



Shape Composition and Construction

Spatial Reasoning Toolkit

Understanding how shapes fit together and the relationship between shape types is a key aspect of spatial reasoning. This poster outlines key developmental steps for children from birth to 7 years. You can encourage children's spatial development by providing ample time for exploration and by using spatial words during play and everyday routines. Spatial reasoning is central to everyday living and research has shown that it is also a strong predictor of future mathematical and scientific attainment.

6-12 months

Children are learning to:
Attempt to fit shapes into spaces
e.g. pushing objects through holes, sometimes successfully



Spatial Language:
'in' and 'on'

1 to 2 years

Children are learning to:
Use blocks to create their own simple structures and arrangements including lines of identical shapes.



Spatial Language:
'on top' and 'underneath'

2-year-olds

Children are learning to:
Predict and fit pieces into inset puzzles.



Spatial Language:
'turn' and 'too big/small'

3-year-olds

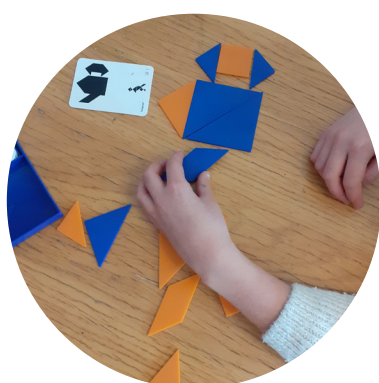
Children are learning to:
Create arches and enclosures when building, using trial and improvement to select blocks.



Spatial Language:
'over', 'next to' and 'beside'

4- and 5-year-olds

Children are learning to:
Solve shape puzzles of increasing complexity, selecting shapes according to their properties.



Spatial Language:
'between', 'turn around' and 'flip'

4- and 5-year-olds

Children are learning to:
Plan mentally by visualising what they will build and selecting blocks needed.



Spatial Language:
'same shape as', 'from above/behind', 'sideview' and 'larger/smaller than'

6- and 7-year-olds

Children are learning to:
Decompose shapes in different ways e.g. predicting folds, nets and cross-sections.



Spatial Language:
'slanting' 'diagonally' and 'greater/less than 90 degrees'

6- and 7-year-olds

Children are learning to:
Relate 2D and 3D in making models from photos and plans and draw 3D models.



Spatial Language:
'between', 'opposite', 'overlapping', 'in front of', 'front/side/back view'



For more ideas and information please scan the QR code above to visit the Spatial Reasoning Toolkit