



## Medium Term Planning Maths – Shape and Space

### Medium -Term Planning 'Maths Map' Are you properly equipped for your journey yet?

### Shape and Space

**End destination** – Children can select and rotate shapes to fit into a given space and use positional vocabulary, including relative terms, to describe where things are in small-world play. Show intentionality in selecting shapes for a purpose, such as cylinders to roll. Make a range of constructions, including enclosures, and talk about the decisions they have made. See shapes in different orientations and recognise that they are still that shape. Recognise a range of triangles and say how they know what they are.

#### 1. Check Your facts

Subject knowledge  
References:

NCETM Progression document  
<https://www.ncetm.org.uk/media/4uljty3/typical-progression-shape-and-space.pdf>

#### 2. Secure Your Expert Language!

Key language AND definitions so everyone is consistent.

Language of position and direction:  
position: 'in', 'on', 'under'  
direction: 'up', 'down', 'across'.  
Terms which are relative to the viewpoint:  
'in front of', 'behind', 'forwards', 'backwards' ('left' and 'right' to be used later on as ideas develop).  
Create as many opportunities as possible to explore this

#### 3. Predict the Hazards and Opportunities!

Identify the misconceptions and remember these are VERY valuable teaching opportunities.

- children thinking that only regular triangles are triangles, only brick-like rectangles are rectangles (i.e. shapes are defined by their image, not by their properties)



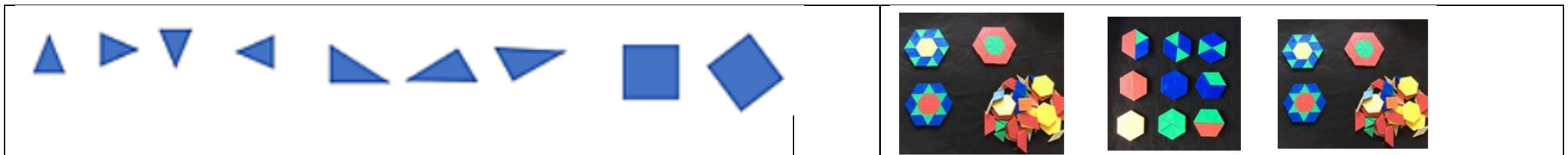
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	<p>language, taking advantage of play in the outdoors to explore sequences of body movements (following obstacle courses, directing a friend, etc.).</p> <ul style="list-style-type: none"><li>-shape names both 2D and 3D</li><li>-curvedness</li><li>-numbers of sides and corners (2D) or edges, faces and vertices (3D)</li><li>-equal sides</li><li>-parallel sides</li><li>-angle size, including right angles</li><li>-2D shapes as faces of 3D shapes.</li></ul>	<ul style="list-style-type: none"><li>• children thinking that squares are only squares when the bottom is horizontal (i.e. shapes are defined by their orientation).</li></ul>		
<p><b>4. Identify Your ‘Vehicles/Hooks’</b></p> <p>What have the children shown you they are interested in that you can use to engage their interest and build upon what they already understand?</p>	<p><b>5. Build Essential Connections!</b></p> <p>Which other existing mathematical tools will they need to bring out and use here? Make these neutral.</p>	<p><b>6. Sharpen Those Tools!</b></p> <p>List the activities that will give children the opportunity to focus upon and become skilful in using specific tools. Use hyperlinks, images of tasks, book names and page</p>		
<ul style="list-style-type: none"><li>• Nature/natural world</li><li>• Treasure hunts</li><li>• riding trikes around interesting routes</li></ul>	<ul style="list-style-type: none"><li>• Communicating - Talking/Demonstrating/Pictorial</li></ul>	<table><tr><td>NCETM</td><td>NCETM Progression document <a href="https://www.ncetm.org.uk/media/4uljty3/typical-progression-shape-and-space.pdf">https://www.ncetm.org.uk/media/4uljty3/typical-progression-shape-and-space.pdf</a></td></tr></table>	NCETM	NCETM Progression document <a href="https://www.ncetm.org.uk/media/4uljty3/typical-progression-shape-and-space.pdf">https://www.ncetm.org.uk/media/4uljty3/typical-progression-shape-and-space.pdf</a>
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<ul style="list-style-type: none"> <li>• construction activities</li> <li>• printing and making pictures and patterns with shapes</li> <li>• jigsaws</li> <li>• making a complete circuit with a train track</li> <li>-den making</li> <li>-creating messy maps/drawing maps</li> </ul>	<ul style="list-style-type: none"> <li>• Pattern</li> </ul>
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**7. 'Concrete' Experiences 'Walk the Walk'**  
 'Move from 'Real World' to 'Maths World'.

**8. Creating Representations 'Capture the experience using an Image!'**  
**(Pictorial)**

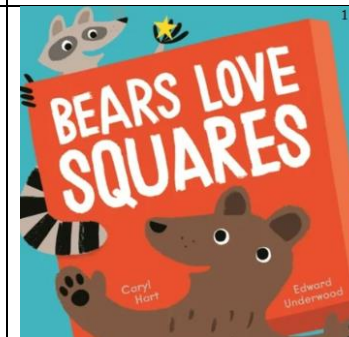
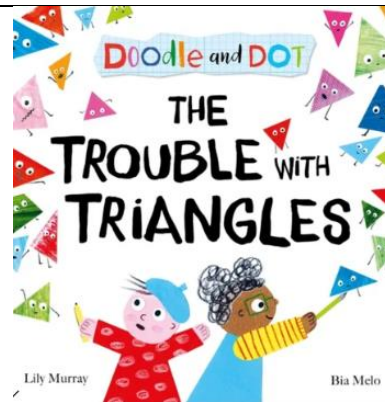
**9. Translate the Experience into 'Abstract'**



## Medium Term Planning    Maths – Shape and Space



NCETM - Stories and rhymes present a good opportunity to explore a shape and space, e.g. where going on a bear hunt, The Trouble with Triangles, Bears love Squares.





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End Point - What do I want the children to understand and be able to do? Long Term aims for pattern – Nursery/Reception

- select and rotate shapes to fit into a given space.
- use positional vocabulary, including relative terms, to describe where things are in small-world play.
- show intentionality in selecting shapes for a purpose, such as cylinders to roll.
- make a range of constructions, including enclosures, and talk about the decisions they have made.
- see shapes in different orientations and recognise that they are still that shape.
- recognise a range of triangles and say how they know what they are.

Characters of Effective Learning – How do young children learn best?

Playing and exploring – engagement  
Finding out and exploring  
Playing with what they know  
Being willing to 'have a go'

Active learning – motivation  
Being involved and concentrating  
Keeping trying  
Enjoying achieving what they set out to do

Creating and thinking critically – thinking  
Having their own ideas  
Making links  
Choosing ways to do things



## Medium Term Planning Maths – Shape and Space

Children's interests – What are this group of children motivated by? What areas interest them? How are these children engaged in their learning? What do they love to do? When are they at their most happiest?

Steps needed	Adult led/provocations/enhancements	Continuous Provision areas