GEOMETRICIAN'S VIEWS

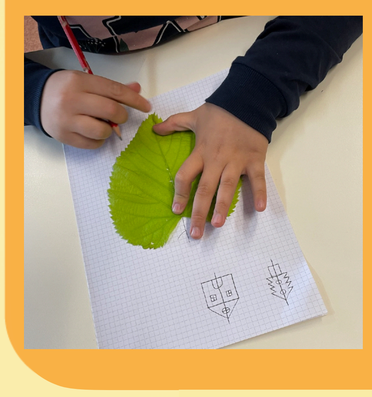
TOPIC: MIRRORS

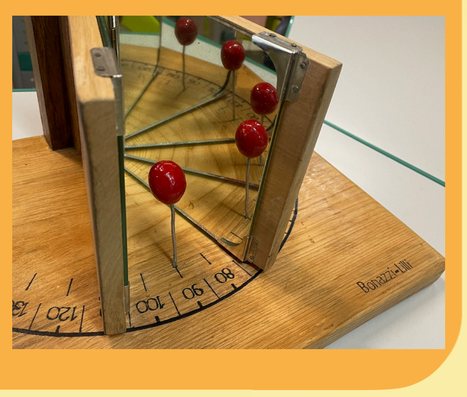
Co-funded by the
Erasmus+ Programme
of the European Union

MATHEMATICAL VIEW

Looking for symmetrical shapes and identifying symmetry axes are intuitive activities. However, understanding the actual definition of symmetrical objects, as those that are invariant under some transformations, could be more challenging. Mirrors can help…

Researcher and teacher
Simone Pacetti and Oreste Rinaldi



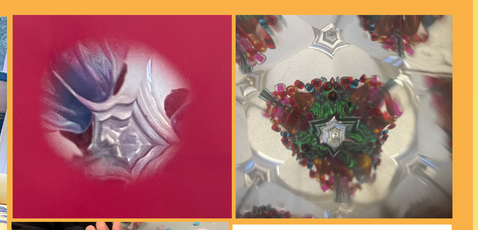


ARTISTIC VIEW

The magical shapes

A kaleidoscope works by reflecting light. By using a little imagination you can quickly transform optical physics into art.

Artist
Laura Ceccarelli



COMMON VIEW

Reflection on a mirror is an easy activity to perform with students extremely rich in mathematical meaning. The symmetry concept that comes naturally out of a mirror reflection can be easily applied in geometry, science, and art. Looking for symmetry axes in geometrical shapes, living organisms, and architectural structures of buildings is a valuable educational activity for middle school students.

Mirror symmetry is also a fascinating topic in the field of theoretical physics. Students can therefore carry out simple reflection experiments, thinking that the symmetry concept is fundamental in science.

"The importance of mirror-reflection symmetry to our perception and aesthetic appreciation, to the mathematical theory of symmetries, to the laws of physics, and to science in general, cannot be overemphasized, and I will return to it several times."

Mario Livio

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