

# 4-5 years

## Spatial Reasoning Toolkit

At this age children are learning to solve problems involving predictions and are beginning to use visualisation to imagine spatial information in the mind's eye (e.g. turning and flipping objects to see what will fit, mentally planning what to build). Compositions become more complex (e.g. combining shapes to make other shapes, reflections with four lines of symmetry). Children are developing their ability to follow and give directions and to use landmarks to find their way.



same/different,  
beside, in front,  
cylinder

### Hiding or barrier games

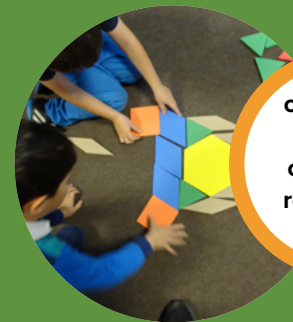
Developing visualisation, prediction and spatial language



upside down,  
forwards,  
next to  
around

### Small world play

Exploring relative position, distances and transformation (turning and flipping objects)



other way  
round,  
opposite,  
reflection,  
match

### Pattern making

Exploring symmetry (reflection)



before  
straight on,  
between,  
behind

### Maps and models

Developing navigation and understanding of scale by using and creating simple maps and models



fit, turn,  
twist,  
corner

### Puzzles

Understanding fit, composition and decomposition, through visualisation and discussion



between,  
in front,  
behind,  
underneath,  
same

### Construction

Building constructions with arches and enclosures (perhaps linked to a story)



small, under,  
turn, same,  
different

### Books

Exploring shapes and sizes. Interpreting what book characters may see

EARLY CHILDHOOD  
MATHS GROUP

<https://doi.org/10.31234/osf.io/jnwpu>  
<https://earlymaths.org/spatial-reasoning/>  
@EChildhoodMaths

