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Primary students' understanding of tessellation: An initial exploration.

Johnsen Høines, Marit (ed.) et al., Proceedings of the 28th international conference of the International Group for the Psychology of Mathematics Education, PME 28, Bergen, Norway, July 14–18, 2004. Bergen: Bergen University College. Part II, 183-190 (2004).

Summary: Tessellation is included in many mathematics curricula as one way of developing spatial ideas. If students do not understand tessellation in the intended ways, however, the development of other spatial ideas, such as properties of shapes and symmetry, may be compromised. Van Hiele levels were used as a basis for analysing the descriptions of eight different tessellation patterns by 26 Year 5 and 6 students. Most children saw the underlying structure in terms of 2D shape. Responses from some students indicated that they understood the tessellations only as movements of shapes or saw many of the patterns in 3D. The implications of these findings for teaching are discussed.

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