

Shape and space: Shape – Suggestions for children’s learning

The child has opportunities to...

Understand and connect

- engage with opportunities to identify names and properties of different shapes, e.g., *scavenger hunts and shape trails*.
- sort objects based on their shapes or shape properties and explain their reasoning, e.g., *circles, triangles, number of corners, ability to roll*.
- investigate which shapes have lines of symmetry by folding shapes, using mirrors, etc. and create symmetrical designs.
- build structures of increasing complexity using 3-D shapes and experiment with stacking, balancing and combining shapes in their designs.
- play games that reinforce shape recognition and understanding of properties, e.g., *‘I Spy’, ‘Two Truths and a Lie’*.



- participate in whole-class or small-group discussions about shapes by engaging with open-ended questions, e.g., *“What do you notice about this shape?”*, *“How are these two shapes similar/different?”*
- make connections between shapes in the real-world and mathematical concepts they encounter in class, e.g., *‘show and tell’ activities*.
- use digital tools to engage with shapes, e.g., *creating diagrams, exploring nets, deducing angles and lengths*.
- take part in ‘Gallery Walks’ – display a variety of shape-related posters, diagrams, children’s work, etc. for children to explore and discuss.
- write or draw in Reflection Journals – reflect on learning, describe understanding of shape concepts, and ask any questions they may have.



Communicate

Reason

- engage with patterns and sequences involving shapes, with increasing complexity – encourage children to identify the rule governing the pattern and predict what comes next.
- explore real-world scenarios that involve reasoning with shapes, e.g., *designing a floor plan for a room or planning a garden layout*.
- use prior knowledge to make estimations or deductions about other shapes using concrete or virtual manipulatives, e.g., *investigate angles of polygons, construct nets of 3-D shapes, find the surface area or volume of 3-D shapes*.
- work with peers to solve shape-related problems or puzzles – discuss ideas, share strategies, and justify reasoning collaboratively.



- participate in engaging shape puzzles and challenges that require them to use logical reasoning and spatial awareness to find solutions, e.g., *building a shape house, tangram puzzles, shape-based Sudoku puzzles*.
- engage with shape-related riddles or mysteries that require deductive reasoning to solve, e.g., *use clues to guess a ‘mystery shape’*.
- participate in design challenges that involve creating structures or objects using shapes, e.g., *design a playground using a specific set of geometric shapes, or to create a symmetrical pattern using pattern blocks*.
- engage in open-ended projects that involve problem-solving with shapes, e.g., *design and build a model of a city or new school extension using geometric shapes, or to create a piece of artwork inspired by geometric patterns*.



Apply and problem-solve