## KALEIDOSCOPE 4.

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 ROLL a ball into the kaleidoscope or place a stick in the kaleidoscope.PLACE several sticks in various positions and distances from each other in the kaleidoscope to create symmetrical figures.

EXPERIMENT with different objects and observe the arising figures.

Which figure do you see if you place object ' $F$ ' in the kaleidoscope.


This kaleidoscope consists of four mirrors. The angle between any two mirrors is $120^{\circ}$. As $120^{\circ}$ is exactly one third of a full circle $\left(360^{\circ}\right)$, a threefold symmetry arises.
Placing a ball or a stick in the kaleidoscope, you'll see eight reflections. If you put a stick resting on the edges of the mirrors a tetrahedron (four surfaces, from greek tetra $=$ four) forms. If you place a square in the kaleidoscope, a cube forms.
If you place object ' $F$ ' in the kaleidoscope, it will form an octahedron (eight surfaces, from greek octo $=$ eight).

Idea: Nik Schwabe, Zürich; construction: Technorama.

