

Maths Area

Key Learning Opportunities (From Development Matters Birth to 5)

Communication and Language

- Understand how to listen carefully and why listening is important.
- Learn new vocabulary.
- Use new vocabulary through the day.
- Ask questions to find out more and to check they understand what has been said to them.
- Articulate their ideas and thoughts in well-formed sentences.
- Connect one idea or action to another using a range of connectives.
- Describe events in some detail.
- Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.
- Use new vocabulary in different contexts.
- Learn rhymes, poems and songs.
- Engage in non-fiction books.
- Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary.

Personal, Social and Emotional Development

- See themselves as a valuable individual.
- Build constructive and respectful relationships.
- Express their feelings and consider the feelings of others.
- Show resilience and perseverance in the face of challenge.
- Identify and moderate their own feelings socially and emotionally.
- Think about the perspectives of others.

Understanding the World

- Draw information from a simple map.
- Explore the natural world around them.

Expressive Arts and Design

- Create collaboratively, sharing ideas, resources and skills.
- Sing in a group or on their own, increasingly matching the pitch and following the melody.

Literacy

- Form lower-case and capital letters correctly.
- Spell words by identifying the sounds and then writing the sound with letter/s.
- Write short sentences with words with known sound-letter correspondences using a capital letter and full stop.
- Re-read what they have written to check that it makes sense.

Maths

- Count objects, actions and sounds.
- Subitise.
- Link the number symbol (numeral) with its cardinal number value.
- Count beyond ten.
- Compare numbers.
- Understand the 'one more than/one less than' relationship between consecutive numbers.
- Explore the composition of numbers to 10.
- Automatically recall number bonds for numbers 0–5 and some to 10.
- Select, rotate and manipulate shapes to develop spatial reasoning skills.
- Compose and decompose shapes so that children recognise a shape can have other shapes *within* it, just as numbers can.
- Continue, copy and create repeating patterns.
- Compare length, weight and capacity.

Physical Development

- Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons.
- Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.
- Confidently and safely use a range of large and small apparatus indoors and outside, alone and in a group.
- Develop overall body-strength, balance, co-ordination and agility.

Characteristics of Effective Learning

Playing and Exploring

- Show curiosity towards maths apparatus, knowledge and vocabulary.
- Engage in activities that support learning of new maths concepts.
- To initiate activities using maths vocabulary.

Active Learning

- To maintain focus on a maths a maths activity for at least 10 minutes.
- To show enthusiasm and fascination for maths activities.
- To pay attention to details with maths items and notice smaller details like patterns/ weight/numbers etc.

Creative and Critical Thinking

- Think of their own ideas to explore maths.
- Find ways to solve problems involving maths knowledge and find new ways to solve things when difficulties arise.
- Make links between mathematical knowledge and notice patterns in their learning.

<ul style="list-style-type: none"> - To show confidence in using maths manipulatives. - To seek out challenges with maths and work towards solving challenges set for them. - To learn by trial and error. 		<ul style="list-style-type: none"> - Persist with their activity when it is difficult or does not go their way. - Show a belief that they will achieve what they have set out to do. - Bounce back after difficulties arise. 		<ul style="list-style-type: none"> - Make predictions about what might happen/what maths learning might look like. - Plan out and make decisions about tasks that involved mathematics. - Change strategy and review how well their approach is going.
Resources	Organisation	Intended Experience	Key Vocabulary	Role of the Adult
<ul style="list-style-type: none"> • Numicon and Numicon boards • Sorting pots and sorting tray (baking tray) • Number coasters • Large number line 1-10 • Whiteboards with numbers for tracing • Unifix cubes and multilink cubes • Threading numbers and shapes with laces • Reflective numbers to 0-10 • Magnetic tracing numbers to 0-9 • Dominoes • Sorting hoops • Number formation laminates • Elastic band shape boards • Calculators • Dice (numbered and coloured) • Counters • Magnetic numbers • Numbered rulers • Spinner • Number fans x 3 • Sorting bears • Sorting objects • Maths related books. • Peg boards with pegs and suggestions for patterns/shapes • Number cards 0-10 • Plastic money • Whole, part part models and tens frames • Number representation bingo cards 	<ul style="list-style-type: none"> • Open shelf with baskets/trays to display resources and easily accessible to children. • Mat on the floor to allow an area for children to play and create patterns etc. • Books in separate box at the side of the shelf for easy access • Small parts like cubes/money etc in separate boxes - teach children to put away carefully. 	<ul style="list-style-type: none"> • Children are able to sort/count objects into pots or trays or sorting hoops. • Children can recognise shapes and create shapes with objects. • Children can use fine motor skills to thread different shapes and name them. • Children can create patterns using sorting objects/other items. • Children can recognise numbers in written form. • Children can practise forming numbers using the magnetic boards. • Children can use fine motor skills to stretch out elastic bands to form and name shapes. • Children can order numbers on a number line. • Children can use blank game boards to create their own games using dice and counters. • Children can work collaboratively to make up rules for games using maths equipment. • Children can use cubes/other items to follow prompts and show knowledge of position. • Children can sing songs involving numbers and counting and use objects to support them. 	<p>Low Frequency Words subtract addition equals, minutes, seconds measure capacity composition comparison</p> <p>Medium Frequency Words cube cuboid sphere pyramid cone cylinder number line, take away, add fewer, money, time, before, after, weight</p> <p>High Frequency Words count, 2D shapes, 3D shapes, numbers 0 -20, more, less, full, empty, big, small, tall, short, larger, smaller, heavy, light</p>	<p>Play alongside</p> <ul style="list-style-type: none"> • Observe children and take note of key interests. • Respond to requests and ideas. • Suggest possibilities to extend play/thinking. • Consider additional stimulus and add to the area immediately or in the following days. • Play alongside children to push play forwards. <p>Role model/direct teach</p> <ul style="list-style-type: none"> • Model how to use resources. • Model thinking aloud “ I think if I put this one here then I can make a ... shape” “You’ve really made me think about x...” • Model correct maths language for current topic (e.g. shape, number etc) • Model and manage behaviours and self regulation. • Model how to set up rules and discuss them together with our peers. <p>Raise questions to stimulate ideas and add challenge</p> <ul style="list-style-type: none"> • “What do you notice about...?” • “I wonder how...?” • “Can you tell me about...?” • “What happens if I...” • “Where should this piece go? Why?”

<ul style="list-style-type: none"> • Days of the week cards • Numicon number lines 0-10 and linear number lines 0-10 • Blank game boards and Bus game board • Maths books linked to current topics 				<p>Use appropriate language linked to key learning</p> <ul style="list-style-type: none"> • Mathematical language linked to shape: triangle, square, circle, corner, side, round etc. • Mathematical language linked to position: on top of, next to, in between, etc. • Mathematical language linked to numbers and counting. • Language linked to PSED and being kind to others e.g. your turn next, please can I have..., who's turn is it?
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