

Mathematics Strands and the Outdoor Learning Environment

Shape and Space

pp 14-17 PYP Mathematics Scope and Sequence

The regions, paths and boundaries of natural space can be described by shape. An understanding of the interrelationships of shape allows us to interpret, understand and appreciate our two-dimensional (2D) and three-dimensional (3D) world.

Phase 1

Learners will understand that shapes have characteristics that can be described and compared. They will understand and use common language to describe paths, regions and boundaries of their immediate environment.

Conceptual understandings

Shapes can be described and organized according to their properties. Objects in our immediate environment have a position in space that can be described according to a point of reference.

Constructing meaning

- Understand that 2D and 3D shapes have characteristics that can be described and compared. The children will use, describe and compare shapes outdoors such as cones (small ice cream cones in sand play and large orange traffic cones in bicycle play), cylinders (hollow tubes for water and marble play and solid cylinders – logs – for sitting on and construction), rectangular prisms (large and small for construction), spheres (beads, marbles and balls of various sizes), etc.
- Understand and use common language that is used to describe position and direction (inside, outside, above, below, next to, behind, in front of, up, down): This is done daily when building and playing in the sand area, water area, mud kitchen, log house and all areas of the outdoor learning environment.

Transferring meaning into symbols

- Sort describe and compare 3D shapes: This is done when we sort play resources at tidy up time, when the children are choosing resources for a specific purpose (the right size log or block or construction), etc.
- Describe position and direction, for example, inside, outside, above, below, next to, behind, in front of, up, down: This is done daily when building and playing in the sand area, water area, mud kitchen, log house and all areas of the outdoor learning environment.

Applying with understanding

- Explore and describe the paths, regions and boundaries of the OLE environment (inside, outside, above, below) and their position (next to, behind, in front of, up, down). This is done often throughout the year as the outdoor learning environment is explored because of and for the changes that occur each season.

Pg 13 *“Learners need many opportunities to experience shape and space in a direct kinesthetic manner, for example, through play, construction and movement. The manipulatives that they interact with should include a range of 3D shapes...”*

The outdoor learning environment is the PERFECT place for real-life exploration of shape and space in a direct kinesthetic manner through play, construction and movement.