

Top Ten General Resources

One glance at any educational resources catalogue will list many resources with the specific purpose of supporting children's mathematical development. But, there are many more resources which offer many much broader mathematical opportunities, including the chance to identify and solve problems. The following resources, alongside the authentic resources, books, rhymes and collections will offer children lots of opportunities to explore their own mathematical interests.

Blocks

Children should have daily access to sets of hollow and solid wooden blocks, interconnecting large and small construction kits and empty cardboard boxes to build with and knock down. They need enough of each set to build meaningful constructions and explore 3D shapes.

Climbing equipment

Children need things to climb over, under, around and through. In general, moveable resources that can be used in different ways are more useful than fixed equipment. Provide steps, ladders, slopes and climbing resources that offer appropriate challenge.

Water and sand resources

Open ended materials such as water and dry, damp and wet sand, mud and gravel give children the chance to move heavy things – buckets filled with mud, or wheelbarrows filled with sand and explore on small and large scales. A range of resources that can be used to mould, pour, fill, empty, sieve, transport, float, bury, hide and gather will include buckets, spades, sieves, jugs, tubes, bottles, containers, brooms, moulds, rakes, forks, shovels, watering cans, boats, sea life creatures, diggers and dumpers, natural objects and lots more.

Malleable and manipulative play

Children can explore shape and space through hands on play with materials that can be spread, rolled, squeezed, stretched or cut out. This will include clay, play dough, plasticene, finger paints, cornflour, dough made with baby oil, sensitive shaving foam and so much more.

Home corner and role play

Make sure that the home corner offers children opportunities to explore numbers and shape, space and measures through the provision of real life objects. If a child wants to bake a 'cake', are the tools there? Mixing bowl, balance, spoon, cake tin, egg box, apron, oven gloves, washing up bowl, timer, tea cloth. Think about the mathematical content of role play situations too – if you develop a shop with children, have you thought about the whole process of pricing goods, writing shopping lists, paying for purchases, collecting receipts and carrying the shopping home.

Baking

Children need regular opportunities to cook and bake real food. Some of the best recipes use eggs to balance other ingredients. For cakes, put one egg on one side of the scales and balance with sugar. Then balance the egg with butter or other fat and finally balance the egg with self raising flour. Mix together well and spoon into small cake cases, one by one.

Make sure children do the measuring, mixing and spooning into cases themselves.

Mark making

Even the youngest child needs opportunities to explore mark making. This could start with non permanent marks, with brushes and water, twigs in mud, fingers in paint or foam or tools in damp sand. Small hands need chubby markers and chunky chalks. All children need the chance to make mark on a large scale too – with playground chalks on the floor, or huge decorators' brushes on rolls of lining paper.

Find out more about resources for mark making in Mark Making Matters here: http://www.foundationyears.org.uk/wp-content/uploads/2011/10/Mark_Marking_Matters.pdf

Recycled materials modeling

Children love to build things. Recycle old packaging, add glue and fixing tape, paints, markers, patterned paper, shiny and sparkly decorations and leave children to explore and go wherever their imagination takes them. As they do, they will be finding out more about the shapes they are using and problem solving as things fit together.

Small world play

Good quality, well maintained small world play equipment needs to be available every day as children make sense of their world, and will include:

- cars and garage, roadways and diggers and dumpers
- dolls and dolls' house
- farm and wild animals, mini beasts and sea life
- play figures including families and emergency services
- trains and track
- airport and planes and helicopters

Mud kitchens and mud laboratories

Create a kitchen or laboratory outdoors. Areas with a fence or wall offer more opportunities for real life utensils to be hung on hooks. A mud kitchen should not be a replica of an indoor home corner. Old wooden home corner cookers or cupboards could be used, but some solid planters with wooden planks as work surfaces and a bowl as a sink, with a hob made from a couple of tree trunk slabs on a board will work too. Provide durable metal or plastic jugs, bowls, plates, mugs, spoons, kitchen utensils alongside twigs, leaves, pebbles and other natural objects. Access to water is important and sensory plants with smelly leaves such as mint and lemon balm will add to the experience. Then leave the children to mix soups, stews, potions and much more.

Find out more in Jan White's book 'Making a Mud Kitchen' that can be downloaded here:

<http://www.muddyfaces.co.uk/infodocs/>