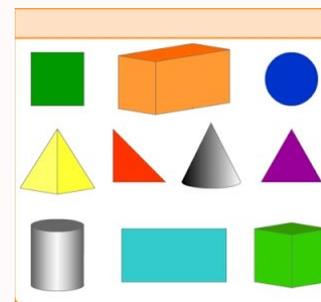




Mathematical Development

Parent information leaflet



Mathematics overview

Enjoying mathematics at an early age is a vital part of your child's development. You do not need to be a mathematical genius to help your child at home. You can help them by playing games, singing number songs and talking about numbers in the environment.

In the Early Years Foundation Stage, maths is split into two elements 'shape, space and measure' and 'numbers'. This leaflet will provide ideas to support your child's mathematical development as they move through the nursery.

Children's first experiences about numbers, times, length, weight, capacity, money, time and shape come from things they do at home. You can help their understanding by, for example, using money to shop, measuring out ingredients, spotting numbers on houses and car registration plates and filling containers with water at bath time.



Doves (0 – 20 months)

Activity Ideas: Numbers

- Sing number rhymes as you dress and change babies eg one, two buckle my shoe
- Move with babies to the rhythm patterns of familiar songs
- Encourage babies to join in tapping and clapping along to simple rhythms
- Create a mobile, change the number of items you hang on it.
- Provide a small group of the same objects in treasure baskets as well as single items eg 2 fir cones or 3 shells
- Collect number and counting rhymes from a range of cultures and in other languages
- Play peek a boo or use pop up toys

Benefits to their development:

- Notice changes in number of objects/images or sounds in groups of up to 3
- Develop an awareness of number names through their enjoyment of action rhymes
- Has some understanding that things exist even when out of sight

Activity Ideas: Shape, space and measure

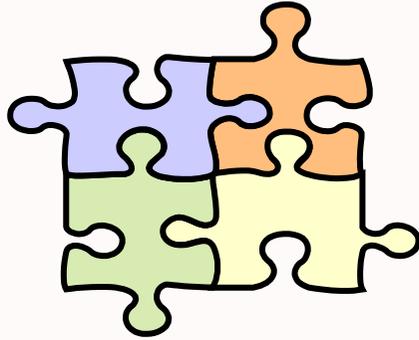
- Play games that involve curling and stretching, popping up and bobbing down
- Encourage babies' exploration of characteristics of objects eg by rolling a ball to them
- Talk about what objects are like and how they can change shape eg a sponge can be stretched or squeezed.
- Provide a range of objects of various textures and weights in treasure baskets to excite and encourage interests
- Look at books showing opposites eg a big dog and a puppy

Benefits to their development:

- Begin to recognise big and small things in meaningful contexts
- Gets to know and enjoy daily routines such as getting up time, mealtimes, nappy time, bath time and bedtime.



Starlings (16 Months– 2½ Years)



Activity Ideas: Numbers

- Use number words in meaningful contexts eg 'here is your other sock, now you have 2'
- Talk about 'lots' and 'few' as they play
- Provide collections of objects that can be sorted in different ways eg putting all the teddies together or dolls and animals in different piles
- Give each dolly/teddy a cup or each cake a candle

Benefits to their development:

- Knows that things exist, even when out of sight
- Beginning to categorise objects
- Says some counting words randomly then some number names in sequence
- Begin to make one-to-one correspondence

Activity Ideas: Shape, space and measure

- Use 'tidy up time' to promote logic and reasoning about where things fit in or are kept
- Use pictures or shapes of objects to indicate where things belong
- Provide sand & water for children to explore freely. Ask questions about when something is full, empty or holds more.
- Do a variety of jigsaw puzzles that have large pieces, knobs or handles
- Play with your child to create different arrangements in the layout of rail and road tracks
- Highlight patterns in daily activities and routines
- Help your child explore their body to explore shape through touching, seeing and feeling shape in art, music and dance

Benefits to their development:

- To associate a sequence of actions with daily routines
- Begins to understand that things might happen 'now'
- Helps improve spatial awareness
- Begins to categorise objects according to properties such as shape and size
- Begins to use the language of size



Kingfishers & Fun Focus (2½ Years—3½ Years)

Activity Ideas: Number

- Talk about choices and show, when appropriate, how counting helps us to find out how many eg, 'please give me 1', 'please give me 2'
- Discuss maths in every day situations eg doing up a coat, one button in each hole
- Give children a reason to count eg make a pretend fruit shop and count out apples into a basket. Use real coins to 'buy' them.
- Sing counting songs and rhymes that involve numbers eg 2 Little Dickey Birds, provide props to add variety
- Play games which relate to number order, addition and subtraction eg skittles, hopscotch, target games
- Cook a pizza or large cake together than share it in slices

Benefits to their development:

- To be able to select a small number of objects from a group when asked
- Can create and experiment with symbols and marks representing ideas of number
- Begins to make comparisons between quantities using language such as 'more' and 'a lot'
- Knows that a group of things changes in quantity when something is added or taken away
- Begin to chant numbers in order, first 1-5, then 1-10
- Can use some number names accurately in their play
- Awareness of abstraction by counting things that are not objects eg claps or hops
- To understand that one things can be shared by a number of pieces or slices

Activity Ideas: Shape, space and measure

- Draw children's attention to patterns eg square/rectangle/square which emerge from folding a tablecloth/napkin
- Collect pictures that illustrate use of shapes and patterns from different cultures eg Arabic designs, mosaics
- Provide opportunities to measure time (sand timer), weight (balances) and length (standard and non-standard units)
- Measure for a purpose eg will dolly fit in this cot?
- Use coins for sorting into bags, purses and tills
- Collect large and small boxes from the recycling and construct both indoors and outdoors

Benefits to their development:

- To help recognise patterns
- To use descriptive words like 'big' and 'little' in every day situations
- Understands some talk about immediate past and future events eg 'before', 'later' or 'sooner'
- Anticipates specific time-based events such as meal times or home time
- Is increasingly aware of , and interested in, shapes in the environment



Pre-School (3½ Years—Rising 5's)

Activity Ideas: Number

- Ask questions using mathematical language eg 'how many saucepans will fit on the shelf?'
- Encourage estimation eg how many sandwiches shall we make for our picnic?
- Practice counting objects that cannot be moved eg stairs
- Make books about numbers that have meaning for your child eg birth dates, telephone numbers
- Use rhymes and songs involving counting on and back including 1's, 2's and 10's
- Play games such as hide and seek and hopscotch that involve counting

Benefits to their development:

- Recognise numerals 1-5
- Count objects 1-10
- Count out up to 6 objects from a larger group
- Counts an irregular arrangement of up to 10 objects
- Can estimate how many objects they can see and check by counting
- Use language of 'more' and 'fewer'
- Finds the total number of items in 2 groups by counting all of them
- Can record using marks they can interpret and explain

Activity Ideas: Shape, space and measure

- Play together to 'build' a den or general construction activity
- Use magnetic shapes such as circle, square, triangle and rectangle to make pictures
- Talk about the shapes of everyday objects eg 'tall spire', 'round sign'
- Ask 'silly' questions eg show a match box and ask if it has a horse in it
- Play peek-a-boo revealing the shapes a little at a time and at different angles
- Be a robot and follow the instructions children give you to get to somewhere
- Make a picture 'timetable' together of key events across a typical day
- Order 2 or 3 items by height, length or weight

Benefits to their development:

- Shows an interest in shape and space by playing with shapes or making arrangements with objects
- Begin to use mathematical names for solid '3d' shapes and 'flat' 2d shapes
- Can describe their relative position such as 'behind', or 'next to'
- Uses everyday language related to time
- Sequence items by a given property



Early Learning Goal (for the end of reception):

Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.