Phase 1 Parents Meeting

Tuesday 10th October

Welcome parents

Please take a seat and have a look at some of the resources laid out that we use when teaching maths in Reception and Year One.

Our Subject Intent

▶ *At Bordesley Green Primary School, we intend our children to understand that the habits of thinking mathematically are life-enriching, recognising that it is vital to be numerate in order to participate fully in society.*

▶ *We intend our children to be number-fluent, showing that they know more, remember more and understand more, and be able to apply their number fluency to discuss and reason about their mathematics, explaining 'how' or 'why' or identifying how they could improve.*

▶ *It is our intention that every young person, regardless of background, experiences a rich and meaningful mathematics education, relevant to real life experiences and reflective of the society in which they live.*

# The National Curriculum and EYFS for mathematics aim to ensure that all pupils:

The National Curriculum and EYFS for mathematics aim to ensure that all pupils:

- Become **fluent** in the fundamentals of mathematics, including the varied and regular practice of increasingly complex problems over time.

- **Reason mathematically** by following a line of enquiry, understanding relationships and generalisations, and developing an argument, justification or proof using mathematical language.

- Can **solve problems** by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

CPA – Concrete, Pictorial, Abstract

3 + 2 = 5

CONCRETE   PICTORIAL   ABSTRACT

2 + 1 = 3

6 + 1 = 7

CPA Approach

Concrete   Pictorial   Abstract

2 + 1 = 3
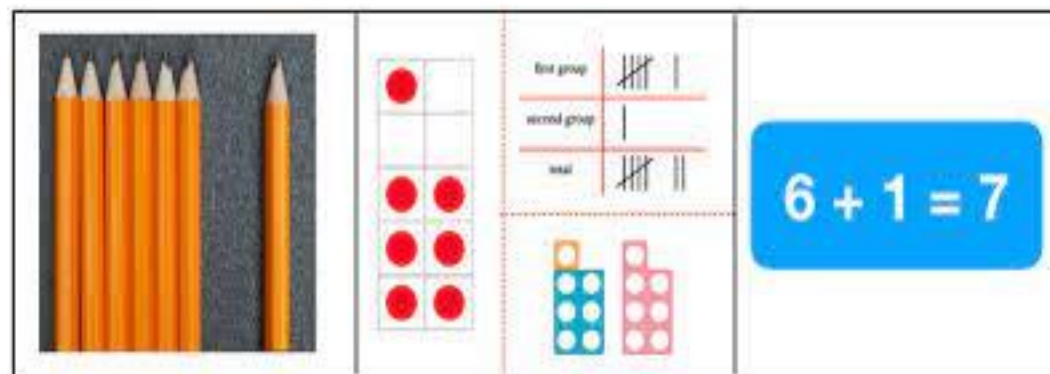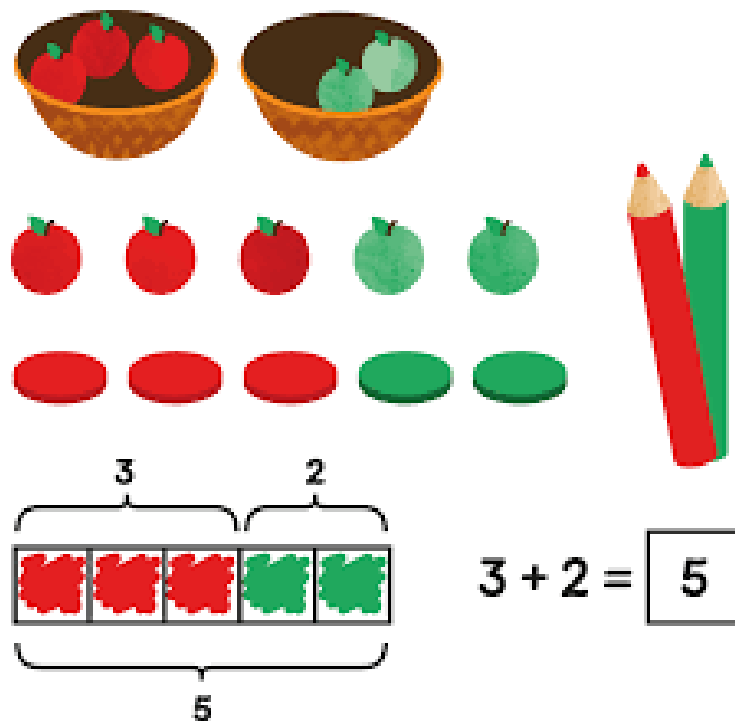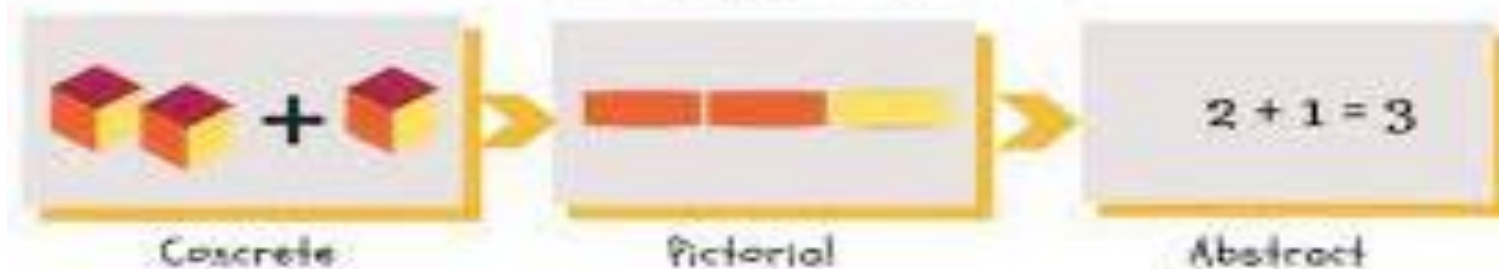
Concrete Resources we use

Numicon

Base 10/Dienes

Cubes

Counters

Fun/natural/themed counters
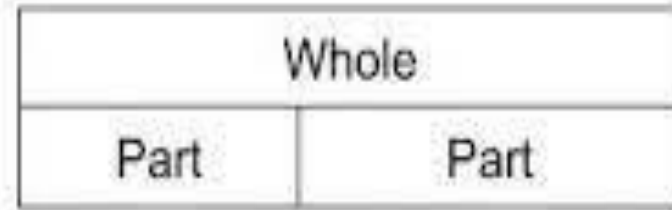
Resources we use

10s frames
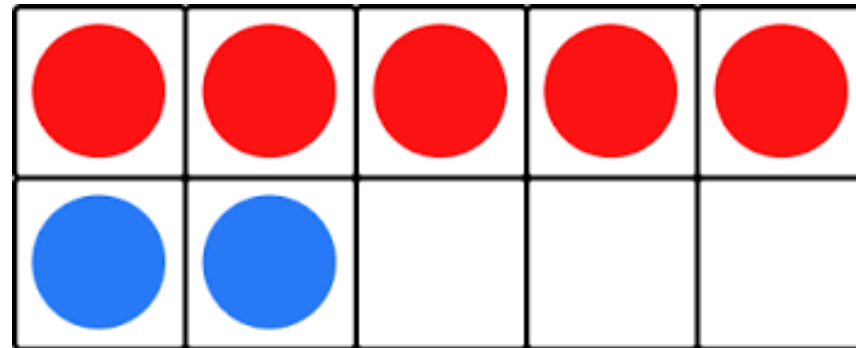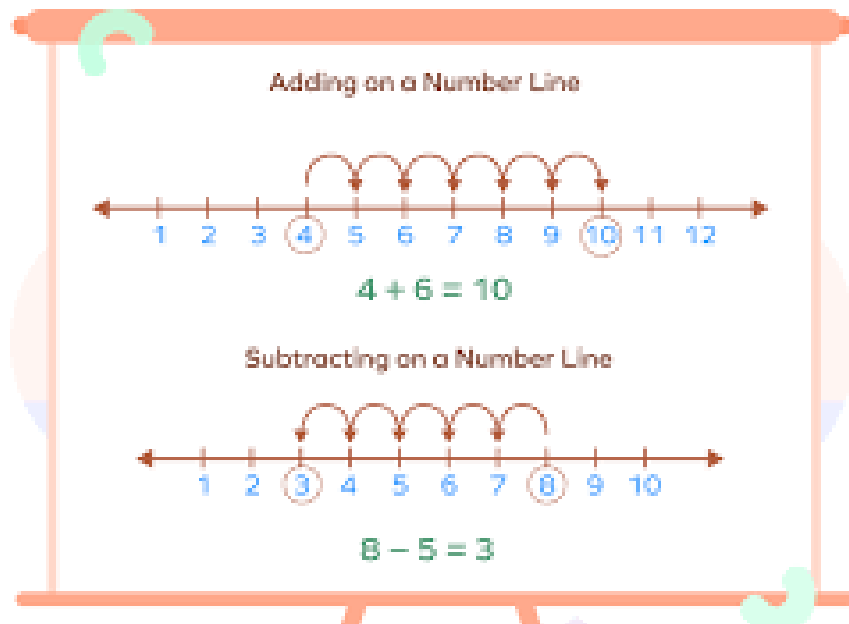
PW

Bar modelling

Number lines

whole / part / part

Whole	
Part	Part

Bar model

Adding on a Number Line

1 2 3 ④ 5 6 7 8 9 ⑩ 11 12

$4 + 6 = 10$

Subtracting on a Number Line

1 2 ③ 4 5 6 7 ⑧ 9 10

$8 - 5 = 3$
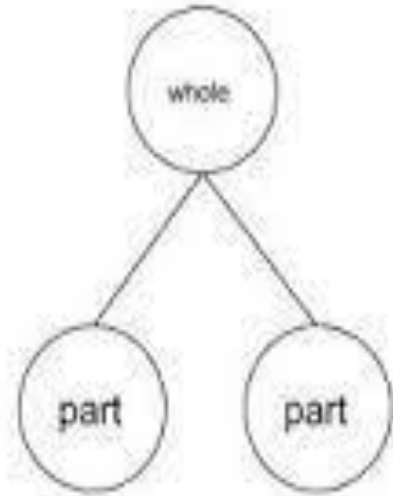
Calculation Policy EYFS

Counting

Develop counting like behaviour, such as making sounds, pointing or saying numbers in sequence.
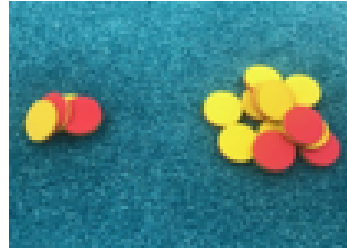

Taking part in finger rhymes E.g.: 1, 2, 3, 4, 5 Once I caught a fish a life.

Count in everyday contexts sometimes skipping numbers 1,2,4,5.

Comparing

Compare amounts saying 'lots', 'more' or 'same'.

React to changes of amount in a group of up to three items.

Notice patterns and arrange things in patterns.

1 2 1 2 1 2 1 2 1

3- and 4-year-olds:

Children should have now developed accurate counting skills to 5 and be developing them beyond 5. They will start to subitise to 3 and then to 5. Children will be able to link numeral to quantity to 1-5. When comparing amounts, they will develop accurate use of the words more and fewer.

Calculation Policy EYFS

Counting

Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').

Recite numbers past 5.

Say one number for each item in order: 1,2,3,4,5.

Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').

| 1 | 2 | 3 | 4 | 5 |
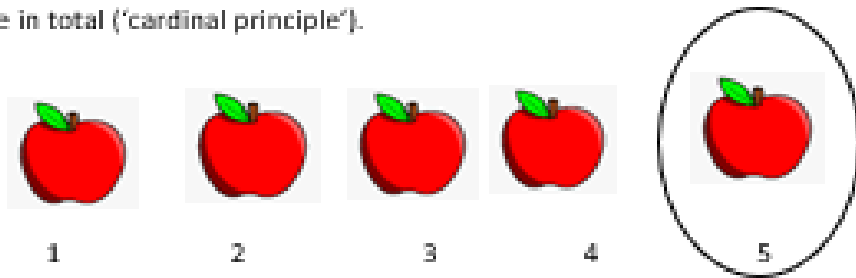
Show 'finger numbers' up to 5.

Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.

| 1 | 2 | 3 | 4 | 5 |
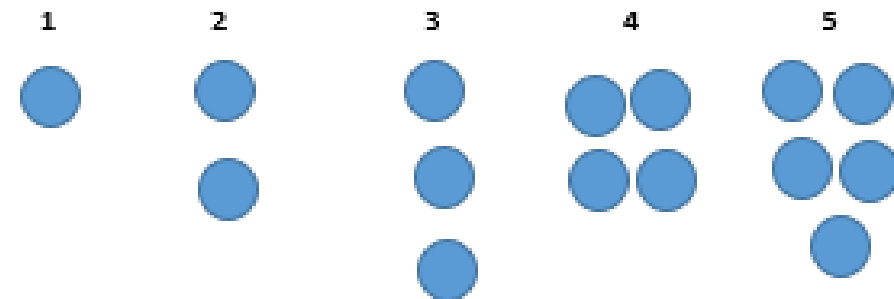
Comparing

Solve real world mathematical problems with numbers up to 5.

Compare quantities using language: 'more than', 'fewer than'.

Calculation Policy EYFS

Comparing

Compare numbers.

Understand the 'one more than/one less than' relationship between consecutive numbers.

3 and 1 more makes 4

1 less than 3 is 2

Arithmetic Skills

Explore the composition of numbers to 10.

Automatically recall number bonds for numbers 0–5 and some to 10.

Calculation Policy Year 1

Addition Year One

Add with numbers up to 20 and beyond - Conceptual understanding using concrete materials.
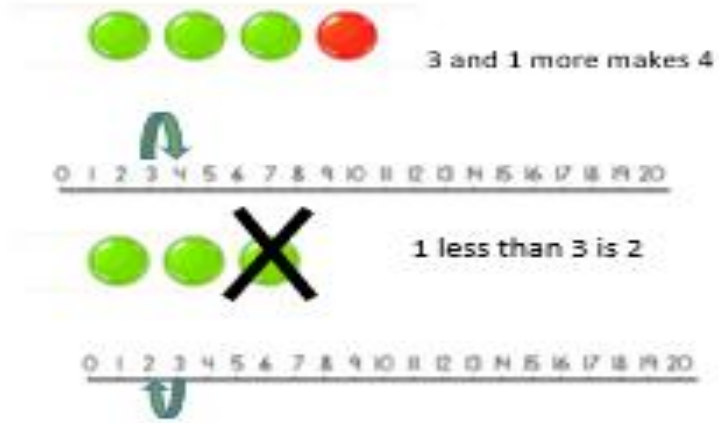
Use number lines to add, by counting on in ones. Encourage children to start with the larger number and count on. The use of Numicon is continued from Reception. The Numicon Shapes are used as a visual and concrete aid for addition. Large scale number lines are used for physical experience.

Bead strings or bead bars can be used to illustrate addition including bridging through ten by counting on 2 then counting on 3.

Using the example

$$8 + 5 =$$

A number line is used to reinforce this concept.

$$6+3=9$$

To develop conceptual understanding children should:

- Have access to a wide range of counting equipment, and be encouraged to use it, they should use everyday objects, number tracks and number lines, and be shown numbers in different contexts.
- Read and write the addition (+) and equals (=) signs within number sentences.
- Interpret addition number sentences and solve missing box problems using concrete objects and number line addition to solve them, e.g.

$$9 + 2 = \square \quad 13 + 5 = \square \quad 5 + 3 + 2 = \square \quad \square + \square = 8 \quad 2 + 4 = 3 + 3$$

Partition numbers in different ways.

18	
13	5

This builds on from prior learning of adding by combining two sets of objects into one group (e.g., 5 cubes and 3 cubes) in EYFS.

Calculation Policy Year 1
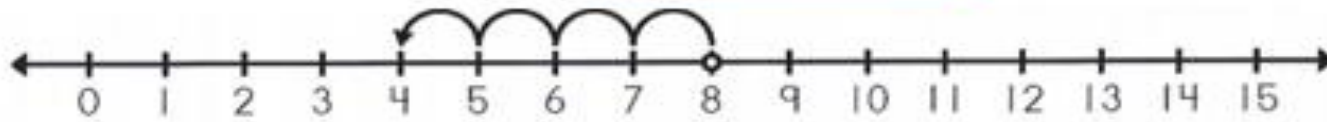
Subtraction Year One

Subtract from numbers up to 20

Children consolidate understanding of subtraction by using practical equipment such as bead strings and cubes. They are introduced to more formal recording using number lines.

Children read, write and interpret number sentences with - and = signs.

Subtract by taking away; 8 - 4 = 4

> Count back in ones on a number line to take away, with numbers up to 20.

We model subtraction using hundred squares, numbered number lines and tracks and by using practical resources such as Numicon.

Find the difference between:

 7

 4

> '7 is 3 more than 4'
> I am 3 years older
> than my sister.'

This will be introduced practically as 'find the difference between' and 'how many more?' in a range of familiar contexts.

Children use a range of equipment to support their learning. Numicon can be used to reinforce the value of numbers to 20.

Mental Subtraction:

Children should start recalling subtraction facts up to and within 10 and 20. They should be able to subtract zero.

Calculation Policy Year 1

Multiplication Year One

Multiply with concrete objects, arrays and pictorial representations

If one Teddy has 2 legs, how many legs will 3 teddies have?

2   +   2   +   2   = 6

There are 3 sweets in one bag. How many sweets are in 5 bags altogether?

3   +   3   +   3   +   3   +   3   = 15

Children should have experience of counting equal groups of objects in 2s, 5s and 10s.

Problem solving should be presented in a practical way, involving counting equal groups or sets as above.

Calculation Policy Year 1

Division Year One

Group and share small quantities:

Using objects, diagrams and pictorial representations, children solve problems involving both grouping and sharing.

How many groups of 3 can be made with 12 stars?

Grouping

There are 4 groups of 3.

Sharing

Can you share 12 sweets between 3 bowls?

12 shared between 3 is 4

Example division problem in a familiar context:

There are 6 pupils on a table and there are 18 pieces of fruit to share between them. If they share them equally, how many will each get?

Can they work it out and give a division statement?

"18 shared between 6 people gives 3 each."
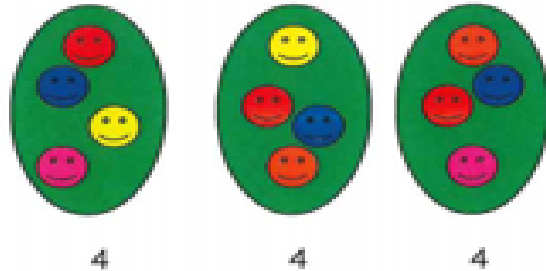
Children should:

- Use lots of practical apparatus, arrays and picture representations.
- Be taught to understand the difference between 'grouping' objects (How many groups of two can you make?) and 'sharing' (share these sweets between two people).
- Be able to count in multiples of 2s, 5s and 10s.
- Find half of a group of objects by sharing into two equal groups.

End of year expectations

Early Learning Goals

- By the end of EYFS all children should be confident with numbers to 10 while having some understanding of numbers to 20. Children should have explored number composition and be able recognise and compare quantities. They will be able to recall number bonds to 5 and 10. Children will have explored number pattern by looking at odds, evens, and doubles.

Number

- Have a deep understanding of number to 10, including the composition of each number.

- Subitise (recognise quantities without counting) up to 5.

- 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.

Numerical Pattern

- Verbally count beyond 20, recognising the pattern of the counting system.

- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.

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

End of year expectations

Year 1 programme of study (statutory requirements)

Number and place value	Addition and subtraction	Multiplication and division	Fractions
+ count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number + count, read and write numbers to 100 in numerals, count in multiples, twos, fives and tens + given a number, identify one more and one less + identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least + read and write numbers from 1 to 20 in numerals and words.	+ read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs + represent and use number bonds and related subtraction facts within 20 + add and subtract one-digit and two-digit numbers to 20 including zero + solve simple one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9	+ solve simple one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	+ recognise, find and name a half as one of two equal parts of an object, shape or quantity + recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

Measurement	Geometry: properties of shapes	Geometry: position and direction

+ compare, describe and solve practical problems for:
   – lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half)
   – mass or weight (e.g. heavy/light, heavier than, lighter than)
   – capacity/volume (e.g. full/empty, more than, less than, half, half full, quarter)
   – time (e.g. quicker, slower, earlier, later)
 	
+ measure and begin to record the following:
   – lengths and heights
   – mass/weight
   – capacity and volume
   – time (hours, minutes, seconds)
 	
+ recognise and know the value of different denominations of coins and notes
 	
+ sequence events in chronological order using language (e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening)
 	
+ recognise and use language relating to dates, including days of the week, weeks, months and years
 	
+ tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.
	+ recognise and name common 2-D and 3-D shapes, including:
	   – 2-D shapes [e.g. rectangles (including squares), circles and triangles]
	   – 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres].
		+ describe position, directions and movements, including whole, half, quarter and three-quarter turns.

Lesson contents and order

Daily plans should include:

- A clear (age-related) objective for the main teaching activity, taken from the appropriate medium-term plan <u>for that year group</u>

- Success criteria

- Incorporation of relevant Rosenshine's principles as appropriate:

  - Daily Review (beginning the lesson with a short review of previous learning)

  - Presentation of new material using small steps

  - Clear and wide-ranging questioning

  - Models and images as appropriate

  - Guided practice

  - Checks for understanding

  - Scaffolds (as relevant)

  - Opportunities for independent practise

- An outline of the lesson structure demonstrating progress within the lesson, using appropriate mathematical vocabulary

- Clearly differentiated flexible group activities based on the individual progress of the children

- Regularly planned reasoning and problem-solving opportunities linked to the current sequence of work

- Regular speaking and listening opportunities (which will often be linked to questioning)

Lesson contents and order

Record these numbers with 1 less and 1 more - like this:

1 less		1 more
4	5	6

1 less		1 more
	12	

1 less		1 more
	18	

1 less		1 more
	6	

3 questions in 3 minutes, moving to 5 questions in minutes as the children progress. Children will begin their lessons like this, adults will support children who need it and answers will be shared with working out shown. Further up the school, children will share their answers and working out along with commentary.

Lesson contents and order

Recap

Last week we began learning about solving problems using the RUCSAC method. Discuss with a partner what RUCSAC stands for.

R U C S A C

We recap what we did in the previous lesson, or the last time this topic was covered. Allows the children to see ow their previous learning is built on and refreshes them. This allows them to draw information from their long term memory and make links with other areas of maths. Allows teachers to address misconceptions too.

Lesson contents and order

Vocabulary

pay
token
value
worth
cost
total
altogether
price

coin
note
penny
pence
pennies
pound
pounds
change

Vocabulary is shared and we make sure that the children understand any new words and we recap familiar words. It is important to share definitions and discuss root words to help links to be forged, for example talking about 'cent' meaning 100, this will help the children make connections will centimetres, centigrade etc.

Lesson contents and order

LO: recognise and name coins.

Success Criteria:
- Sort coins by colour and/or value.
- Find given coins.
- Name chosen coins.

We share the learning objective and success criteria, to allow the children to understand the skills they are learning and see their progress and achievements. Pupils also see the developing steps of these skills and what they need to do next.

Lesson contents and order

New Learning

Which is worth more? Which would the numbergator choose to munch? Which symbol would you use?

New learning takes place, with the teacher modelling the new skill, practically, visually and verbally. Then the children have a go with the adult. This may need to be repeated, before the children are able to try independently. Children are all encouraged to try their best and to be resilient. Challenge is important to keep children engaged whatever their ability and staff adjust as needed.

Lesson contents and order

Work Time

Here are some coins and Numicon pieces, which ones match?

Children are set work to complete following the whole class teaching. They may be working with support, independently or a mixture of the two. Pupils receive verbal feedback during the lesson and they are supported to progress through making corrections, applying in a different way and through reasoning both verbally and in written form once they are able.

Lesson contents and order

Review

What have you learnt today?

Which is your favourite coin? Describe it to a partner and see if they can guess which coin it is.

LO: recognise coins and their value.

Success Criteria:
- Sort coins by value (coppers, pence, pounds).
- Match coins to amounts.
- Know pounds are worth more than pence.

How do you feel about your work today?

Each lesson ends with a review, new learning is recapped and the children consider the learning objective and success criteria and whether they have achieved these yet. We want the children to celebrate their efforts and progress, not just attainment, the school values run through all of our lessons.

Importance of recap/review/remember

We repeat concepts, building on and progressing each time, to ensure that they are embedded and that children's application of the skills they have learnt, is consistent and fully understood. We want the children to feel confident and to be able to focus on the new learning at hand.

Year 1 - 2023-2024

autumn	Number & Place Value To 10 → 20 *Begin with some settling in including:* *Numicon, PPW & Bar Models, Number Formation*	Addition & Subtraction Whole / not whole Part-whole model introduced bonds	Measures: Money Role play: pre-money tokens – combining Identify coins	Number & Place Value To 20	Addition & Subtraction Breaking apart the whole – take away	Measures: Time Days Months o'clock	Number & Place Value To 50
weeks	3	2	1	2	3	2	2
spring	Geometry: Properties of shapes	Addition	Measures: Time Telling the time	Measures: Money	Subtraction	Geometry: Properties of shapes	Fractions Finding a half
weeks	1	2	2	1	2	1	1

summer	Number & Place Value To 100	Addition & Subtraction Comparison	Measures: Money *Notes, counting*	Fractions Finding a quarter	Measures: Length & height	Multiplication & Division 2s, 5s, 10s Arrays Doubles	Multiplication & Division 2s, 5s, 10s Grouping Sharing	Measures: Mass Capacity	Geometry: Position and direction
weeks	2	1	1	2	1	2	2	2	1

Homework/expectations

▶ Year 1 – MyMaths

Sent home on Friday as a printed sheet along with spellings, in the homework books, available on MyMaths website on Friday. Due to be completed by the following Thursday, with homework books being brought into school and sent back home the next day.

Homework is related to something we have recently covered in class to allow the children to practise and consolidate. Following assessments, there may be some areas that are looked at again to encourage the children to practise further.

How you can support your child at home

- Don't talk about being 'no good at maths' or 'maths being a hard subject', encourage your child and help them to be resilient.

- Talk, talk, talk! When you are doing any kind of maths, commentate so that your child can hear (and envisage) how you are working out what you need to know. Share words with them and talk about what they mean. If you aren't sure, send them in with a word to discuss with us.

- Refer to the maths and calculation policies online, things change and we may be teaching different methods to the ones you use. As the children get older and have a variety of methods, they will choose what they prefer, but now, we need to teach them these strategies to allow them to choose later on.

- Notice, subitising becomes addictive, even for us adults. Notice, point out and discuss numbers, shapes, anything and soon your child will be doing the same and deepening their understanding in maths.

- All of these things help your children to see why we learn maths, how it will be useful to them throughout their lives, make it relevant to them. If they love cars, use cars to reach them with maths, if dinosaurs are their passion, count with dinosaurs, if your child is creative, have them use glitter pens and craft materials to create a number line or complete their homework.

- **Most importantly, just have a go and if you find something really clicks with your child – share it. We can then have a go in school and it may help other children too. Likewise, if you or your child are struggling with an aspect of maths, please let us know so that we can help.**

Looking forward

What support do you feel that you would benefit from?

Are there any workshops or meetings that you would like us to hold?

Please make a note on a post-it or let me know directly and should there be enough interest, I will see what can be arranged.