

Fig. 7. PsyKolo Square ceramic Tiles with common a rhombus and a circle.

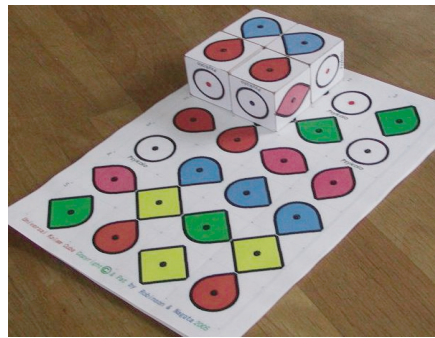


Fig. 8. PsyKolo Block with one of 6 primitive patterns on each side available to design cycle patterns.

Carpet has the chain of 4356 stroke elements, like 1, 1, 0, 1, 1, 0, 1, 1, 0, ... starting at the point of (tile x , y , edge and direction), and the autocorrelation efficiency for the sequence with 1089 length is 1.0, which means 1089 strokes are repeated at 4 parts. On comparing with both of the halves of the chain, we can also find a rotated symmetrical structure like Swastika in it (Fig. 4).

About a number of cycles in a given pattern, we can say the followings; When N -line has only an opened tree-structure, each of them can be untwisted to reduce to one loop as a cycle (the trivial knot). When having a closed structure and crossing points of (1) of even number, the pattern is multi cycle (odd crossings for one loop). To joint between different cycles or to cut on the same cycle makes single cycle or multi cycle respectively. Such a pattern that consists of a matrix of $n \times m$ tiles and all edges are crossing of (1) consists of cycle of number of $\text{GCD}(n, m)$. We have yet an open problem to get a general answer of a cycle (component) number in a given pattern with other conditions.

Numbers of possible patterns in a rectangle dot array with crossing (0, 1) are shown in Table 1.