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The concept of shape and entities in biology.

Makrides, Gregory A., Mathematics - education and applications. MC-MEA '97. ., 114-123 (1997).

The focus of this study is the exploration of 15 years old pupils' thinking about the shape of biological entities. This was investigated through the metaphors the students used in their descriptions of the shape of two entities: the cell and the molecule of DNA and through their comparisons of biological and physical entities of the same form and of different dimension. Pupils' responses were analysed and the organised categories were demonstrated in two networks, one based on the metaphors they used and the second on their comparisons. The main finding of this study is that, in the context we have studied, the pupils relate the concept of shape to the concept of the entity itself. Finally, the teaching implications for biology and mathematics are also discussed. (Orig.)

Classification: M63

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