



## Core Activity

<b>Activity</b>	Sand and water play (if sand and water play are not available at this time then aim to incorporate the maths experiences where possible in other parts of the provision or take this opportunity to plan ahead for when these resources are re-introduced.)
<b>Main Focus</b>	Measure

<b>Possibilities for additional maths learning</b>	<input checked="" type="checkbox"/> Counting <input type="checkbox"/> Composition <input checked="" type="checkbox"/> Cardinality <input type="checkbox"/> Subitise <input checked="" type="checkbox"/> Comparison <input type="checkbox"/> Measure <input checked="" type="checkbox"/> Shape <input checked="" type="checkbox"/> Pattern <input checked="" type="checkbox"/> Spatial awareness
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### Activity Plan

<b>Resources</b>	<ul style="list-style-type: none"> <li>➤ Water.</li> <li>➤ Sand.</li> <li>➤ A range of containers or trays.</li> <li>➤ A good range of resources for children to use including very contrasting size and shape containers (this can include recycled plastic bottles), scoops, spoons, jugs, funnels, water wheels, small rakes, trowels, sieves etc.</li> <li>➤ Dustpan and brush, mop and bucket.</li> </ul>
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<b>Activity</b>	<p>As children play with sand and water they acquire and practise new maths skills from counting how many objects they can catch in a net; to deciding which scoop to use to fill the bucket to make the biggest sandcastle. Sand and water provides a wealth of opportunities to count, explore volume and capacity, measure and to find out about shapes in a meaningful way. You need to provide plenty of opportunities for children to experiment with sand and water and to have opportunities to make decisions about what equipment to use and how to use it. You will need to spend time preparing the environment, including the physical space, selecting and gathering props and displaying them in a way that invites their use.</p> <p>Look at sand and water play in your setting. What maths opportunities are provided on a daily basis? List these as a starting point and then record what changes you make and what impact this has had. If you have a traditional sand and water tray review how children use this, what opportunities do you provide for maths learning and how can these be extended? Consider if you could offer sand and water in different ways than what you currently do. Do you have sand and water play available indoors and</p>
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out? As well as exploring sand and water, having a purpose helps conversation – e.g. can we get the water to flow from here into the paddling pool?

### **Maths experiences with sand play**

Wet and dry sand have very different properties, dry sand is easily poured and sifted through little fingers, wet sand can be moulded into different shapes and forms. Provide both either at the same or at varying times, so that children can experiment and experience both types, as well as occasionally adding lots of water to turn the sand into very wet sloppy sand. Sand should be deep enough to dig and scoop and there should be enough sand so that children can explore together. You may want to offer sand on a larger scale in a tuff tray or perhaps an indoor sandpit on tarpaulin where children can explore this with their whole bodies. A large tyre also makes a quick indoor or outdoor sandpit. Provide a good variety of equipment stored close by so as not to clutter up the sand or set up some resources in the sand to make it inviting. Make sure there is a range of containers, spades and scoops for filling and emptying, a range of tools for mark making such as sticks, small rakes etc. Add in a selection of small world play resources such as cars, people, farm animals; bury items in the sand to be discovered and provide resources for children to print in wet sand as well as using their fingers.

Play alongside children, model and encourage the following ideas to maximise maths learning:

- Fill and empty containers using mathematical language such as ‘empty, full, heavy, light, more, less
- Count how many spoonfuls, shovelfuls, handfuls it takes to fill a container
- Bury shells, large pebbles or other small objects for children to find, count how many objects have been found
- Make handprints in the sand and then making one more
- Press fingers and objects into damp sand to make a pattern
- Make shapes using moulds
- Use sticks to draw long lines, wavy lines etc.
- Comment on how quickly/slowly sand flows through a sieve
- Comparing sizes of containers, scoops, sandcastles.

### **Maths experiences with water play**

Children enjoy playing with water and should have access to water play both indoors and out. The indoor water tray/container should be as large as the space in your setting allows. Transparent trays are good as children can see where objects are from different angles and you can talk about whether objects are really sinking. Outdoor water play should include if possible, a hose, watering cans, plastic guttering pipes etc. Make use of natural water also by collecting rainwater or puddle jumping. A lot of water play will involve pouring and measuring so allow the children to experiment with this and support children in developing pouring skills use funnels etc. where needed. Ask open-ended questions to extend children learning such as, “I wonder if the water will stay in a sieve?”

Play alongside children, model and encourage the following ideas to maximise maths learning:

- Pour and fill using various containers
- Comment using mathematical language such as, empty, full, heavy, light, more, less
- Fill containers until the water overflows commenting on what is happening
- Talk to children about whether a container is full, empty or could hold more, it may help to add food colouring to the water so this can be seen easier through containers
- Use the hose to make water patterns on the ground outside
- Use squeeze plastic bottles to empty and fill

- Pour water down a slope or gutter talking about how fast or slow it runs and fill containers with it using directional language e.g. down, along, round the corner
- Investigate the way water spouts out of holes. Use watering cans or pierce holes in an empty plastic drinks bottle observe what happens and investigate
- Use open ended questions such as, “what would happen if we used a tea spoon to fill the bucket?” or “I wonder how many cups this bottle will fill?”.
- Add in props such as rubber ducks and sink rhymes such as ‘Five Little Ducks’.

### **Extension Opportunities**

- ✓ Children interests can easily be incorporated in sand and water play, add in props to attract them to explore and investigate e.g. wash the cars, dig for dinosaurs, sea creatures in the water or add in a tea set.
- ✓ Provide larger scale diggers outdoors where children can pour, sift, scoop and construct.
- ✓ Introduce number pebbles, number moulds in sand to help develop an awareness of numerals.