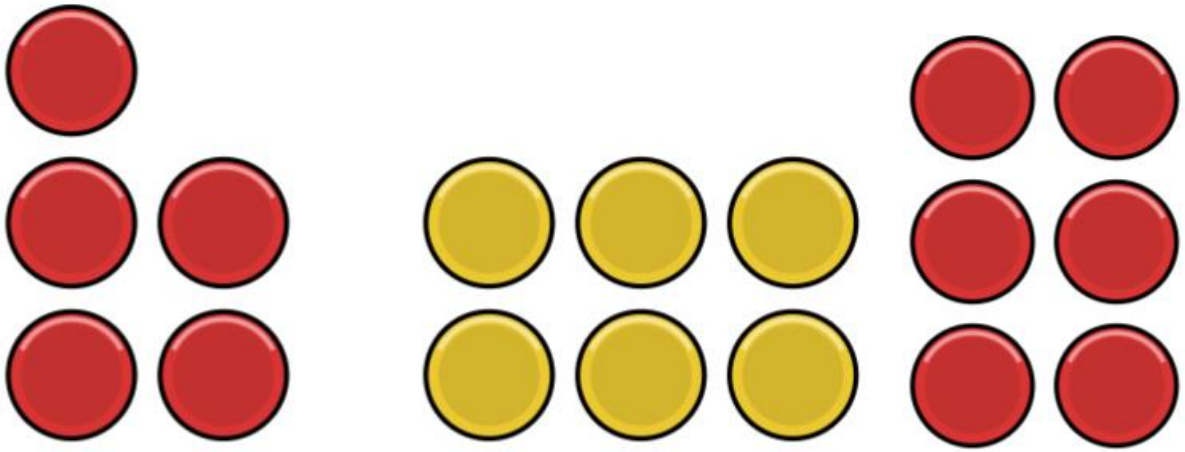
- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
- show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot
- solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

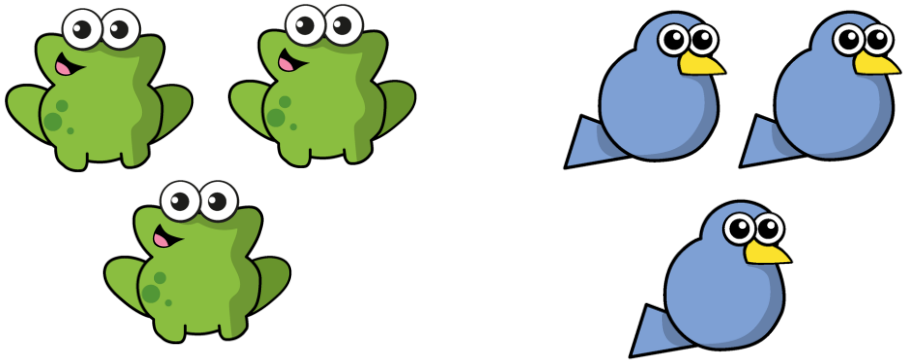
By the end of year 2: 2, 5, 10 multiplication tables

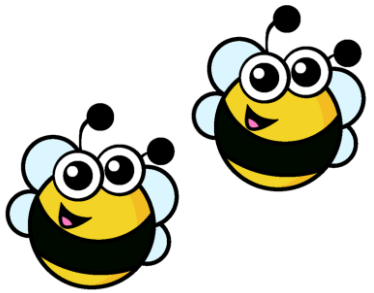
# We will revisit:

## Recognising equal and unequal groups

- Revisit recognising equal and unequal groups
- Revisit making equal groups through sharing
- Revisit making equal groups through grouping
- Revisit adding equal groups together

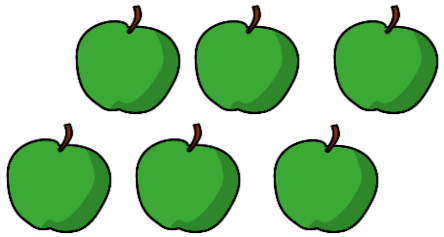


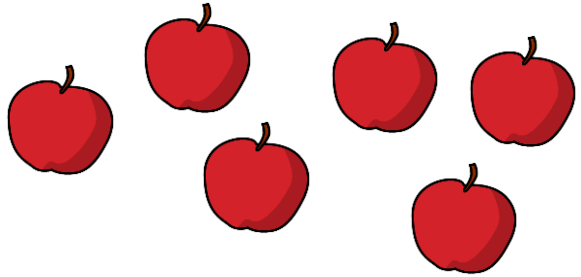




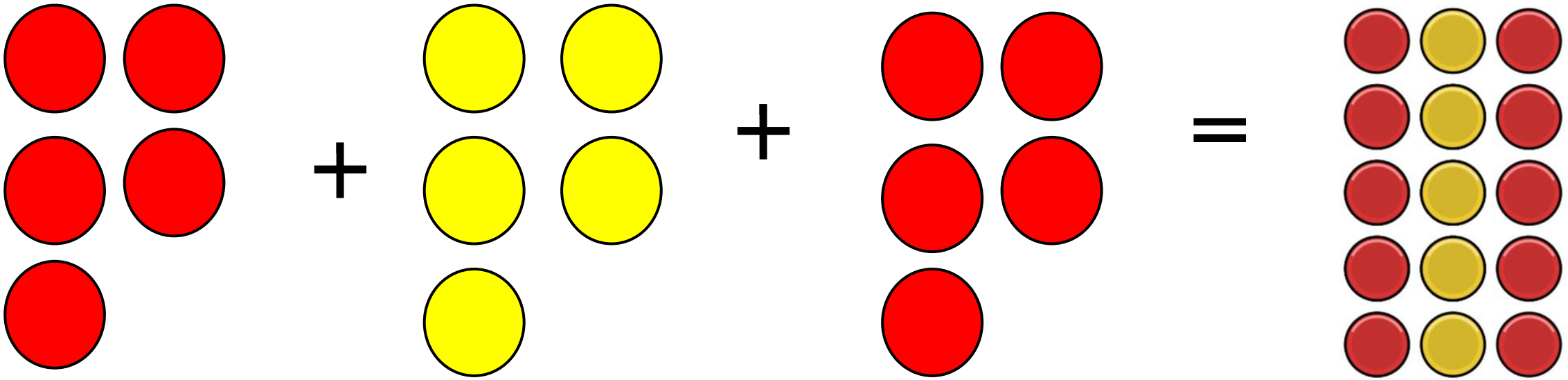
# Making equal groups through

Sharing and Grouping

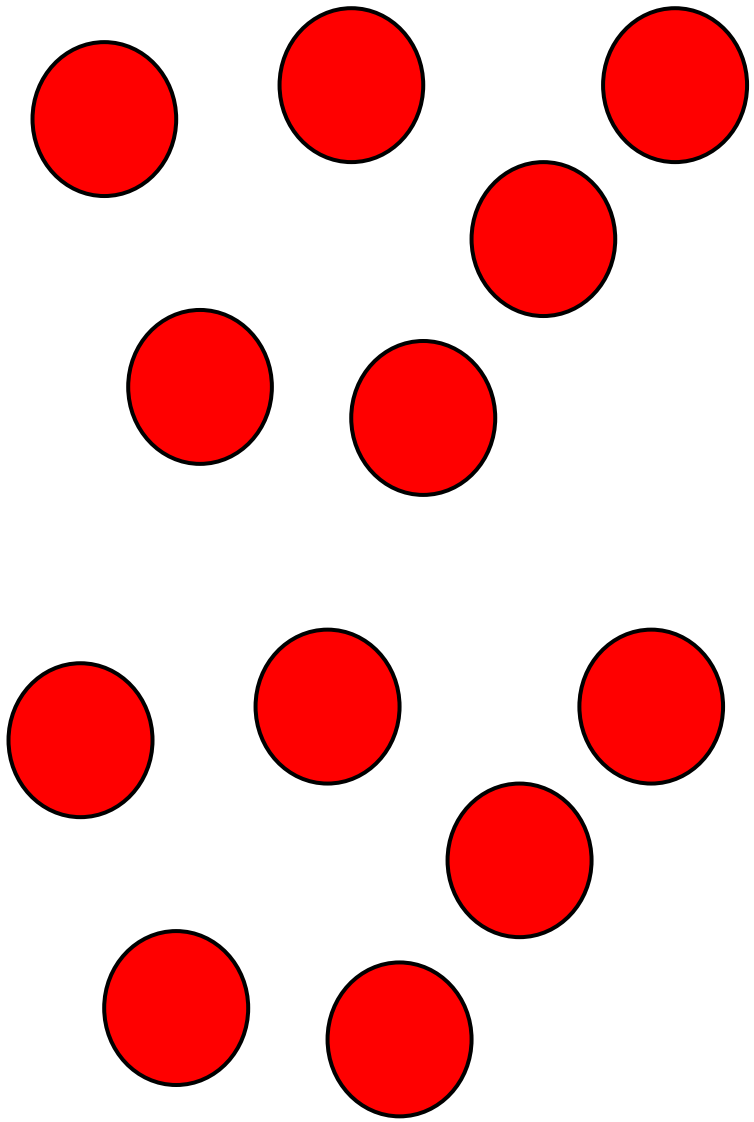




# Adding equal groups together

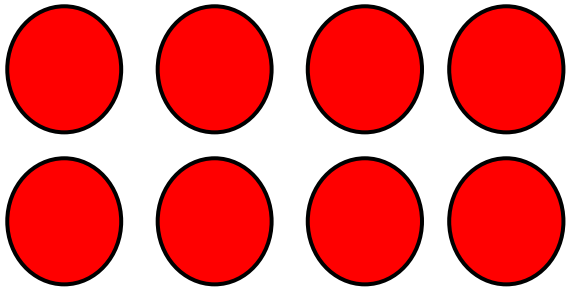


# Making Arrays

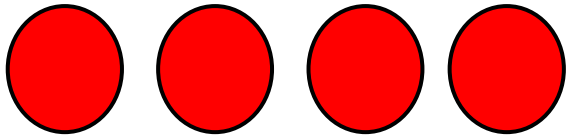


# We will be learning

To find doubles

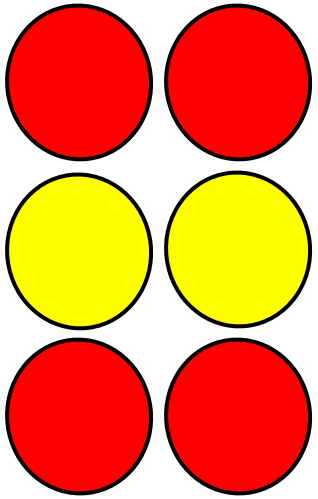


and halves

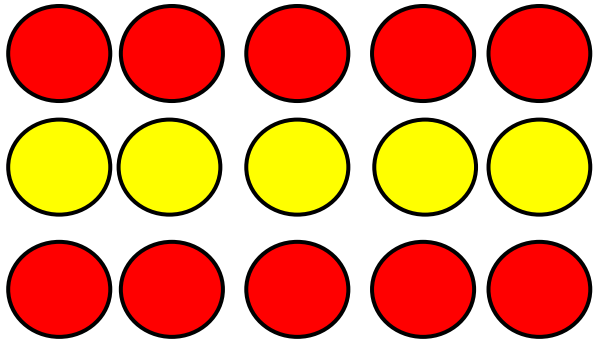


Counting in:

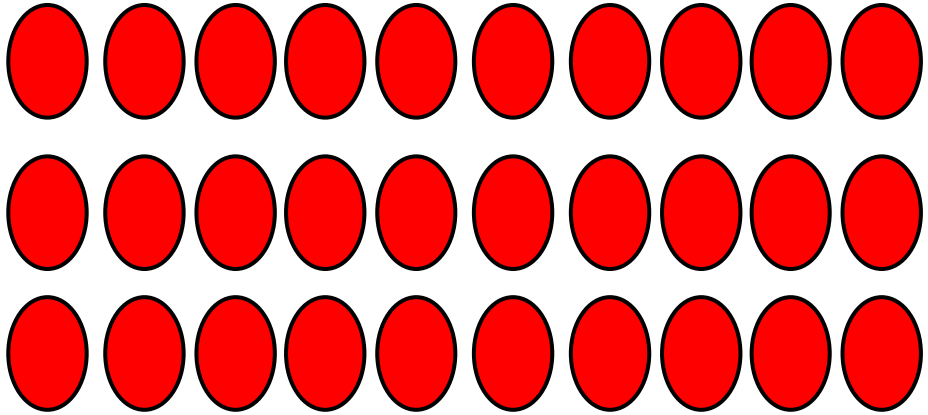
2s



5s



10s



To use the multiplication symbol

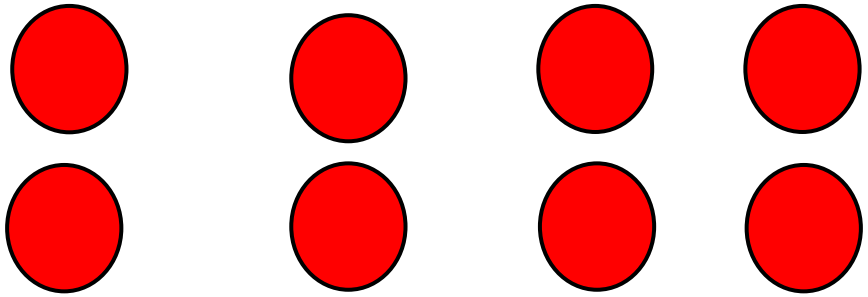
2 x 5 = 10

Two groups of five is the same as ten.

10= 2 x 5

Ten is the same as two groups of five

# Multiplying and dividing by 2s, 5s and 10s

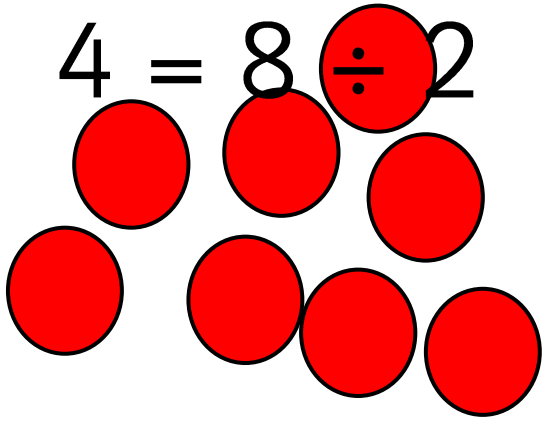


$2 \times 4 = 8$

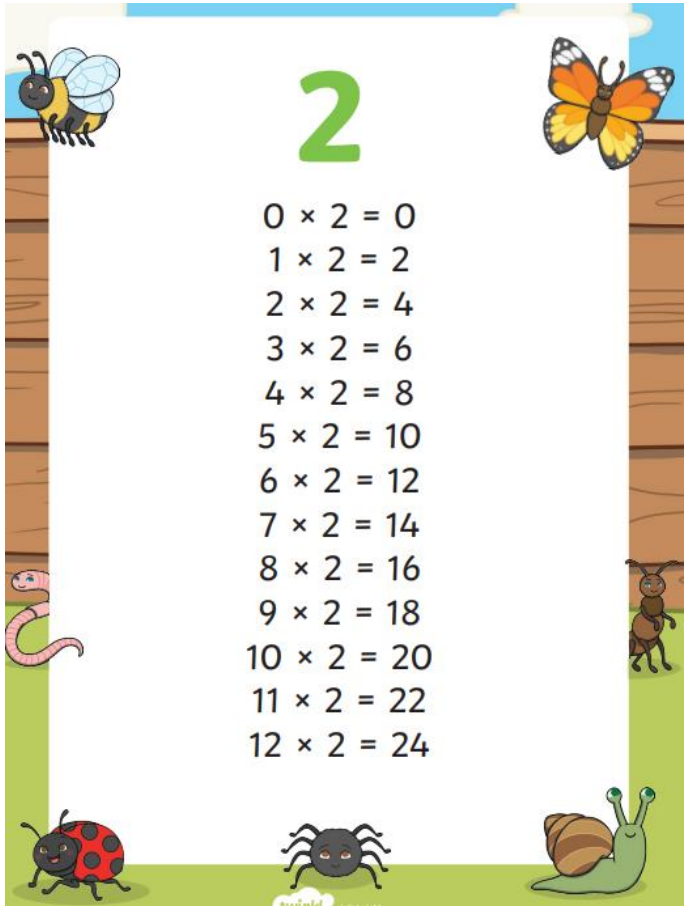
$8 = 2 \times 4$

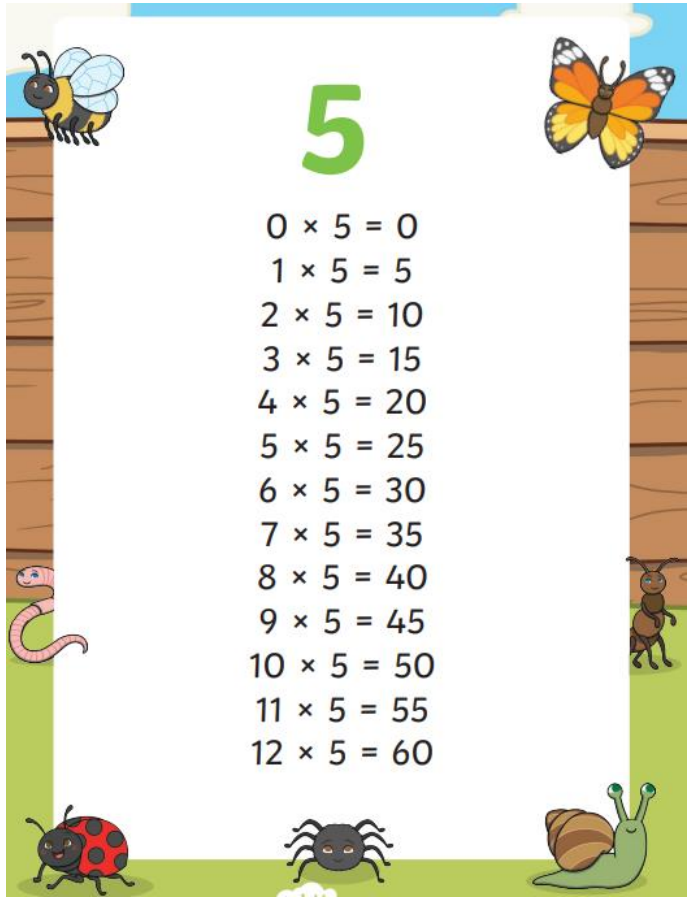
$8 \div 2 = 4$

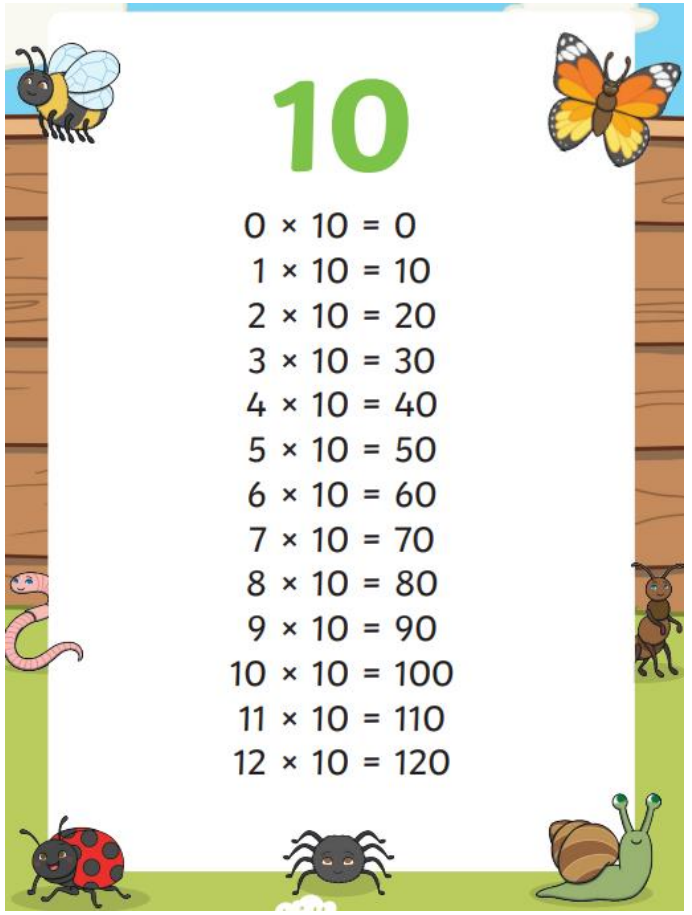
$4 = 8 \div 2$



# Learn the 2s, 5s and 10s times tables



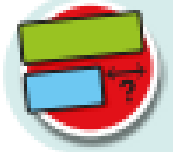
# Key vocabulary taught and used

- equal
- groups
- commutative / commutativity
- sharing
- **grouping**
- lots of
- groups of
- times tables
- multiply ~~times~~
- dividing
- double
- half
- fact family
- multiple
- partition / partitioning

Kay has 7 cookies.

Max has twice as many cookies as Kay.

How many cookies does Max have?



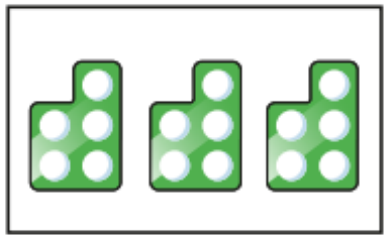
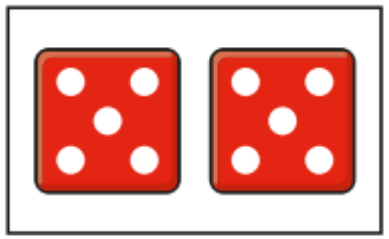
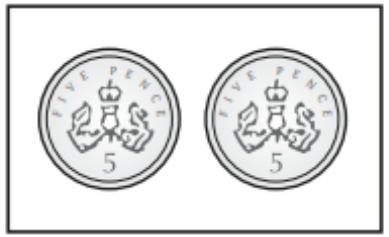

Tubes of tennis balls come in packs of 2 and 5

Fay has 22 tennis balls.

How many of each pack could she have?

Compare answers with a partner.

Which one does not belong?

| | |
|---|---|
| 2 groups of 5 |  |
|  | ten |
| 5 + 5 |  |

What could you change to make it belong?

Sam and Ron are talking about multiplication stories.

There are 4 trees with 3 birds in each tree.

Sam

Write an addition and a multiplication for Sam's story.

The multiplication for my story is 6 x 5

Ron

What is the addition for Ron's story?

What could Ron's story be?

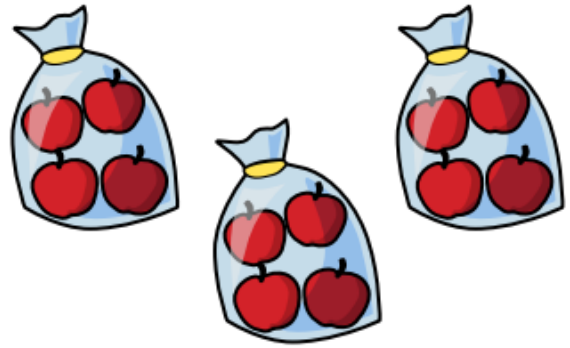
Tiny is working out 5 × 2

The answer is 7

Is Tiny correct?

How do you know?

The picture shows 3 lots of 4



Draw a picture to show 4 lots of 3

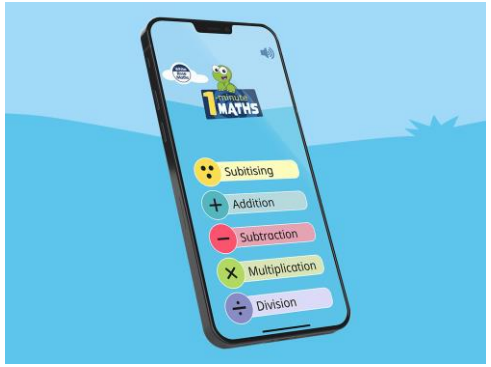
How many apples are there in each picture?

What is the same about the multiplications?

What is different about the multiplications?

What can you do at home to support your child?

Support your child in counting in 1s, 2s, 5s and 10s.




https://whiteroseeducation.com/1-minute-maths

Everyday opportunities:

- Spotting patterns in house numbers
- Counting toys
- Money

Games and activities:

- Card games
- Dice games
- Board games
- Online games

nrich
enriching mathematics

https://nrich.maths.org/parents/early-years

Swallow Class

# Multiplication and Division in Lower Key Stage 2: Years 3 and 4

# Year 3

## Number - multiplication and division

Pupils should be taught 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

By the end of year 3: 2, 3, 4, 5, 8, 10 multiplication tables

# Year 4

## Number - multiplication and division

Pupils should be taught 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 3 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 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects

By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

# Year 3

**What does this look like in class?**

- Revisiting equal groups to prepare for the next steps
- Revisit arrays to make the link between repeated addition and multiplication and also commutativity
- Revisit counting in 2s and the 2 times table
- Revisit counting in 5s and 10s and the 5 and 10 times tables
- Revisit sharing and **grouping**
- Multiply and divide by 3 and the 3 times table
- Multiply and divide by 4 and the 4 times table
- Multiply and divide by 8 and the 8 times table
- Make connections between the 2, 4 and 8 times tables
- Multiply a 2 digit number by a 1 digit number
- Divide a 2 digit number by a 1 digit number

# Year 4

**What does this look like in class?**

- Revisiting multiplying and dividing by 3 and the three times table
- Build on their knowledge of multiplying by 3 to begin to multiply and divide by 6
- Multiply and divide by 9 and the 9 times table
- Make connections between the 3, 6, and 9 times tables
- At this point children are confident in their 2, 3, 4, 5, 6, 8, 9 and 10 times tables
- Introduce multiplying and dividing by 7 and the 7 times table
- Build on knowledge of 1 and 10 times tables to learn the 11 times table
- Build on knowledge of 2 and 10 times tables to learn 12 times table
- Multiply by 1 and 0
- Divide a number by 1 and itself
- Multiply 3 one digit numbers together – commutativity and efficiency *e.g. 4 x 5 x 2 = 20 x 2 or 4 x 10*
- Factor pairs
- Multiplying and dividing by 10 and 100
- Multiplying and dividing 2 digit numbers by a 1 digit number
- Multiplying and dividing 3 digit numbers by a 1 digit number
- Correspondence problems
- Efficient methods for multiplying

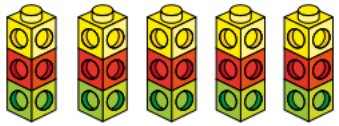
# Key vocabulary taught and used

- equal
- groups
- commutative / commutativity
- sharing
- **grouping**
- lots of
- multiply ~~times~~
- dividing
- double
- half
- fact family
- factor / factor pairs
- multiple
- partition / partitioning

- There are 5 towers.

  Each tower has 3 cubes.

  Complete the sentences.



  There are _____ equal groups with _____ in each group.

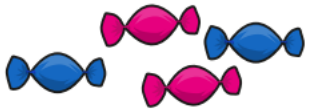
  There are _____ altogether.

  _____ + _____ + _____ + _____ + _____ = _____

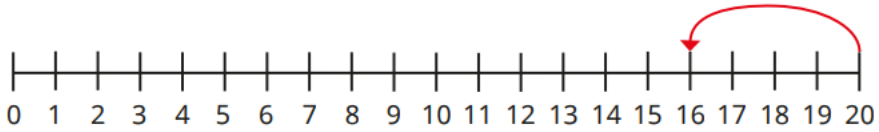
  _____ × _____ = _____

- Scott has 20 sweets and some bags.

  He puts 4 sweets in each bag.

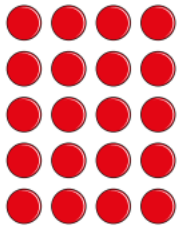


  Use the number line to help you work out how many bags Scott can fill.




- What multiplications and divisions does the array show?

  Complete the number sentences.



  _____ × _____ = _____

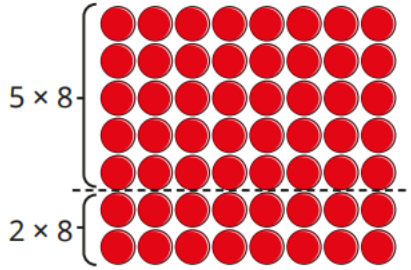
  _____ × _____ = _____

  _____ ÷ _____ = _____

  _____ ÷ _____ = _____

- Teddy is using partitioning to help him work out 7 × 8

  7 × 8 = 5 × 8 + 2 × 8
  = 40 + 16
  = 56




- Complete the number sentences.

  Use the place value chart to help you.

| Tens | Ones |
|---|---|
|  |  |
|  |  |

  3 tens × 2 = _____ tens

  2 ones × 2 = _____ ones

  _____ + _____ = _____

  32 × 2 = _____

- Whitney and Tommy are working out 6 × 3

  I can find the answer by counting in 3s.

  Whitney

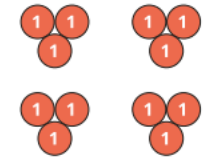
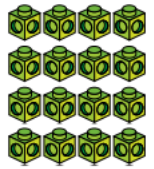
  I know that 5 × 3 = 15, so I can count on 3 more.

  Tommy

  Whose method is more efficient?

  Explain your answer.

Which part does not show counting in 4s?

| | |
|---|---|
| 4 + 4 + 4 + 4 |  |
|  |  |

Explain your answer.

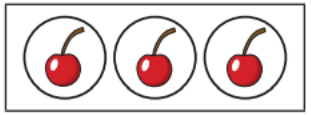
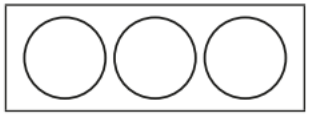
- Complete the sentences.

$2 \times 10 =$ _____ $2 \times 1 =$ _____

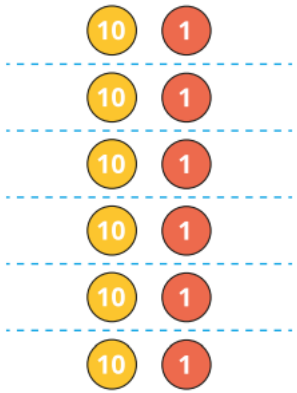
2 lots of 10 doughnuts = _____ 2 lots of 1 doughnut = _____

$2 \times 10 + 2 \times 1 = 2 \times 11 =$ _____ There are _____ doughnuts.

- Match the statements to the pictures.

| | |
|---|---|
| 3 lots of 0 |  |
| 3 lots of 1 |  |
| 1 lot of 3 |  |

- Nijah is using place value counters to help her work out $66 \div 11$




- Complete the number track.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | | 28 | 35 | | 49 | 56 | | 70 | | 84 | 91 |

Which calculation is the odd one out?

| | |
|---|---|
| $4 \times 10 \times 2$ | $4 \times 4 \times 5$ |
| $5 \times 4 \times 2$ | $5 \times 2 \times 8$ |

Explain your reasoning.

Is the statement true or false?

$$6 \times 7 = 5 \times 7 + 5$$

Explain your reasoning.

Skylark Class

# Multiplication and Division in Upper Key Stage 2: Year 5

# Year 5

**Number - multiplication and division**

Pupils should be taught to:

- identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers
- know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
- establish whether a number up to 100 is prime and recall prime numbers up to 19
- 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
- divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
- multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000
- 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 addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
- solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates

All multiplication tables up to 12 should be easily recalled

# Year 5

**What does this look like in class?**

- Revisiting multiples and common multiples
- Introduce Prime, Square and Cube numbers
- Multiplying and **dividing** by 10, 100 and 1000
- Multiply up to a 4-digit number by a 1-digit number
- Multiply a 2-digit number by a 2-digit number
- Multiply a 3-digit number by a 2-digit number
- Multiply a 4-digit number by a 2-digit number
- Solve problems with multiplication
- Short division
- Divide a 4-digit number by a 1-digit number
- Divide with remainders
- Efficient division
- Solve problems with multiplication and division

# Key vocabulary taught and used

- commutative / commutativity
- sharing
- **grouping**
- lots of  / groups of
- multiply ~~times~~
- dividing
- fact family
- factor / factor pairs
- multiple
- partition / partitioning
- **remainders**

Scott is working out 23 × 14

Use the area model to help complete Scott's workings.

| × | 10 | 4 |
|---|---|---|
| 20 | 200 | 80 |
| 3 | 30 | 12 |

200 + 30 + 80 + 12 = 322

| | | | | | |
|---|---|---|---|---|---|
| | | | 2 | 3 | |
| | × | | 1 | 4 | |
| | | | | | (23 × 4) |
| | | | | | (23 × 10) |
| | | | | | |
| | | | | | |

Tommy is calculating 1,234 × 26

**a)** Complete his workings.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | |
| | × | | | | 2 | 6 | |
| | | | $7_1$ | $4_2$ | $0_2$ | 4 | |
| | | 2 | 4 | 6 | 8 | 0 | |
| | | | | | | | |
| | | | | | | | |

**b)** Fill in the grid to check Tommy's workings are accurate.

You may use place value counters to help.

| × | 1,000 | 200 | 30 | 4 |
|---|---|---|---|---|
| 20 | | | | |
| 6 | | | | |

Tiny is calculating 34 × 23

Here are Tiny's workings.

$$\begin{array}{r} 3\ 4 \\ \times\ 2\ 3 \\ \hline 1_1\ 0_1\ 2 \\ 6\ 8 \\ \hline 1\ 7_1\ 0 \end{array}$$

**a)** What mistake has Tiny made?

**b)** What is the correct answer?

A machine makes 2,734 boxes every hour.

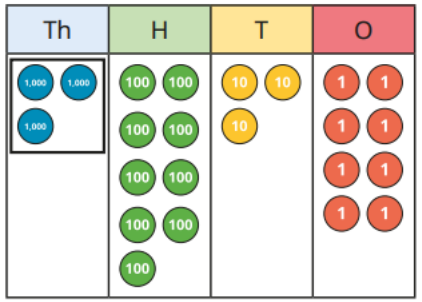
The machine works for 3 hours each day.

How many boxes will it make in 12 days?

Compare methods with a partner.

Circle the groups of 3 to help complete the sentences and calculation.

The first step has been done for you.




| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1 | | | | |
| | 3 | 3 | 9 | 3 | 8 | |

There is [1] group of 3 thousands.

There are [ ] groups of 3 hundreds.

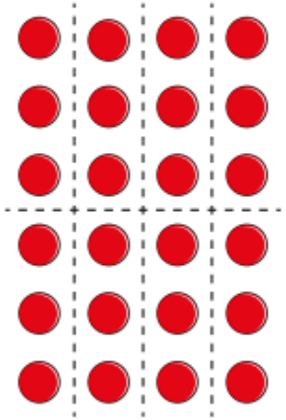
There is [ ] group of 3 tens.

There are [ ] groups of 3 ones.

There are [ ] ones left over.

3,938 ÷ 3 = [ ] remainder [ ]

Use the array to complete the sentences.



24 ÷ 8 = 24 ÷ [ ] ÷ [ ]

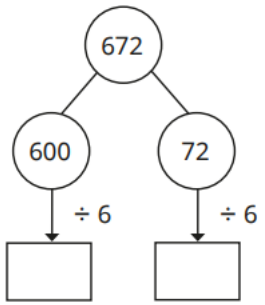
24 ÷ [ ] ÷ [ ] = [ ]

So 24 ÷ 8 = [ ]

Here are four different ways to work out 672 ÷ 6

**a)** Complete the workings for each method.

**Method 1**



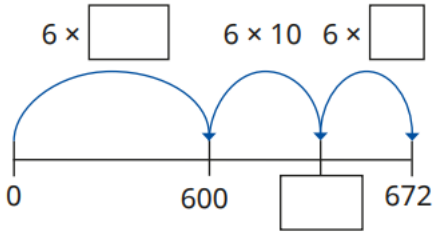

**Method 2**

Factor pair of 6: 2 and 3

672 ÷ 2 = [ ]

[ ] ÷ 3 = [ ]

**Method 3**




**Method 4**

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | 6 | 6 | 7 | 2 | |
| | | | | | |

Which method did you prefer?

Owl Class

# Multiplication and Division in Upper Key Stage 2: Year 6

# Year 6

Pupils should be taught to:

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
- divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
- divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers

# Year 6

- use their knowledge of the order of operations to carry out calculations involving the 4 operations
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- 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

# Year 6

**What does this look like in class?**

- Finding common factors
- Finding common multiples
- Understanding rules of divisibility
- Learning about prime, square and cube numbers.
- Multiply up to 4-digit by 2-digit numbers
- Dividing 4-digit numbers by 2-digit numbers using long division
- Understanding the order of operations
- Developing fluency, mental calculations and estimations.
- Solving problems multi-step problems using multiplication and division.

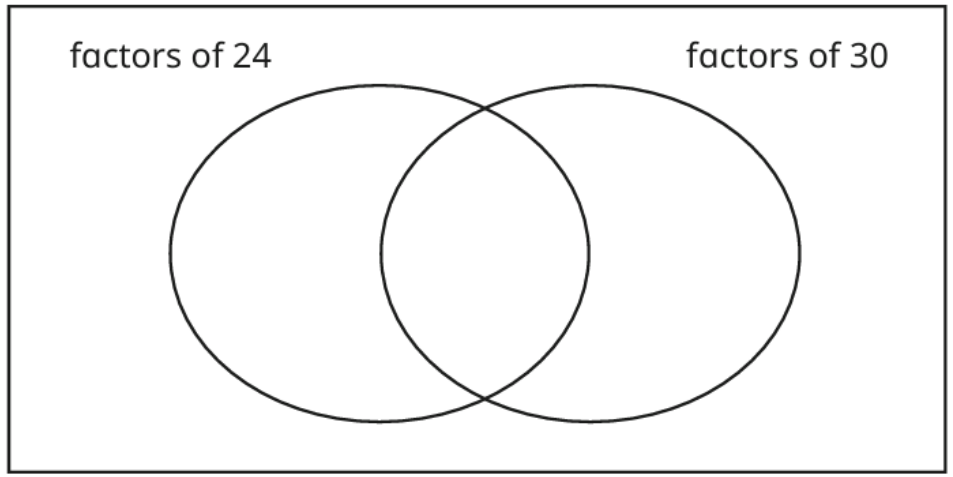
# Key vocabulary taught and used

Multiply
Integers
Prime number
Composite number
Cube number
Square number
Factor
Multiple
Column method
Inverse operation
Common factor
Common multiple

Product
Power/exponent
Divisible/divisibility
Order of operations
Divisor
Dividend
Quotient
remainder

Write the numbers in the sorting diagram.

1 2 3 4 5 6 8 10 12 15 24 30




List the common factors of 24 and 30

● + ▲ = 38

● is a cube number.

▲ is a prime number.

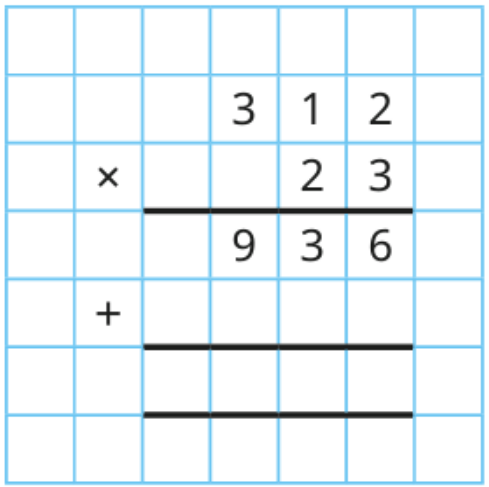
Find pairs of values for ● and ▲.

Here is a table for sorting numbers.

Write one number in each box.

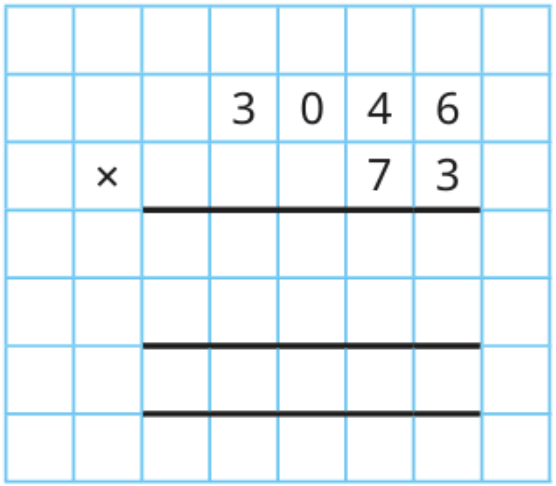
| | Multiple of 8 | Not a multiple of 8 |
|---|---|---|
| Multiple of 5 | | |
| Not a multiple of 5 | | |

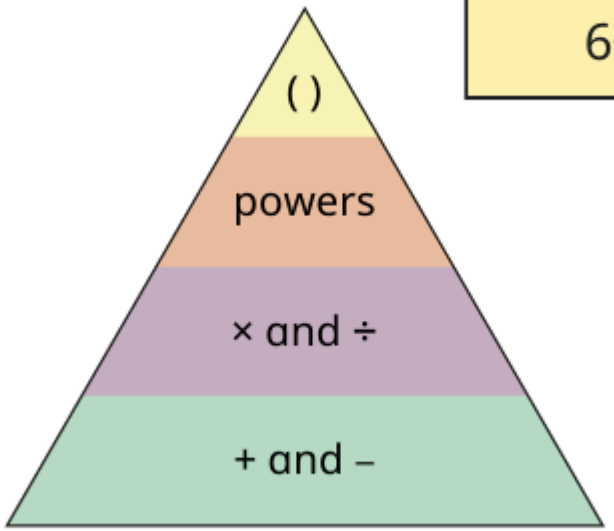
Compare answers with a partner.




(312 × 3)

(312 × 20)



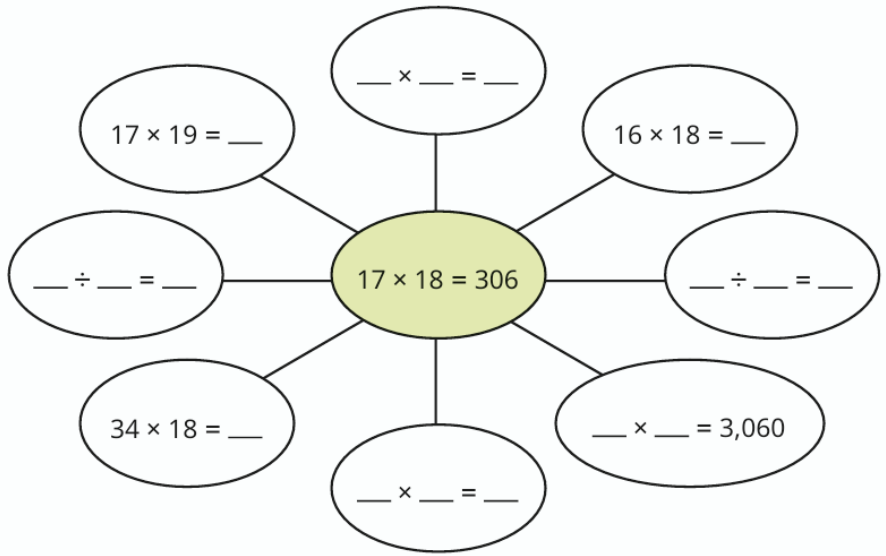



$6^2 - 3 \times 4$

$6^2 \div (4 + 5)$

$(7 - 4)^2$

Complete the spider diagram.




Compare methods with a partner.

Filip uses multiples to help divide 372 by 15

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 0 | 2 | 4 | r | 12 | |
| | 15 | 3 | 7 | 2 | | | |
| | | 3 | 0 | 0 | | | |
| | | | 7 | 2 | | | |
| | | | 6 | 0 | | | |
| | | | 1 | 2 | | | |

(15 × 20)

(15 × 4)

**Multiples of 15:** 15 × 1 = 15

15 × 2 = 30

15 × 3 = 45

15 × 4 = 60

Work out the missing digits.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 0 | 4 | 1 | □ | r3 | |
| | | 4 | 1 | □ | 5 | 9 | | |

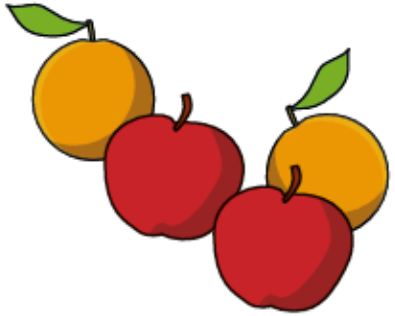
$2{,}637 \div 16$

$4{,}453 \div 22$

$4{,}203 \div 18$

The total mass of apples in a box is 25 kg.

The total mass of oranges in a box is 24 kg.



- There are 32 boxes of apples and 25 boxes of oranges in a supermarket.

  What is the total mass of apples and oranges?

- A customer orders 300 kg of apples and 600 kg of oranges.

  How many boxes of fruit will the customer receive?

- Mrs Hall needs 380 cupcakes for a party.

  Cupcakes are sold in boxes of 15

  How many boxes of cupcakes does she need to buy?

  Will she have any cupcakes spare?
  How do you know?

- One day, a bakery produces 7,849 biscuits.

  The biscuits are packed into boxes of 64 biscuits.

  How many full boxes can be packed?

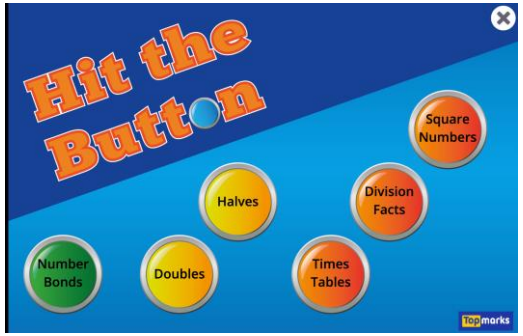
What can you do at home to support your child?

Support your child in rehearsing and memorising their times tables!

Everyday opportunities:
- Shopping
- Cooking
- Times and routines
- Money

Games and activities:
- Card games
- Dice games
- Board games
- Online games

https://ttrockstars.com/



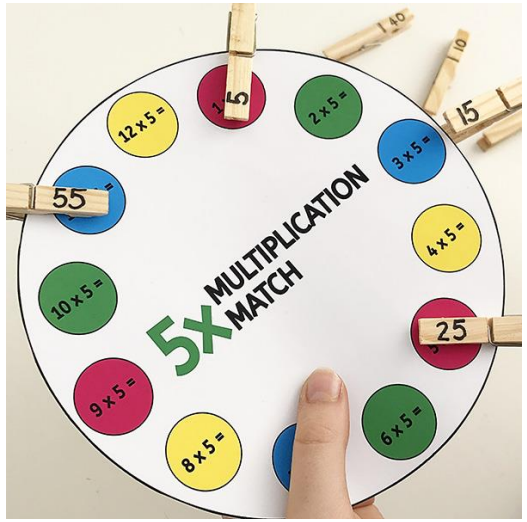

https://www.topmarks.co.uk/maths games/hit-the-button

https://mathsframe.co.uk/en/resources/category/7/multiplication-and-division

https://wild.maths.org/

If you're looking for something that's not online...


Multiplication wrap-ups




Multiplication match

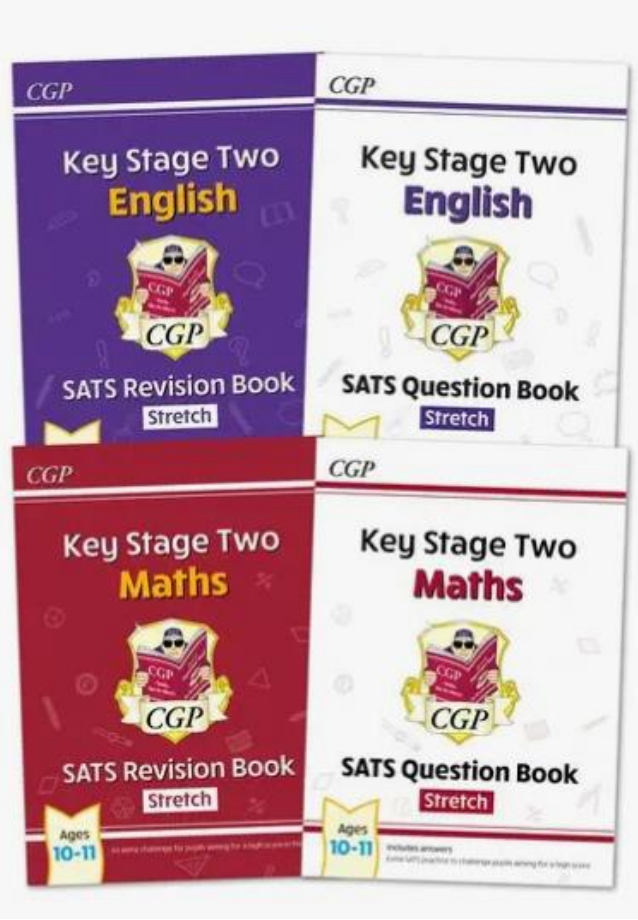
Arithmetic magnets


Card games


Flash cards

What can you do at home to support your child?

Keep practising time tables. Fluency and speed is important.




CGP books

# Thank you for coming!

- Please take the time to explore the resources and problems your child might be tackling in class.

- Don't forget to complete the feedback form before you leave!