

Visual Mathematics in Practice



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Name and address of the school:	High School "Branislav Petronijevic" Ub, Serbia
Theme of the lesson:	Mathematics and art
Place in curriculum: (type of school, grade)	High school, I grade
Age of the students/pupils:	15
Title of the lesson:	Optical ornaments

Description of the lesson			
Time	Exercises, matters, parts of the lesson	Methods and forms of student activities	Developable competencies
15 min	<i>Short lecture about the modularity of art and about modular structures that are located on the border between art and mathematics (SpaceTiles, KnotTiles, OpTiles).</i>	<i>Frontal instruction</i>	<i>Self-confidence, creativity, improved skills of perception, keeping attention, communication, magnification of concentration, flexibility of thinking</i>
60 min	<i>An example of modular structures, which is the borderline between art and mathematics, are asymmetrical ornaments and their derivation from few basic elements - "OpTiles"</i> <i>Students cut the given material. They form complex structures from the simple elements. After that they glue it onto the white paper.</i>	<i>Work in groups</i>	
15 min	<i>Each group presents their work, analyzing what is done. We talk about visual perception, how they feel while watching their artworks and where all this can be applied in real life (on clothing, bags, as a jewelry...).</i>	<i>Discussion</i>	

Summary

Students were pleasantly surprised and motivated to work. All students were included in work.

We got very nice optical ornaments.

Students sought and perceived mathematics on artworks (asymmetry, symmetry, rotation....).

After the lesson students called friends from other classes to show them what they had done.

After that I had an idea to make jewelry which is inspired by the very beauty of optical ornaments.

Note: Inspiration for this lesson came from lecture and workshop by Jablan Slavik and Ljiljana Radovic on the Summer School.

Supplements

Used materials:	<i>paper with the basic elements, scissors, glue</i>
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Photos:

