EYFS Maths Presentation

9.7.25

Mathematics

Mathematics is one of the 'Specific' strands of the New EYFS framework that came into use in September 2021

The specific areas include essential skills and knowledge. They grow out of the prime areas, and provide important contexts for learning.

In Mathematics the 2 Early Learning Goals (ELG's) focused on are:

- **Number**
- **Numerical Patterns**

Expectations coming into Reception

Mathematics **3 to 4year olds will be learning to:**

- 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').
- 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. Experiment with their own symbols and marks as well as numerals.
- Solve real world mathematical problems with numbers up to 5.
- Compare quantities using language: 'more than', 'fewer than'.
- Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.

Expectations coming into Reception

Mathematics **3 to 4 year olds will be learning to:**

- Understand position through words alone – for example, "The bag is under the table," with no pointing.
- Describe a familiar route.
- Discuss routes and locations, using words like 'in front of' and 'behind'.
- Make comparisons between objects relating to size, length, weight and capacity.
- Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.
- Combine shapes to make new ones - an arch, a bigger triangle etc.
- Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc.
- Extend and create ABAB patterns – stick, leaf, stick, leaf.
- Notice and correct an error in a repeating pattern.
- Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'

End of Reception

Early Learning Goal (end of Reception) 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.**

End of Reception

Early Learning Goal (end of Reception) Numerical Patterns

- 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.

What about Shape, Space and Measure?

Although Shape, Space and Measure is not an ELG anymore in the New EYFS Framework after concerns from teachers they have included that:

'In addition, children's curiosity about number, shape, space and measure should be encouraged and furthered through opportunities to apply their growing understanding of the mathematical world to the world around them'.

Baseline Assessment

- In the first few weeks your child will be assessed on their understanding of Mathematics using the governments National Baseline Assessment Materials
- This assessment will be through the teacher observing how your child solves a series of mathematical tasks.
- From the teachers observations they will be able to determine what ‘ Development Stage’ your child is at and identify the next steps your child needs to attain the Early Learning Goal expectations for the end of the year.

How Maths taught at Janet Duke

- We use the White Rose Scheme of Work to support children's learning.

- To support this every day there is a whole class Maths input from the class teacher based upon one of the key learning points in either Number or Numerical Patterns.

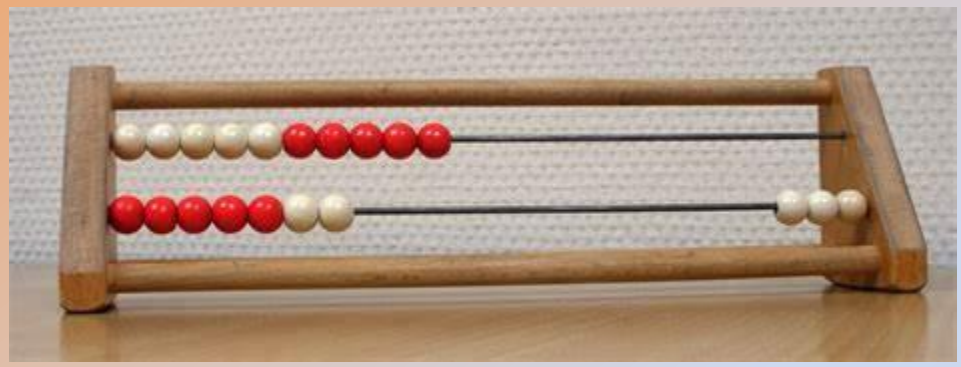
- After each whole class input the children will have the opportunity to consolidate their learning by working on practical activities both inside the classroom and in the outdoor learning environment. These activities will be a mixture of independent and adult supported.

Mastering Number

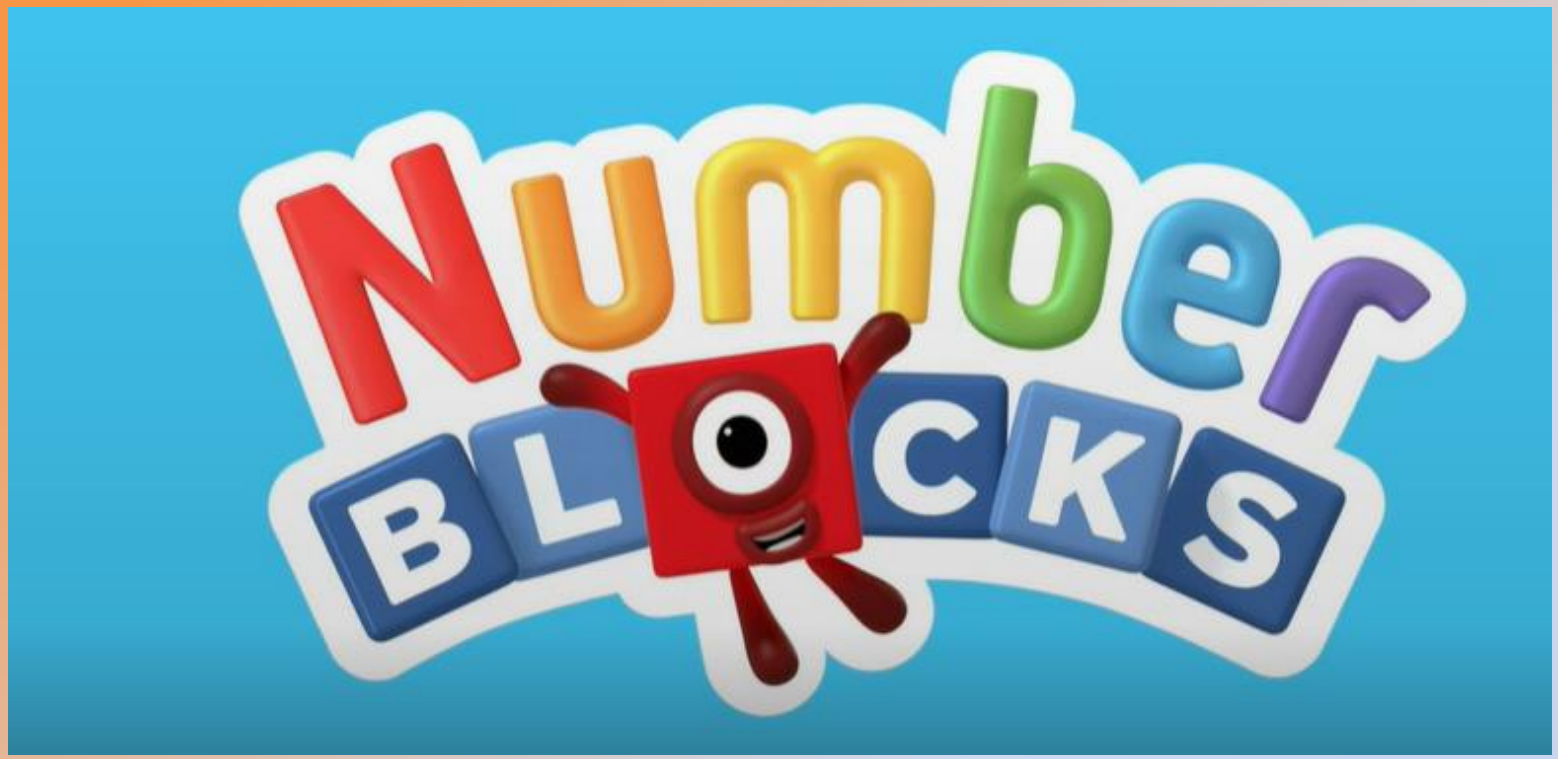
Janet Duke Primary are very excited to be taking part in a National Mathematics project called ‘Mastering Number’ This project aims to secure firm foundations in the development of good number sense for all children from EYFS through to Year 1 and Year 2. The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in EYFS classes, and progression through KS1 to support success in the future.

The sessions run for about 10-15 mins each day and are extra to the class Maths Input using White Rose. Your child will participate in focused sets of activities that will develop their mastery of number and numerical patterns.

They will be using a resource called a rekenrek(abacus like resource) to support them in understanding number.



Mastering Number also uses the BBC's Number Blocks programme to support children having a more secure concept about number. The programme is a fun and visual way for the children to identify numbers and bonds to 10.

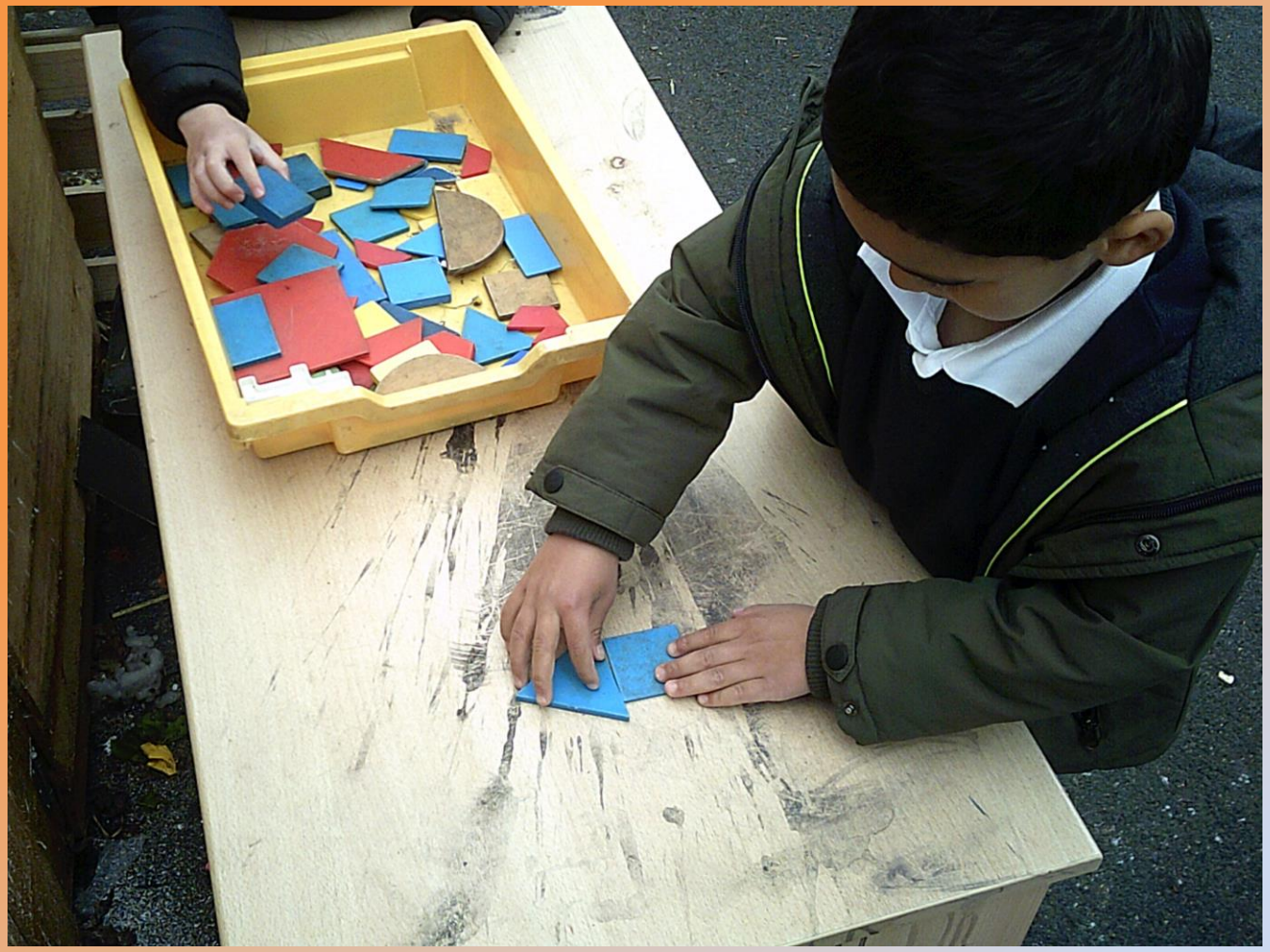


Learning that your child will have experience of in Maths

As part of your child's learning journey they will experience many mathematical concepts through play.

Some examples of this are:

Using number names and number language spontaneously



Developing sorting, matching

and mark making in a play environment

Recognising numerals,

saying and using them in a correct order

Recognise some numerals of personal significance

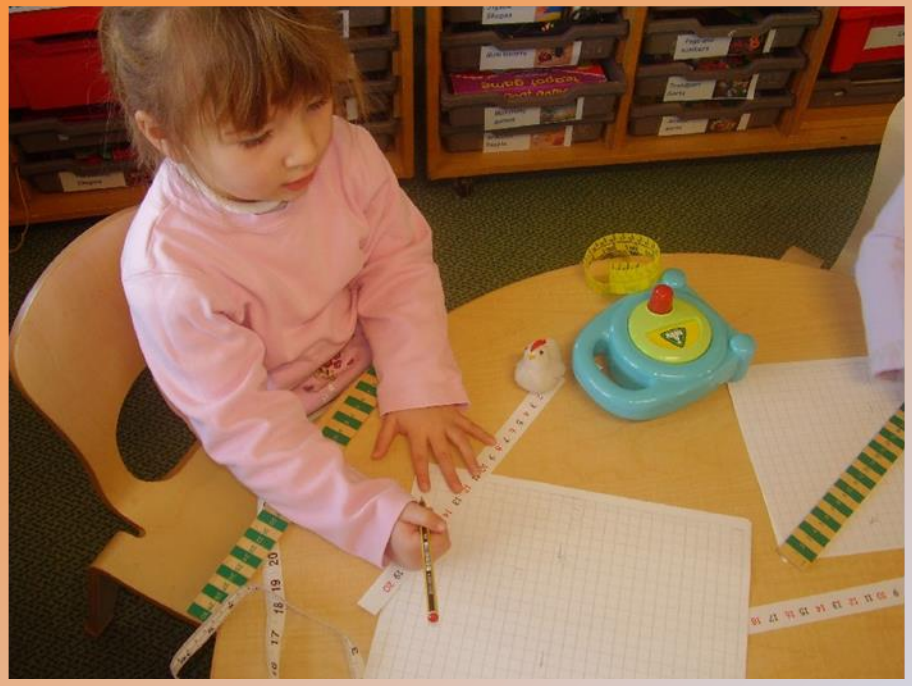
This stocking has a house door with a number 11 on it so that Santa knows which house to come to

Squared paper often interests children who are not keen to make marks

Adult modelling of mark making; then the child engages physically by jumping and counting. Other children mark make with chalk and brushes

Using mathematical tools

for measuring and mark making



Match, then compare the number of objects in two sets

This child is comparing the two groups of objects and saying which has the most of each fruit.

Saying numbers and then find that amount of objects.

Begin to categorise objects according to properties such as shape or size

Sorting objects, making choices and justifying decisions

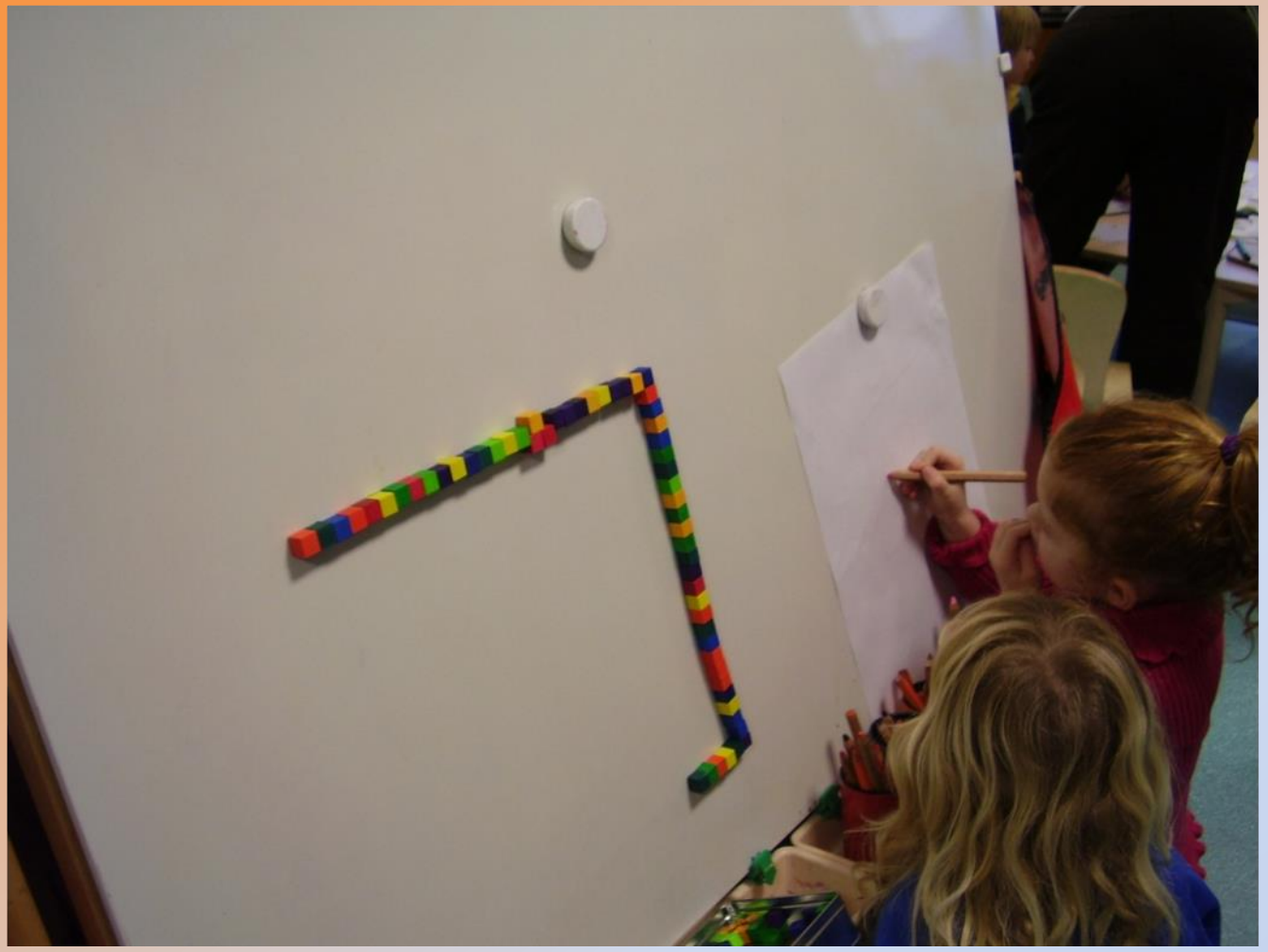
Using developing mathematical ideas and methods to solve practical problems

Describing solutions to practical problems, drawing on experience, talking about own ideas and methods and choices

By programming the Bee-Bot the child made it follow the route

Showing an interest in patterns and using it to derive facts

By providing paper the child was able to develop the pattern activity into a mark making and recording activity with a friend



Numicon

Numicon is a great resource.

- We use Numicon to match the corresponding numerals to the correct plates
- Finding the matching pair
- Counting accurately
- Weighing them
- Ordering them from smallest to biggest and biggest smallest
- Finding one more and one less
- Investigating odd/even
- Counting in 1's, 2's etc.

Ten Frames

Ten-Frames are two-by-five rectangular frames into which objects e.g. counters are placed to show numbers less than or equal to ten. Ten frames are very useful devices for developing number sense within the context of ten. You can use them to support addition and subtraction.

E.g. If England score 4 goals and Croatia score 2 goals, how many goals are scored altogether?

Adding and taking away

We use Numicon and objects to help us add and take away.

- How many are there altogether?
- Who has more/fewer? How do you know?
- Can you use different Numicon pieces to make 5? 10? 20?

Formal recording

- Throughout your child's time in the EYFS stage your child will record their exploration of number, numerical patterns and shape, space and measure using a variety of mark marking on paper and worksheets.
- When your child is ready, they will begin to record their calculations and number sentences using numerals and symbols.

Observations

- Adults will also make observations of your child's mathematical learning as part of their Learning Journeys using an online assessment program called Sonar.

- The adults will record their observations identifying clearly the next steps in your child's learning.

Calculation Guidelines for Foundation Stage

Children begin to record in the context of play or practical activities and problem solving

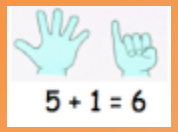
ADDITION

Begin to relate addition to combining two groups of objects

- Make a record in pictures, words or symbols of addition activities

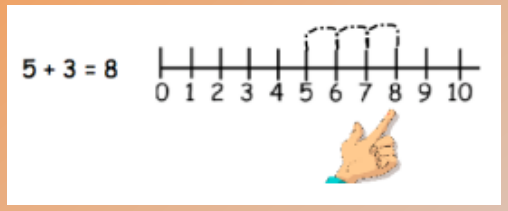
already carried out.

- Construct number sentences to go with practical activities
- Use of games, songs and practical activities t o begin using vocabulary
- Solve simple word problems using their fingers
- Practical work on bonds to 10 moving onto written representation



Can find one more to ten.

Higher Ability/ Gifted and Talented children progress to using a number line. They jump forwards along the number line using finger.



SUBTRACTION

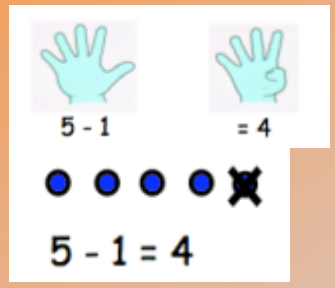
Begin to relate subtraction to 'taking away'

- Make a record in pictures, words or symbols of subtraction

activities already carried out

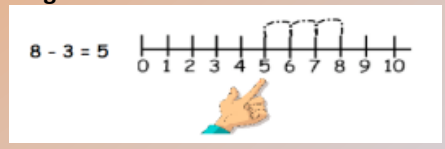
- Use of games, songs and practical activities to begin using vocabulary
- Construct number sentences to go with practical activities
- Relate subtraction to taking away and counting how many objects

are left.



Can find one less to ten.

Higher Ability/ Gifted and Talented Progression:



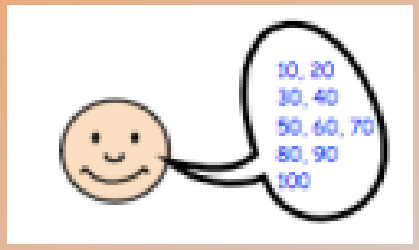
Counting backwards along a number line using finger.

MULTIPLICATION

Real life contexts and use of practical equipment to count in repeated groups of the same size:

- Count in twos; fives; tens

Also chanting in 2s, 5s and 10s



Children will have experience of doubling and halving using practical equipment, such as Numicon or Diennes.

DIVISION

Share objects into equal groups

Use related vocabulary

Activities might include:

- Sharing of milk at break time
- Sharing sweets on a child's birthday
- Sharing activities in the home corner
- Count in tens/twos
- Separate a given number of objects into two groups (addition and subtraction objective in reception being preliminary to multiplication and division)

Count in twos, tens
How many times?
How many are left/left over?
Group
Answer
Right, wrong
What could we try next?
How did you work it out?
Share out
Half, halve

How can you help at home?

- Here are some ideas to help your child at home with Maths.

Numbers

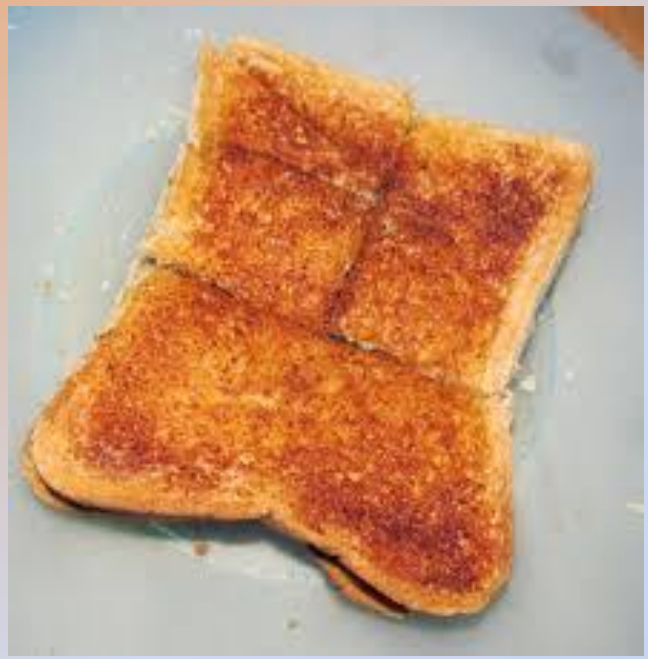
Numbers are all around us and lots of games can be played with them. Such as:

- Can you find me a number 1 more or 1 one less than….?
- Which is the biggest/smallest number?
- Can you order these numbers?

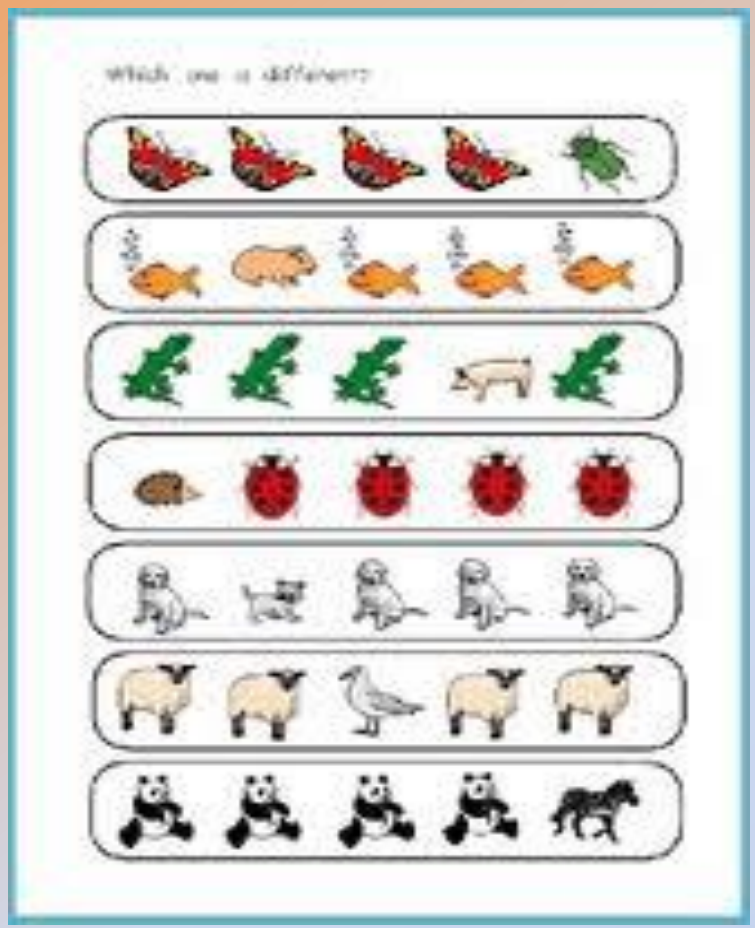
Problem solving and number activities can be a part of our day from the moment we wake up.

How much time we have to get ready?
What time is it?

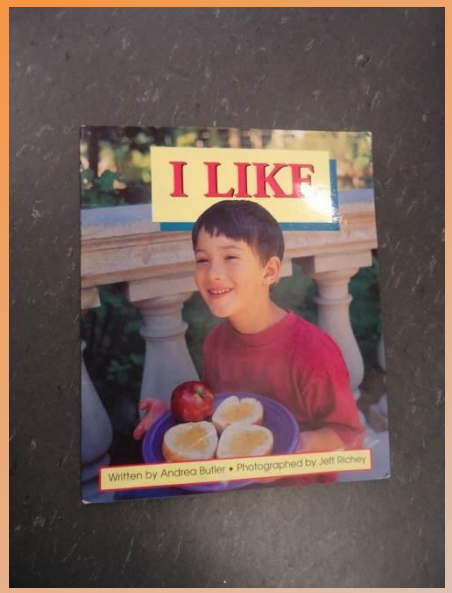
Would you like 2 pieces of toast? Can you cut it in half? How many pieces?



Can you find a matching pair of socks? Which is the odd one out?



How many things do you have to take with you today?



Going shopping has lots of opportunities for learning

Matching the items on the list to the things on the shelves. Can you find 2 tins of beans?

Can you find 3 big apples?

Can you find a smaller packet of crisps?

Putting the shopping away can also offer lots of opportunities for learning

- Can you put all the boxes with straight edges in this bag?
- How many will fit in the cupboard/ on the shelf?
- Is the item heavy or light?
- Is the packaging big or small? Is it bigger/smaller than ….

Measuring, weighing and making

These are just a few ideas you could use to help your child understand maths and problem solving. Most of all have fun!

Janet Duke Primary School

Learning Through Play

Numbers

Introduction

Numbers can provide a lot of entertainment for small children. They first become aware of the sounds of numbers, then they begin to understand what they mean. Finally they need to recognise them when they are written down. There are **four main skills** that children need to develop before they can count.

1. Recognition of the sounds of the numbers.
2. The understanding of one-to-one correspondence.
3. The understanding of "How many are there?"
4. The number of objects is the same however they are arranged.

The next stage is for your child to recognise numbers as symbols which can be taught by playing number recognition games.

Once children recognise numbers they will want to start writing them themselves. To help encourage them to form their numbers correctly, use our number formation guide. (found at the back of this leaflet)

Skill 1

Children need to learn the sounds of the numbers 'one, two, three...'.

Children can start to recognise the sound of numbers from an early age if they hear number songs and rhymes and hear people counting. Some examples of rhymes are:

Five currant buns in the baker's shop...

1, 2, 3, 4, 5, once I caught a fish alive...

Books and stories that include numbers can help too. At story time make a point of counting the characters and the key items in the pictures. Some examples of books are:

Goldilocks and the Three Bears

The Three Billy Goats Gruff

The Very Hungry Caterpillar

The Three Little Pigs

These will give reinforcement to the sound of counting and with it the fact that numbers relate to different amounts. Children will then start to notice numbers in speech and begin to develop an understanding of how they are used.

The children may even be able to count by reciting the numbers from 1 - 10, but this has little meaning at this stage. It is a good idea to point out numbers that appear in everyday contexts such as on a clock, a telephone, on doors and money. This will help children to understand that numbers have a practical use, as well helping them to recognise written numbers.

Skill 2

Before learning to count a child needs to understand 'one to one correspondence'. This means being able to match one object to one other object or person.

You can practise 'one to one correspondence' in all sorts of different contexts. Laying the table is a good idea. Alternatively you can do this in a play situation as indicated below.

Dough Cakes

Make some dough cakes and ask your child to

Skill 3

Children need to understand what is meant by 'How many are there?'

Counting

As you count objects together touch each one. This helps children to understand they are counting one thing at a time. Also, only count up to three at first and do not progress until your child can do this successfully. Gradually add one more number at a time. Counting opportunities arise with everyday objects such as cutlery or biscuits. Ask your child to guess how many objects there are before counting them together. It is important to build confidence through positive comments.

Counting Game/Throwing games

Games which involve throwing a number of objects, such as rolled up socks, in a waste paper bin or cardboard box can give good counting practice.

Counting trays

Use paper plates for this activity. Write a number on the plate. Provide a pile of dried pasta or bricks and show your child how to count the appropriate number onto each plate before he or she has a try. Underline 6 and 9 to avoid confusion.

Counting everyday objects

You will find many daily opportunities to count aloud together. Cooking is a wonderful way to introduce a child to practical maths and extend vocabulary. You can count baking cases, spoons of sugar or chocolate button decorations. Later you can use buns for simple addition and subtraction sums.

Skill 4

The number of objects is the same however they are arranged.

Ordering Numbers

Make some cards with numbers on one side and the corresponding number of spots on the reverse.

Lay the cards out with the **spotted** sides upwards and ask your child to put them in order.

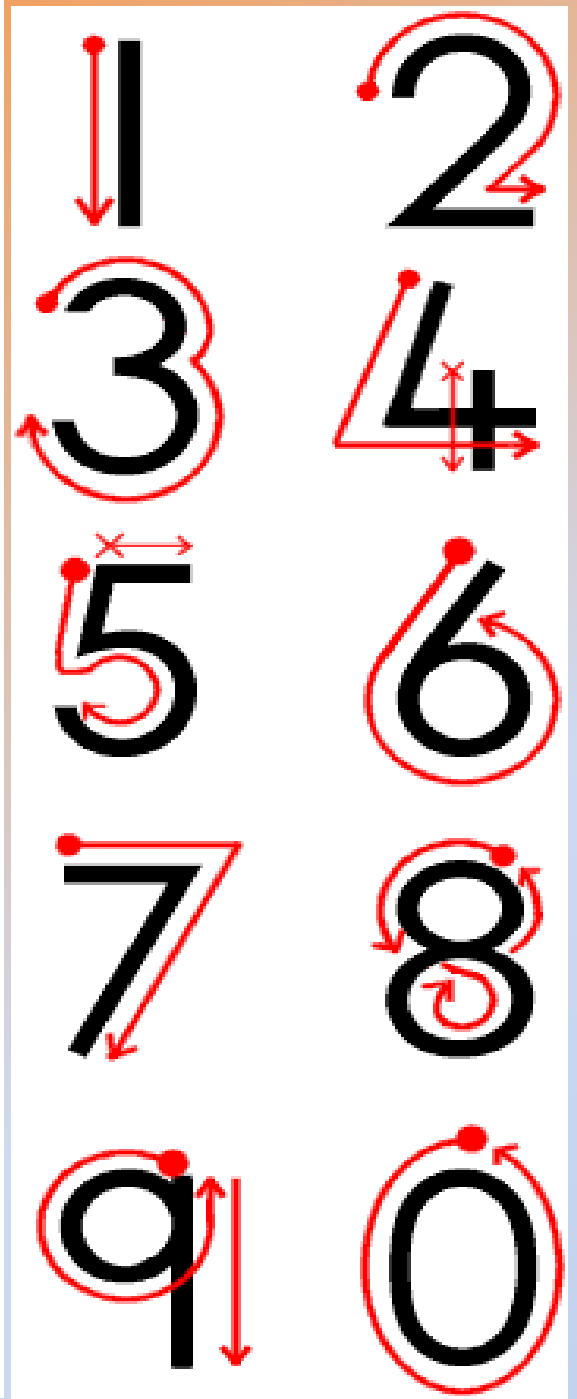
It is important that he or she can recognise the number of objects **however they are arranged**. Using the cards theme, you can represent some numbers with different patterns of spots. Ask your child to match the cards with the same number of spots. Take the opportunity also, to arrange everyday items in different formations, for your child to count.

Estimating

Developing the ability to estimate is also a useful skill. Asking a child to guess how many items are on a tray will help to develop this. Always count them out together afterwards, so that the child can see how close he or she was.

Recognising the Symbols

A fun way to help recognition of numbers is to select a few number cards. Take one from the pile without letting your child see it. Ask him or her to guess which one you have as you gradually expose the number from behind a screen (e.g. a book). If your child guesses wrongly explain what the number is. Introduce a few numbers at first and build up slowly.



Helping your child learn at home in

MATHS

In the street

- Recognising bus numbers
- Number plate hunt. Who can find a 7? Add the numbers up.
- Comparing door numbers
- Counting – how many lampposts on the way to school?

Food!

- Can you cut your toast into 4 pieces? Can you cut it into triangles?
- Setting the table. Counting the right number of plates etc. How many more do we need?
- Can you make shapes/ patterns out of the knives and forks. Can you put them in the right place in the drawers?
- Helping with the cooking by measuring and counting ingredients.
- Setting the timer.
- Positional language at dinner time: what is on the rice, where are the carrots etc?

Doing the washing

- Counting in 2s – matching shoes
- Sorting by colour and size.
- Matching/pairing up socks.
- Find four shoes that are different sizes. Can you put them in order.

Going shopping

- Reading price tags
- Counting items into the basket
- Finding and counting coins
- Comparing weights – which is heavier

Time

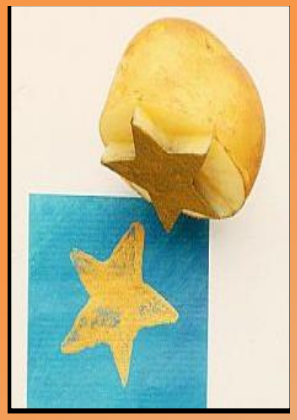
- What day is it yesterday, today, tomorrow?
- Use timers, phones and clocks to measure short periods of time.
- Count down 10/ 20 seconds to get to the table/ into bed etc.
- Recognising numbers on the clock. If you cover a number, what number was missing?

Measuring

- Are you taller than a …?
- Marking height on the wall.
- Cut hand shapes out of paper. How many hands long is the couch? How long is the table? Which is longer?
- Who has the biggest hands in our family?
- How many steps from the gate to the front door?

Shapes

- Cut a potato into shapes (circles, triangle etc). Use with paint to make pictures and patterns.
- Cut out shapes from coloured paper/ newspaper and arrange into pictures.
- Shape hunt: Can you find a square in your house (windows etc), a circle …



Games

- Putting cards into piles
- Jigsaws (you can make your own by cutting up a magazine picture)
- Snap (matching pairs) or Happy Families (collect 4 of a kind)

- Snakes and ladders or other simple dice games.
- Adding numbers on two dice.
- Bingo, with numbers or shapes
- Hopscotch

Playdough

Here's a simple recipe:

1 cup of plain flour
1 cup of water
1 tablespoon cooking oil
2 teaspoons cream of tartar
Half a cup of salt
food colouring and essences (optional)

Put all ingredients in a large saucepan, and heat slowly, stirring all the time until it forms a ball. Keep it wrapped in clingfilm or in a covered tub to stop it drying out.

Then ….

- Make numerals and shapes
- Sort shapes into groups, or order by size
- Make long and short wiggly snakes.

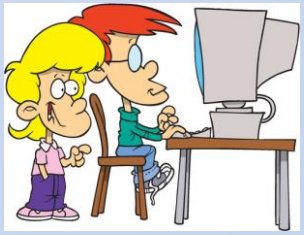
Number rhymes and songs

Eg: 5 little monkeys jumping on the bed
One fell off and bumped his head
Mummy called the doctor and the doctor said
"No more monkeys jumping on the bed!"
4 little monkeys jumping on the bed …

Your child can teach you lots more or try this website which has the words and sings it for you:
http://www.nurseryrhymes4u.com/NURSERY_RHYMES/COUNTING.html

Internet maths games:

www.mathszone.co.uk
http://www.bbc.co.uk/bitesize/ks1/maths/
http://www.familylearning.org.uk/online_math_games.html
www.sesamestreet.org



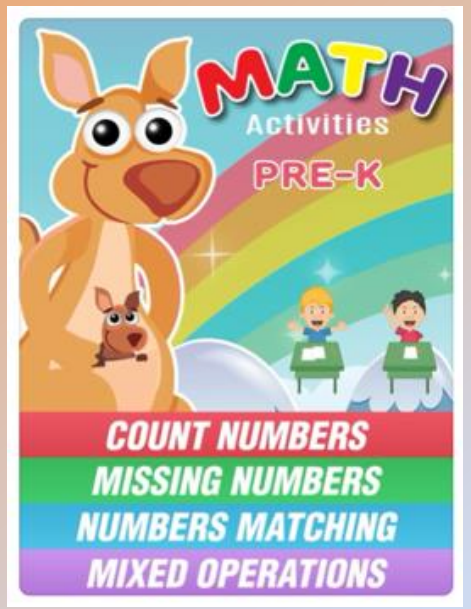
Apps

1 Minute Maths

Endless Numbers

Aliens & Numbers

123 Kangaroo
Pre-school counting activities



Maths Games Educational Learning for Kids

Kids Counting Games

Thank you for coming

Please feel free to ask any questions.

Some useful websites:

www.crickweb.co.uk

www.topmarks.co.uk

www.twinkl.co.uk

www.ictgames.co.uk

Games - Free online games for kids 0 - 6 - CBeebies – BBC