The Parent Sessions:
Mathematical Methods
Year 2

Rationale Behind Teaching Year 2 Maths

- **Focus on Mastery**: Year 2 Maths aims to ensure that children master the essential concepts before moving on to more complex topics.
- **Building Fluency**: Children need to gain fluency in basic number skills, such as addition, subtraction, multiplication, and division, to ensure they are confident with numbers.
- **Problem-Solving & Reasoning**: Children are encouraged to solve problems in different ways and explain their thinking.
- **Development of Mathematical Language**: Children learn to describe their thinking using precise mathematical language, which helps in understanding and applying concepts.

Mathematical Concept: What is ARE?

What is **ARE**? We teach the children a range of methods to solve problems in Maths and then encourage them to consider what method they use and if it is **ARE**.

- **(A**ppropriate, **R**eliable, **E**fficient**)**
- **Appropriate:** Teaching methods that are suitable for Year 2 learners, ensuring that the content matches their developmental stage.
- **Reliable:** Consistent teaching methods that provide students with opportunities to apply learning in a variety of contexts.
- **Efficient:** Making sure the method used in their work is effective and timesaving to help children to answer the question.

Maths: Key Concepts in Year 2

- Number - place value
- Addition and Subtraction
- Multiplication and Division
- Fractions
- Measurement
- Geometry – properties of shapes
- Geometry – position and direction
- Statistics

Key Language to Use in Maths

- **Place Value:** Digit, tens, ones, hundreds, value, rounding, nearest
- **Addition and Subtraction:** Add, plus, take away, minus, how many more? How many less?, inverse, altogether, difference, equal, total
- **Multiplication and Division:** Times, multiply, product, array, groups of, divide, share, equal, quotient, halve
- **Fractions:** Whole, half, third, quarter, three-quarters, equal parts, equivalent, unit fraction, numerator, denominator, half of…, how many parts?

Key Language to Use in Maths II

- **Measurement:** Length, height, centimetre (cm), metre (m), long(er), short(er), grams (g), kilograms (kg), heavier/lighter, mass, capacity, volume, full/ empty, litre (l), millilitre (ml), time, hour, minute, o'clock, half past, 5 to/past, quarter to/past, clockwise, anticlockwise, money, pounds, pence, coin, note, change, amount
- **Properties of Shapes:** 2D, 3D, sides, faces, corners, vertices, edge, regular, irregular, symmetry, polygon
- **Position and Direction:** Above, below, next to, between, in front of, behind, near, far, left, right, forward, backward, up, down, north, east, south, west
- **Statistics:** Data, tally, count, total, group, category, bar chart, pictogram, graph, title, x-axis, y-axis, most, least, more than, less than, equal

Place Value

- Example 1

Question: "Which number is greater, 63 or 36?“

Language: Greater than, tens, ones, compare.

Solution: 63 is greater because it has 6 tens, whereas 36 has 3 tens

- Example 2

Question: "Round 67 to the nearest ten.“

Language: Round, nearest ten, tens, ones.

Solution: 67 rounds to 70 because 67 is closer to 70 than to 60.

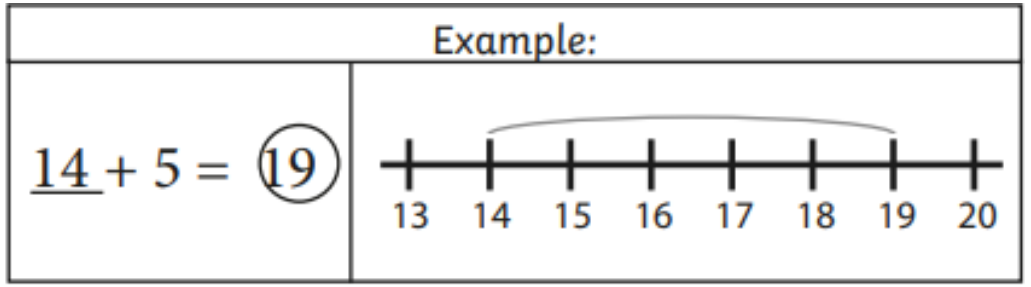
Addition and Subtraction

- Example 1 – Addition (counting on)

Question: "What is 14 plus 5?“

Language: Add, plus, counting on, total, together.

Solution: Start at 14 and count on 5: 15, 16, 17, 18, 19. So, 14 + 5 = 19

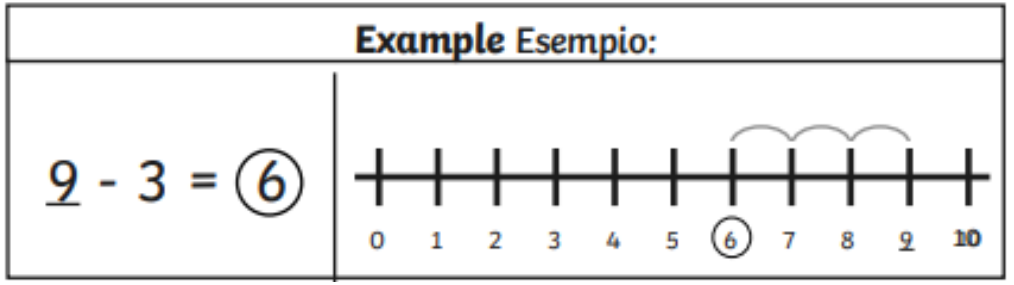


- Example 2 – Subtraction (counting back)

Question: What is 9 minus 3?“

Language: Subtract, minus, counting back, difference, how many are left.

Solution: Start at 9 and count back 3: 8, 7, 6. So, 9 - 3 = 6.



Multiplication and Division

- Example 1 – Multiplication

Question: "If there are 3 bags, and each bag has 4 apples, how many apples are there in total?"

Language: Groups of, times, total, altogether.

Solution: 3 × 4 = 12 apples.

- Example 2 – Division

Question: "If 12 cookies are shared between 4 children, how many cookies does each child get?"

Language: Share, equally, how many in each group, divide by.

Solution: 12 ÷ 4 = 3 cookies per child.

Fractions

- Example 1 – Half $\frac{1}{2}$

Question: "Can you show half of the number 8?"

Language: Half, equal parts, divide into two.

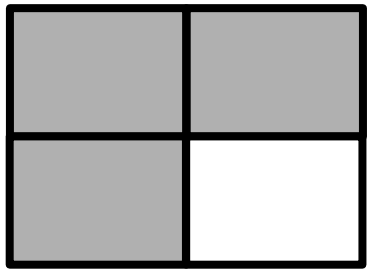
Solution: 8 ÷ 2 = 4 (half of 8 is 4).

- Example 2 – Fractions in shapes

Question: "If a shape is divided into 4 equal parts, and 3 parts are shaded, what fraction is shaded?"

Language: Fraction, shaded part, one out of four, three out of four.

Solution: 3/4 is shaded.



Measurement

- Example 1 – Length

Question: A piece of ribbon is 24 cm long. If you cut 7 cm off the ribbon, how long is the remaining piece?

Steps to Work It Out:

1. Start with the total length of the ribbon, which is 24 cm.
2. Subtract the length cut off, which is 7 cm: 24 cm - 7 cm = 17 cm.

Solution: The remaining piece of ribbon is **17 cm** long.

- Example 2 – Time

Question: The clock shows 2:15. How many minutes are there until 3:00?

Steps to Work It Out:

1. From 2:15 to 3:00 is 45 minutes.
2. To check, subtract 15 from 60 (the number of minutes in one hour): 60 - 15 = 45.

Solution: There are **45 minutes** until 3:00.

Shape

- Example 1 – Identifying 2D Shapes

Question: Name the shape with 4 sides of equal length and 4 right angles.

Steps to Work It Out:

1. A shape with 4 sides of equal length and 4 right angles is called a **square**.
2. A square has all sides the same length and each corner is a right angle (90 degrees).

Solution: The shape is a **square**.

- Example 2 – Symmetry

Question: Does a rectangle have any lines of symmetry? If so, how many?

- **Steps to Work It Out**:
    1. One line goes vertically through the middle.
    2. The other line goes horizontally through the middle.

Solution: A rectangle has **2 lines of symmetry**.

Statistics

- Example 1 – Sorting Data

Question: Here are the ages of 5 children: 4, 6, 5, 7, 5.
How many children are 5 years old?

Steps to Work It Out:

1. Look at the data: 4, 6, 5, 7, 5.
2. Count how many children are 5 years old:
   There are **2 children** who are 5 years old.

Solution: The answer is **2**

- Example 2 – Symmetry

Question: A class of 10 children were asked how they travel to school. Here are the results:
🚗 = IIII, 🚶 = III, 🚌 = III
How many children travel by car?

Steps to Work It Out:

1. The tally mark for the car (🚗) shows 4 children.

Solution: **4 children** travel by car.

Differentiated Practice Questions: Maths

Starter:

- What is 5 + 3?
- What is 2 × 3?
- Which is longer: 5 cm or 3 cm?
- Here are the results of how many books 3 children read: 2, 4, 1. How many books did they read in total?

Expected:

- What is 23 + 17?
- If you have 3 groups of 4 apples, how many apples do you have in total?
- If a pencil is 12 cm long and a pen is 7 cm long, how much longer is the pencil than the pen?
- The bar chart shows how many apples children picked:
  - Emma: 6 apples
  - Jack: 4 apples
  - Lily: 5 apples

  How many apples did Emma pick?

Challenge:

- What is 125 - 48?
- A box contains 24 cookies. If each pack has 4 cookies, how many packs can you make?
- A ribbon is 2 meters long. If you cut it into 4 equal pieces, how long is each piece?
- The following table shows how many pets children have:
  - Anna: 3 pets
  - Ben: 5 pets
  - Carla: 2 pets

  How many pets do the children have altogether?

Key Questions to Ask During Maths Activities

- **Can you explain how you did that?**

Encourages children to articulate their thought process, which reinforces their understanding and helps parents see their child's reasoning.

- **What strategy did you use to solve this?**

Promotes critical thinking and understanding of different methods (e.g., mental maths, counting on, using a number line).

- **Can you show me in a different way?**

Encourages flexibility and helps children see the problem from different perspectives.

- **What happens if we change this number?**

Helps children explore variations and think about the effects of different numbers.

- **Why do you think that's the answer?**

Encourages children to explain their reasoning and deepens understanding.

Conclusion and Tips for Parents

- ***Consistency is key:*** Set aside time each day for maths and English practice.
- ***Ask questions:*** Encourage your child to talk through their thought process.
- ***Praise effort, not just results:*** Focus on the learning process and improvement.
- ***Use resources:*** There are many online games and worksheets that can reinforce skills.