Maths in Year 2 at Newdigate Infant School

Key Objectives in Year 2

- **Number and Place Value**: Understanding the value of numbers up to 100.
- **Addition and Subtraction**: Developing fluency in mental and written methods.
- **Multiplication and Division**: Learning 2, 5, and 10 times tables and solving related problems.
- **Fractions**: Understanding halves, quarters, and thirds.
- **Measurement**: Using standard units for length, mass, and capacity.
- **Geometry**: Recognising and describing properties of 2D and 3D shapes, symmetry.
- **Statistics**: Interpreting simple tables and pictograms
- **Money:** recognizing notes and coins, making the same amount with different values
- **Time**: Telling and writing the time to the nearest 15 minutes

End of Year Assessment:

Arithmetic questions:

Addition and Subtraction of two-digit numbers

Multiplication and Division question – multiples of 2, 5 and 10

Fractions of a number within 100 (1/2, 1/3, 1/4)

Reasoning and problem solving:

All objectives listed on the previous pages.

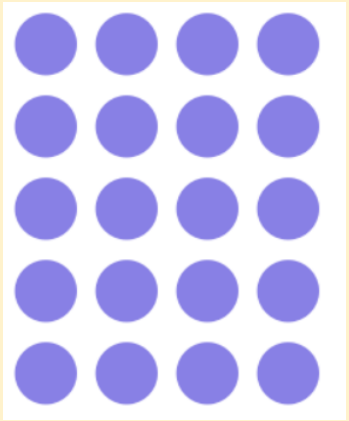
Example questions throughout the PowerPoint

Our approach:

We work with concrete resources first for example numicon, diennes or nature!

We would then work pictorially using representations to support our understanding.

This process would happen over multiple lessons and then children would begin to work abstractly, working things out in their head.

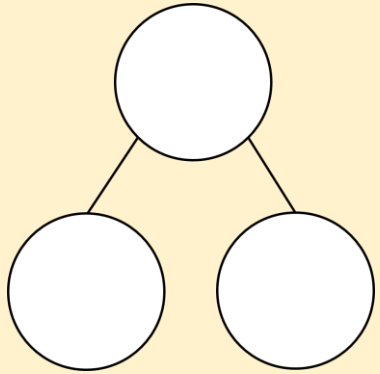


4 x 5 = 20

Place Value

- **Key Skills**:
  - Counting in steps of 2, 3, 5, and 10.
  - Comparing and ordering numbers up to 100.
  - Reading and writing numbers up to 100 in words.
  - Recognising tens and ones in numbers
  - Using a part-part whole model and place value chart

T	O



Addition

Objective: to solve additional problems with two-digit numbers (making fact families number bonds within 100).

Strategies to support:

Numberline

Pictorial representations

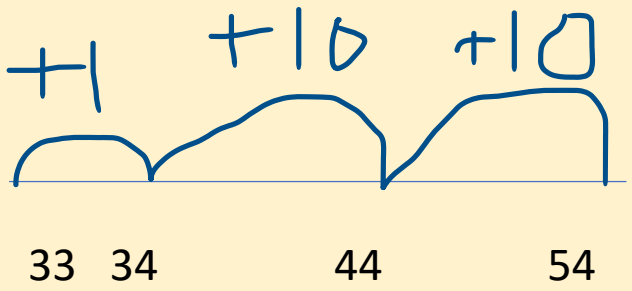
Partitioning

Addition examples:

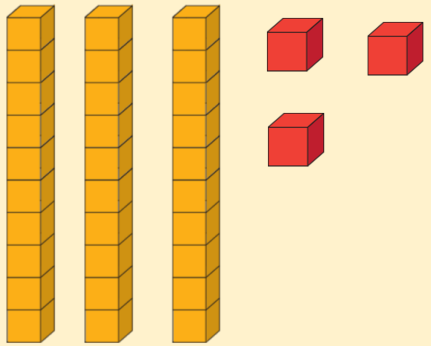
33 + 21 =

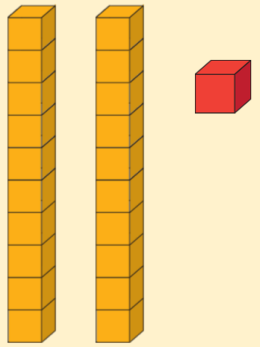
Methods:

Numberline:



Pictorial:





Partitioning:

Tens:

30 + 20 = 50

Ones:

3 + 1 = 4

50 + 4 = 54

Mental:

Subtraction

Objectives: to solve subtraction problems including two-digit numbers from other two-digit numbers.

Methods:

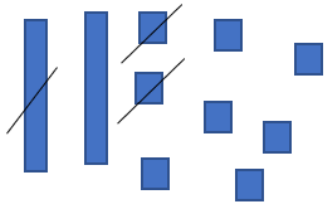
Numberline

Partitioning

Drawing tens and ones

Subtraction strategies:

28 - 12 = 16



Draw Base 10 and then subtract the tens first and then the ones.

Partitioning:
20 - 10 = 10
8 - 2 = 6

10 + 6 = 16

Only if secure as they can often then do 10 – 6 = 4.

They can then do this mentally.

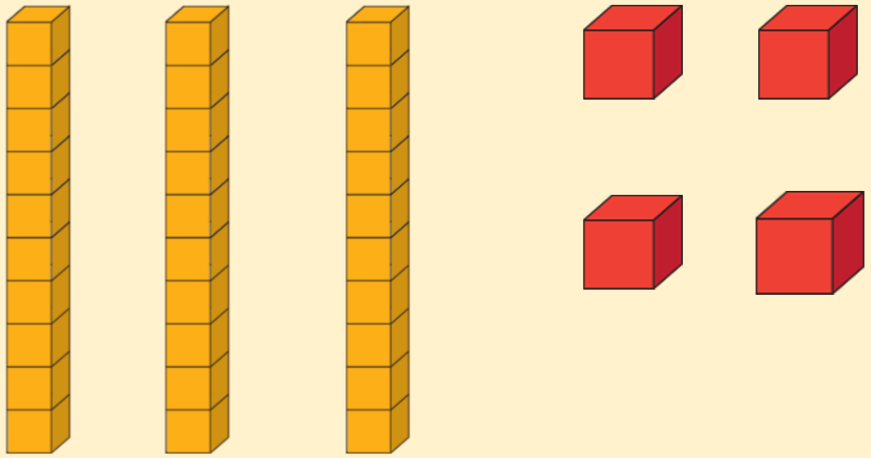
Number line

28 – 12 =

28 26 16

Crossing 10

34 – 16 =



Multiplication and Division

Objective: understand and recall multiplication and division facts for the 2-, 5- and 10-times tables

Methods:

Skip counting

Making arrays

Multiplication – peas on plates

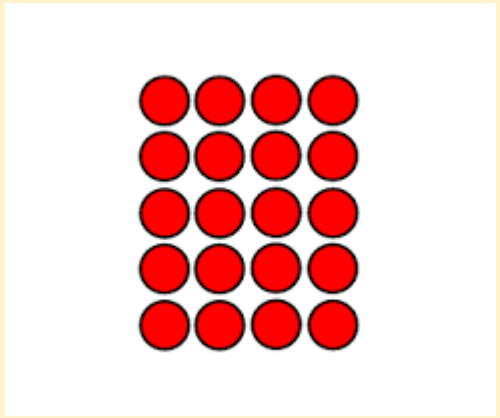
Division – sharing out cookies

Multiplication strategies:
4 x 5 =

Skip counting:

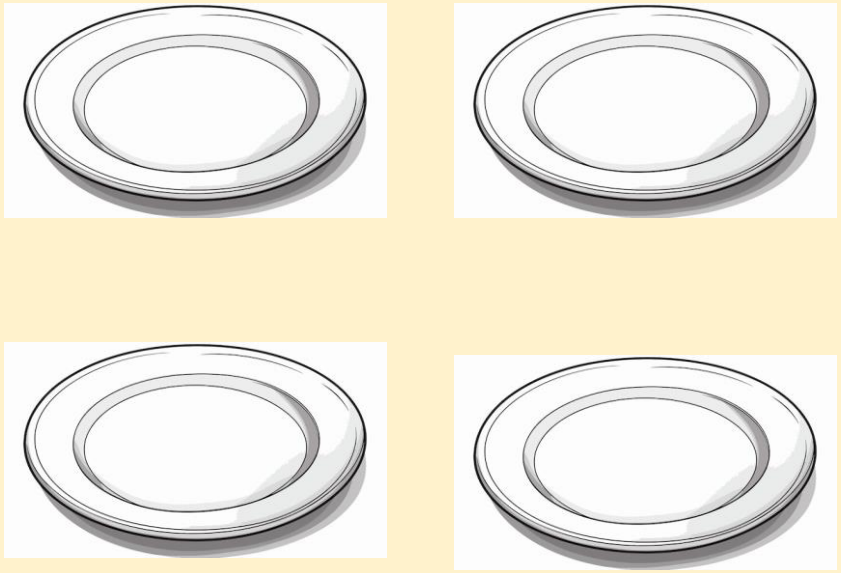
You have 4 lots of 5

Array:



Peas on plates:

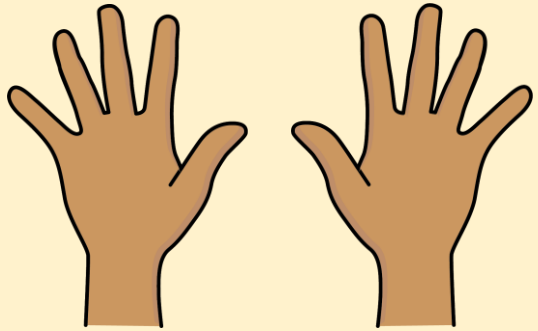
multiPEAcation



Division strategies:

20 ÷ 2

Counting in the divisor to the whole:



Delicious division:

Sharing out 20 cookies for 2 people:

Drawing an array;

Sharing out the whole into the divisor:

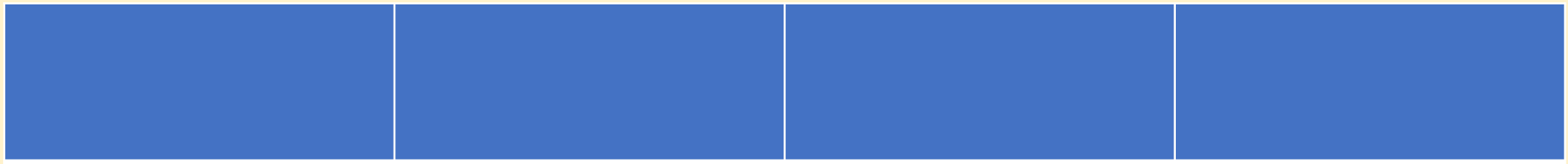
Fractions

- **Objective**: Understand and use simple fractions like ½, ¼, and ⅓.
- **Key Skills**:
- Identifying halves and quarters of shapes and amounts.
- Comparing and ordering simple fractions.
- Understanding fractions in the context of sharing.
- Finding a fraction of a number

Fraction Strategy:

¼ of 24

1. Create boxes using the number of the denominator:



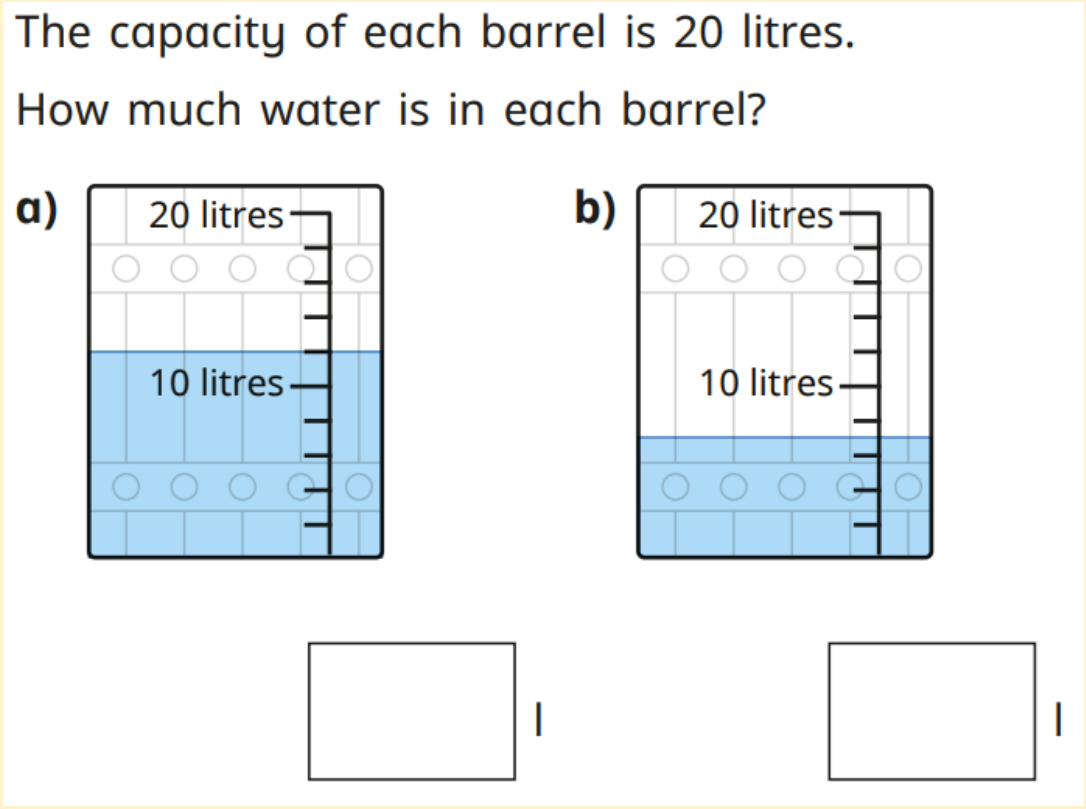
2. Share out the number
3. Use the numerator to tell you how many boxes you need to count up

Measurement

- **Objective**: Measure and compare length, mass, and capacity.

- Using rulers, scales, and measuring cups. (Only in scales of 2, 5 and 10)
- Estimating and measuring lengths and heights.
- Solving word problems

- **Support at home**: Involve your child in
- cooking, measuring ingredients, or
- measuring objects around the home.



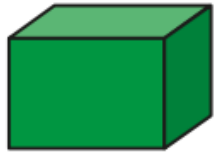
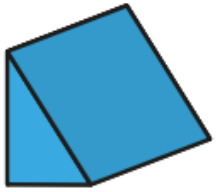
Geometry – shapes and position

•**Objective**: Recognise, name, and describe 2D and 3D shapes, and understand symmetry.

•Identifying shapes (circles, triangles, squares, cubes, etc.).
• Listing their properties using the following vocabulary: sides, vertices, faces, edges
•Creating symmetrical patterns
•Making repeating patterns
• Use positional language: left, right, up, down, clockwise and anti-clockwise

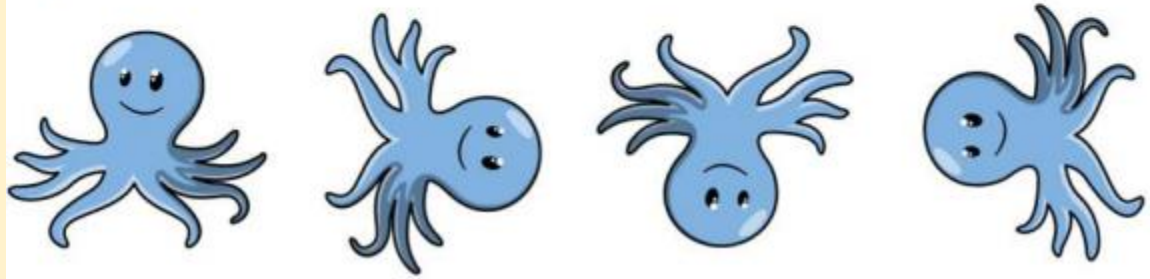
Example questions:

Complete the table.

Shape	Faces	Edges	Vertices
 cuboid	6	12	
 triangular prism		9	6

Here is an toy octopus.

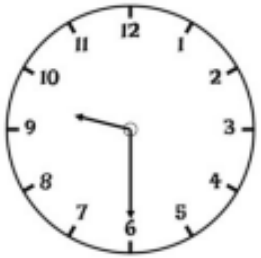
Circle how the octopus would look after a quarter turn clockwise.



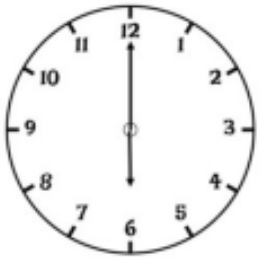
Time

- **Objective**: Tell and write the time to the nearest 5 minutes, and use vocabulary such as "o’clock," "half past," "quarter past," and "quarter to."
- **Key Skills**:
- Reading and telling the time on both digital and analogue clocks.
- Understanding the 24-hour clock and the concept of AM/PM.
- Knowing the number of minutes in an hour and seconds in a minute.
- Using time-related vocabulary (e.g., before, after, morning, afternoon, evening)

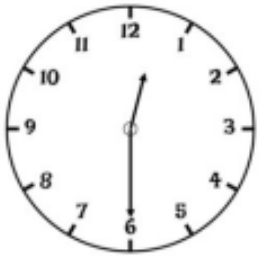
Match each clock to the time shown.



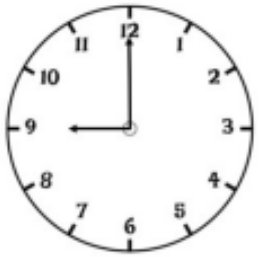
6 o'clock



half past 9

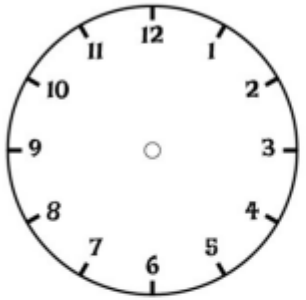


9 o'clock

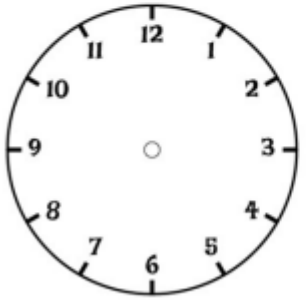


half past 12

Draw the hands on the clocks to show each time.



five past 9



twenty to 8

Statistics and Data

- **Objective**: Interpret simple data represented in tables and pictograms.
- **Key Skills**:
- Collecting and sorting data (e.g., favorite colors, pets, etc.).
- Drawing simple bar charts and pictograms.
- Answering questions based on data

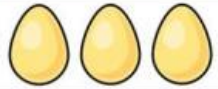
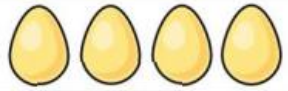
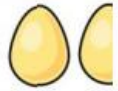
Sam draws a tally chart to show the hair colour of the children in her class.

Hair colour	Tally	Number
brown	𝍸 𝍸 | | |	
blonde		11
black	𝍸 |	6
ginger	||	2

How many children have brown hair?

_____

The pictogram shows how many eggs some hens laid each day.

Day	Number of eggs
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Each  represents 2 eggs.

Money

- **Objective**: Recognise and use coins and notes, solve money-related problems.

- Identifying the different coins and notes (e.g., 1p, 5p, £1, £5, etc.).
- Counting money and making simple amounts (e.g., finding different ways to make £1).
- Solving real-life problems involving money (e.g., "How much change do I get if I pay with a £5 note?").
- Making the same amount with different values
- Comapring different amounts
- Using the four operations with money problem solving questions

Max and Kim have some money.

Max

Kim

Who has more money?

_____

Jo and Ron are buying fruit.

Here is a price list.

Fruit	Price
banana	65p
apple	75p
orange	35p
pear	45p

Jo buys 2 pieces of fruit.

She spends exactly £1

Which pieces of fruit does Jo buy?

_____ and _____

Ron buys 2 oranges.

He pays with a £1 coin.

How much change does Ron get?

☐ p

How you can support:

- Continue going over KIRFS facts little and often
- Play Numbots regularly (weekly target of 12 minutes)
- Practise arithmetic papers (break it up) – search KS1 Maths SATS paper 1 past papers available online

Key Instant Recall Facts
Year 2 Spring 1

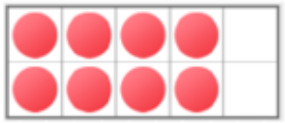
I know the multiplication and division facts for the 2 times table.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts instantly.

What can this look like?

Concrete:

Pictorial:



Abstract:

2 **multiplied** by 4 = 8

2 x 4 = 8 4 x 2 = 8

8 **divided** by 2 = 4

8 ÷ 2 = 4

Key Instant Recall Facts
Year 2 Spring 2

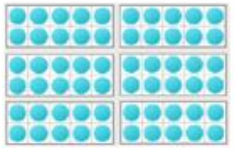
I know the multiplication and division facts for the 10 times table.

The ten times table is a key skill for KS1 learners. They should already be able to count forwards and backwards in 10s, now they need to be able to apply that to multiplication facts.

What can this look like?

Concrete:

Pictorial:



Abstract

6 **multiplied** by 10 = 60

6 x 10 = 60 60 = 10 x 6

60 **divided** by 10 = 6

60 ÷ 10 = 6