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Creative STAR
Learning Ltd

Parent Advice Sheet: Volume and Capacity

Volume is the amount of three-dimensional space an object or substance occupies. Capacity is the size of a container. Imagine a small glass full of water. If you tip out some of the water, you have reduced its volume, that is, the amount of water. The capacity of the glass is still the same.

Volume and capacity work is often associated with water and sand play when children go through a developmental stage of doing lots of filling and pouring. However, these concepts are also explored when packing solid objects into containers. This is nicely demonstrated when a child tries to hide in a large cardboard box.

Children need lots of talking about, play and real life experiences of volume and capacity to develop an understanding of what this means such as:

- Estimating and comparing objects and liquids by their size, quantity and amount of space they take up. For example, during a meal you may wonder aloud whether your cup will hold the same amount of water as your child's and make a comparison.
- Understand that volume can be conserved. One-litre containers come in a variety of shapes but all have the same capacity.
- Use different types of measuring containers such as a standardised measuring jug and cups when cooking together or non-standardised ones such as watering cans when gardening.



Bath time. This is an ideal time and place to explore capacity. Keep a range of shampoo and other body product bottles so that your child can have fun filling up and emptying them as part of their play. Talk about which bottles hold less and which hold more. Look for two different containers which have the same capacity such as a 500ml bottle and a 500ml ice-cream carton. Give your children time to see and realise that although they are different shapes, the capacity of both are the same. If you poke a hole in the bottom of one this makes blocking and releasing the water an absorbing activity. Old clean sieves, colanders and funnels increase the options for exploring and investigating.

Find a small jug for mealtimes. Fill this with water or milk. Let your child pour themselves milk and water from this into their own cup. Have a cloth nearby to clean up any accidental mess.

Show your child how to use an ice cream scoop. It is easy to see the volume of ice-cream being eaten as the ice-cream will hold its shape in the tub.

When shopping, discuss how many groceries you need to buy. Discuss which size of trolley or whether a shopping basket would be big enough. Just build in enough time to swap if needed! Talk about what size of milk carton is needed and compare the volume of milk each one holds.

Carve a pumpkin. Open the top and have a look inside. Scoop out the insides with a spoon. Estimate how many spoonfuls it will take. Use for making pumpkin soup or pie.

Container gardening. Different plants need different amounts of space in which to grow. Simple gardening activities such as planting seeds in flowerpots or create a hanging baskets help children learn practical applications of volume and capacity. The act of watering plants also involves controlling the amount of water provided.

Visit a swimming pool. Feel the difference between small and large pools. Wonder aloud how much water each pool holds. If you have a paddling pool, then your child can estimate the number of buckets of water needed to fill it up and help you do this on a warm day.

Get your child to pack their own bag when going away. They will need help from you but in the process they learn about how to fold clothes and make the most of the available space in a suitcase.

Play hide and seek around your house. By squeezing into nooks and crannies your child is learning about the volume of different spaces as well as an understanding of how big or small they are. Teddy bears can also join in.

Go puddle jumping on a rainy day. By trying to splash all the water out of a small puddle, your child is reducing the volume of water it contains.

Build sandcastles. This is particularly interesting if you have a range of different containers. Which one makes the best sand castle?

Investigate water splats. Which container when tipped upside down creates the biggest splat? Children like looking at and talking about the splat marks. Use a piece of string or rope to help compare sizes.

Bubble blowing. What is the biggest bubble you can make and what advice can your child give others for creating the bubble which can hold the largest volume of air?



Balloons. How many puffs of air does it take to blow up a balloon? Do all balloons take the same number of puffs?

Story time

Books, songs and rhymes are also useful for talking about and reinforcing the concepts and vocabulary of volume and capacity. Examples include:

- *Room for Ripley* by Stuart Murphy
- *Ernest* by Catherine Raymer
- *Billy's Bucket* by Kes Gray and Garry Parsons
- *Jonah and the Whale* – a Bible story. What else could fit inside a whale?