


## Dereham Church Infant and Nursery School- Mathematics

	Year group: 1	Area/topic: Mathematics- Mass and volume
	<ul style="list-style-type: none"> <li>• Compare, describe and solve practical problems for: lengths and heights; mass/weight; capacity and volume; time</li> <li>• Measure and begin to record the following: lengths and heights; mass/weights; capacity and volume; time</li> </ul>	

Prior learning	Future learning
Children have had lots of hands on practical experience of measuring in the EYFS	Children will apply these skills and knowledge when focussing on mass, capacity and temperature in Year 2 and also when answering questions covering mass and volume in regular maths meetings

What pupils need to know or do to be secure	
Key knowledge and skills	Possible evidence
<p>Heavier and lighter</p> <p>Measure mass</p> <p>Compare mass</p> <p>Full and empty</p>	<p>Photos of children weighing a variety of items on balance scales</p> <p>Ask children to find some natural items outside, when returning to the classroom use the balance scales to see how many cubes they weigh</p> <p>Answer problem solving questions about the mass of 2 items</p>

<p>Compare volume</p> <p>Measure capacity</p> <p>Compare capacity</p>	<p>Challenge children to see which container can hold the most water</p> <p>Photos of children using a range of containers to compare which holds the most</p> <p>Measure a range of containers using sand and then water. What do the children notice?</p> <p>Complete reasoning questions</p>
Key vocabulary	
Heavier, lighter, mass, balance, heaviest, lightest, full, empty, nearly full, nearly empty, capacity, greater capacity, smallest, greatest,	
Common misconceptions	Books linking to this area
<ul style="list-style-type: none"> <li>• Children may think that larger objects are always heavier.</li> <li>• Children may think that if an object can hold something inside, it must be heavy. For example, they may think a box must be heavy because it can hold things inside it.</li> <li>• Children may find it difficult to balance objects exactly using non-standard units. For example, an object may be heavier than 3 bricks, but lighter than 4 bricks.</li> <li>• When using objects as non-standard units for measuring, children may think that a certain type of object has a certain mass, for example that all cubes have the same mass, or all bricks have the same mass.</li> <li>• Children may try to use different non-standard units to measure the masses of objects, which will not allow accurate comparisons to be made. For example, if the mass of an apple is 5 cubes and the mass of</li> </ul>	<p>So light, so heavy by Susanne Strasser</p> <p>Mighty Maddie comparing weights by Stuart Murphy</p> <p>A beach for Albert: capacity by Elanor May</p>

<p>an orange is 2 bricks, this does not necessarily mean that the mass of the apple is greater. • Children may believe that different shapes or sizes of containers must have different capacities or that a taller container must have a greater capacity than a shorter one, regardless of width. • When comparing volumes in different-sized containers, children may believe that if the water level is higher up the container, then the volume of water must be greater.</p>	
Memorable first hand experiences	Opportunities for communication
<p>Opportunities to measure using a range of containers</p> <p>Weighing a range of items using balance scales</p>	<p>Ask key questions and discuss</p> <p>Discuss and answer stem sentences provided by White Rose</p> <p>Discuss/debate What's the same/what's different?</p>

DCINS Reasonable adjustments for pupils with SEND

<p><i>Communication and Interaction</i></p> <p><i>Use a range of visual aids</i> <i>Give clear instructions one at a time</i> <i>Repetition</i> <i>Provide simple instructions</i> <i>Pre teach vocabulary</i> <i>Use working wall where modelling is displayed</i> <i>Give children thinking time</i> <i>Model task</i></p>	<p><i>Cognition and Learning</i></p> <p><i>Check understanding regularly</i> <i>Allow rest breaks</i> <i>Give thinking time</i> <i>Colour code signs that could be confusing</i> <i>Work checklists</i> <i>Break down tasks into small steps</i> <i>Give opportunities for over-learning</i></p>
<p><i>Social, Emotional and Mental health</i></p> <p><i>Allow access to a quiet and calm space</i> <i>Give child a special role to increase self esteem</i> <i>Provide a visual support- what to do if you are stuck</i> <i>Provide a movement break</i> <i>Seat pupil by more confident peer</i> <i>Now and next board</i> <i>Sand timers</i> <i>Movement breaks</i> <i>Break down tasks into small steps</i></p>	<p><i>Sensory and Physical</i></p> <p><i>Consider carpet space position</i> <i>Reduce background noise</i> <i>Provide a range of manipulatives- dienes may be too small</i> <i>Appropriate seating</i> <i>Wobble boards</i> <i>Writing slope</i> <i>Enlarge text</i> <i>Variety of writing tools available</i></p>