

# Visual Mathematics in Practice



Name of the teacher:	Maja Madzarac
Name and address of the school:	"Agricultural –Chemical School" Obrenovac, Serbia
Theme of the lesson:	Isometric transformations
Place in curriculum: (type of school, grade)	High school, first grade
Age of the students/pupils:	15
Title of the lesson:	Symmetry all around us

<b>Description of the lesson</b>			
Time	Exercises, matters, parts of the lesson	Methods and forms of student activities	Developable competencies

5 min	<i>Teacher discusses with students about symmetry and students give examples of symmetry in real life.</i>	<i>Frontal instruction</i>	
10 min	<i>The teacher displays the presentation of the symmetry around us, through which students learn about symmetry in art, folk tradition, psychology, architecture and construction, etc. After that, the teacher gives instructions for the exercise.</i>	<i>Frontal instruction</i>	
5 min	<i>Students write their name in large letters of the Latin alphabet and determine the total number of axes of symmetry. The student with the highest number of symmetry has the most beautiful name.</i>	<i>Individual work</i>	<i>Developing practical skills, creativity, communication, looking for connection, deductive and inductive thinking, originality</i>
10 min	<i>Students were divided into 4 groups. First group receives a paper with capital letters of the Latin alphabet, second with a small, third group large letters of the Cyrillic alphabet and fourth with small letters of the Cyrillic alphabet. Each group counts the total number of axes of symmetry, and then conclude which one is the most beautiful letter.</i>	<i>Group work</i>	
10min	<i>Each student receives a paper and they need to connect numbers on paper. They connect the two numbers of their own choice, on the adjacent or opposite sides, e.g. they connect 8 and 3, and apply same rule to all numbers 8 and 3 in circular direction. They colour polygons that are not adjacent or some other pattern they recognize.</i>	<i>Individual work</i>	
5 min	<i>At the end, students compare their drawings and show symmetry.</i>		

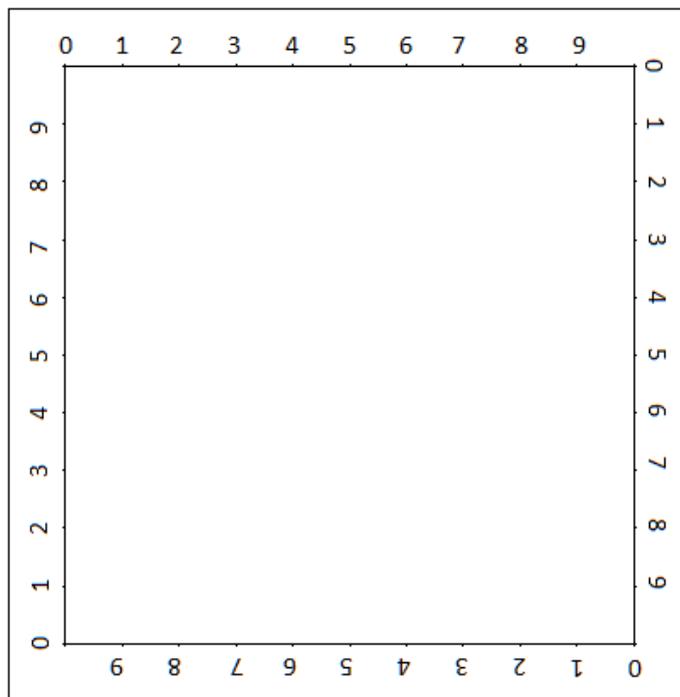
## Summary

*Students were very enthusiastic and motivated to work on this type of lesson. They were pleasantly surprised to see so many applications of symmetry, especially when they counted the symmetry of their names, looking for the most beautiful letter and created their own symmetrical drawings. Time has passed in creativity. Inspiration came from workshop by Andjelka Mustur on Family day, Jablan Slavik and Ljiljana Radovic at the Summer School.*

## Supplements

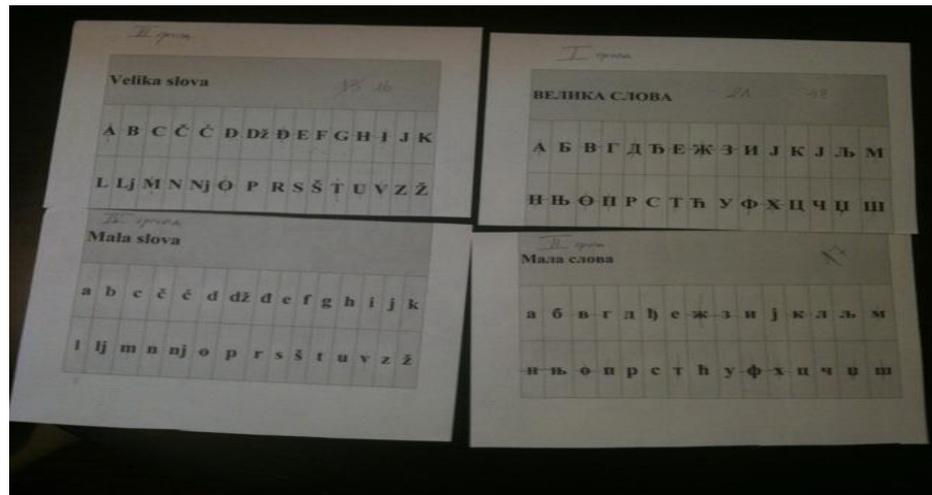
Used materials:

*Projector, computer, papers with different letters, papers with squares, ruler, colored pencils*



Photos:

*Papers with different letters*



*The working atmosphere*



*Students` drawings*

