



# Caversham Park Primary School

## Reception Curriculum

# Mathematics: Spatial Reasoning & Measure

### Key Knowledge:

- To know that objects can be rotated but this doesn't change their size or shape.
- To know that shapes can have other shapes within it and link this to knowledge of number.
- To know the terms heavier than, heaviest, lighter than, lightest, more than, less than, longer than, longest, shorter than, shortest, full, empty and use them to compare measures.
- To begin to recognise and name the basic 2D shapes such as circle, square, oblong (rectangle), triangle and spot these in 3D shapes such as cube, cuboid, pyramid, cylinder, sphere.
- To begin to recognise and name some 3D shapes.
- The names of the days of the week and the parts of the day (morning, afternoon, evening, night).

### Key Skills:

- Select, rotate and manipulate shapes in order 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.
- Explore, copy, continue and create patterns (including AB, ABB and ABBC) identifying the unit of repeat.
- To begin to spot mistakes in repeating patterns and know how to fix it.
- Use appropriate mathematical language to compare length, weight and capacity.
- Use mathematical language when describing 2D shapes.
- Use everyday language and some mathematical language when describing 3D shapes.
- Begin to sort shapes into groups and explain how shapes have been sorted.
- Sequence familiar activities using language to describe their order, e.g. first, next, last.

**Vocabulary:** Shape and names of basic shapes such as circle, square, oblong (rectangle), triangle, cube, cuboid, cylinder, pyramid, sphere.  
Language to describe shapes, e.g. roll, flat, curved, surface, straight, side.  
Repeating pattern, unit of repeat  
Language of position, turn, in front of, behind, upside down, right way up  
More than, less than, heavier than, heaviest, lighter than, lightest, longer than, longest, shorter than, shortest, full, empty.  
First, then, next, now, later, days of the week, morning, afternoon, evening, night

### Literature:

**SEE WRM BOOK LIST**

Colour Zoo- Lois Elhert (shape pictures with shapes within shapes)  
Big box of Shapes- Wiley Blevins  
Walter's wonderful web - Tim Hopgood  
Apples and Robins by Lucie Felix (combing shapes)  
Circle Rolls - Barbara Kanninen - introduces properties.  
Shape shift- Joy Hesseleberth - challenges right or wrong answers- good for PSED.

### Enrichment:

Go outside and look for shapes in the environment.  
Look at images from further afield- what shapes or patterns can we see in buildings, train stations etc.

<p><b>Adult Directed:</b> Daily maths lessons and small group focus tasks (using White Rose Maths).</p> <p>Use of maths stories within lessons where possible</p>	<p><b>Continuous Provision:</b> Shapes in maths area. Water tray and sand pit with a variety of containers and objects. Variety of blocks and shapes in construction areas inside and outside. Shape car tracks. Playdough with shape cutters, shapes for printing and shape mats</p> <p>Adults supporting mathematical development within all areas the provision</p>	<p><b>Enhanced Provision:</b> Pattern blocks.</p> <p>Numicon shapes and patterns / picture mats.</p> <p>Create shapes and patterns out of non-mathematical materials, e.g. sticks and stones, shells, corks, spaghetti and marshmallows.</p> <p>Print patterns with fruit and other objects. Balance scales in a variety of classroom areas. Shapes and shape moulds in sandpit Variety of mathematical objects, games, puzzles and activities available to be placed in the provision.</p>
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**Assessment (ELGs)**

<p><b>Prime Areas:</b></p> <p>PSED- Children should develop positive attitudes and interests in mathematics</p> <p>PSED- To not be afraid to make mistakes in maths and develop resilience when this happens.</p> <p>C&amp;L - To use 'have a go' talk to adults and peers about what they notice.</p> <p>C&amp;L- To use mathematical language to help to communicate their ideas.</p> <p>PD- To develop the fine motor skills to manipulate and create shapes and patterns.</p>	<p><b>Specific Areas:</b> N/A</p> <ul style="list-style-type: none"> <li>• See educational programmes.</li> </ul>
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**Progression****Autumn**

- Match and sort everyday objects according to size, colour or shape.
- Compare the size of objects (big and little, large and small, tall, long, short)
- Compare mass and capacity using everyday language
- Copy, create and continue simple patterns (AB) in a variety of contexts including actions, words/sounds.
- Recognise, name and describe basic 2D shapes (circle, triangle, square, oblong).
- Recognise 2D shapes in everyday items / the environment.
- Combine shapes to make new ones.
- Follow and begin to use positional language to describe how items are positioned.
- Use language to describe when events happen.
- Begin to measure time in simple ways.

**Spring**

- Explore and compare length, height, mass and capacity using appropriate vocabulary.
- Begin to use non-standard units of measure to measure length.
- Order and sequence importance times in their day.
- Name the days of the week and identify activities that happen on particular days.
- Recognise and name 3D shapes; describe similarities and differences between them and sort them.
- Recognise 3D shapes in everyday items / the environment.
- Copy, create and continue simple patterns (ABB/AAB/AABB) in a variety of contexts.
- Identify and correct errors within patterns.

**Summer**

- Select, rotate and manipulate shapes in order to develop spatial reasoning skills.
- Compose and decompose shapes so that children recognise a shape can have other shapes within it.
- Use positional language to describe where shapes are in relation to one another.
- Visualise and re-create simple models.
- Continue copy and create repeating patterns (ABBC).