

Shape and space: Transformation – Suggestions for the learning environment

IDEAS FOR THE CLASSROOM

- Display relevant vocabulary on a word wall and make reference to it in Maths lessons and as appropriate in other subjects/activities, e.g., *when observing patterns, designs, structures in art and architecture, when using co-ordinates or grids in mapwork, games, etc.*
 - Provide games and activities for children to explore transformations, e.g., *tangram puzzles, pentominoes, jigsaws, sliding tile puzzles, etc.*
 - Provide opportunities for children to create their own transformation-based puzzles and activities individually or in groups.
 - Encourage children to construct shapes and apply transformations to these using geoboards (concrete or virtual).
 - Provide opportunities for children to complete symmetrical drawings and paintings, with and without grids.
 - Discuss and display examples of art that incorporate tessellation from around the world, e.g., *Roman mosaics, African fabric patterns.*
 - Participate in a virtual tour of art galleries and museums and discuss examples of where transformations can/cannot be found in the exhibitions.
 - Make tessellating art pictures inspired by the work of M.C Escher.
 - Provide opportunities for children to play games that incorporate transformational movement, e.g., *musical chairs where children rotate around the circle, Simon Says ('Simon says take two steps to the left, rotate your body 90 degrees clockwise')*.
 - Use popular and/or cultural songs and dances to highlight movement/language of transformations, e.g., *Cha Cha Slide, the Siege of Ennis.*
 - Explore the history of and science of technologies that incorporate transformations, e.g., *magnifying glasses, telescopes, photocopiers, wheels.*
- When preparing presentations digitally (such as using slide decks), encourage children to use features such as slide, flip, rotate, etc. to create more dynamic and aesthetic displays.
- Challenge children to recreate or design their own versions of objects that incorporate transformations, e.g., *design a rotating ferris wheel or sliding tile puzzle.*
 - Play 'guessing games' in which children have to identify objects, buildings, etc. when viewed from a different perspective.
 - Adapt familiar games to incorporate features of transformation, e.g., *using Battleship grid, children can describe and implement a translation of their battleships for their partner to recreate.*

IDEAS OUTSIDE THE CLASSROOM

- Create a tile mosaic project for the school corridor, or a mural that incorporates symmetry, tessellation, etc.
- Take a nature walk and look for reflections, rotational symmetry, tessellations, etc. in the local area, e.g., *leaves, flowers, shells, buildings, wheels on vehicles.*
- Engage in outdoor activities and games that incorporate transformations, e.g., *parachute games, circle games such as 'Duck, Duck, Goose', maze games.*
- Take photographs of interesting shapes and objects in school yard or local area, and investigate if they have rotational symmetry.
- Observe real-life, practical applications of translations in the local area, e.g., *elevators and escalators, conveyor belts.*