



Teaching Mathematical Structure Planning Guide*

Structure to be Taught	Activities
Counting with shapes, staircase patterns Rhythmic and perceptual counting	Counting by twos, threes, fours, fives using regular shapes Constructing simple patterns using perceptual counting.
Repetition Simple AB and complex patterns AAB (with and without models)	Constructing, drawing, symbolizing and justifying linear and cyclic patterns using a variety of materials.
Unit of repeat	Chunking, ordering, symbolizing and translating.
Similarity and congruence (2D shapes)	Comparing and drawing similar triangles and squares, distinguishing congruence.
Benchmarking	Constructing and partitioning length; assigning symbols to equal sized units
Symmetry and transformations	Identifying symmetry through matching and congruence.
Grids	Identifying number of units in simple grids, 2 x 2, 3 x 3, 4 x 4, 5 x 5 squares and 2 x 3 rectangles. Deconstructing and reconstructing from memory the spatial properties of grids.

Arrays	Identifying number of units in simple arrays, 1 x 2, 1 x 3, 2 x 2, 3 x 3. Deconstructing and reconstructing from memory the spatial properties of arrays.
Data representation: functional thinking	Constructing tables of data, representing simple counting patterns as a function

***This guide is a copy of the publicly accessible table located in a follow-up article by Mulligan, et. al. "Implementing a Pattern and Structure Mathematics Awareness Program in Kindergarten." Upper grade teachers should adapt the activities to meet their students' needs.**