

Visual Mathematics in Practice



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Name and address of the school:	Grammar School Senta, 24400 Senta, Glavni trg 12., Serbia (Zentai Gimnázium, Szerbia, 24400 Zenta, Fő tér 12.)
Theme of the lesson:	Mathematical Logic
Place in curriculum: (type of school, grade)	Grammar School, 1st grade – bilingual class
Age of the students/pupils:	15 years
Title of the lesson:	Mathematical Logic - Operations

Description of the lesson

Time	Exercises, matters, parts of the lesson	Methods and forms of student activities	Developable competencies
5 mins	<i>Brainstorming – what are statements, logical value, logical constants (true, false)</i>	<i>Cooperative work, discussion</i>	<i>Mathematical thinking, Mathematical communication</i>
30 mins	<p><i>Negation of a Statement</i> http://www.mathgoodies.com/lessons/vol9/negation.html</p> <p><i>Conjunction</i> http://www.mathgoodies.com/lessons/vol9/conjunction.html</p> <p><i>Disjunction</i> http://www.mathgoodies.com/lessons/vol9/disjunction.html</p> <p><i>Conditional Statement</i> http://www.mathgoodies.com/lessons/vol9/conditional.html</p> <p>Biconditional statements http://www.mathgoodies.com/lessons/vol9/biconditional.html <i>– definitons, exercises, interactive exercises</i></p>	<i>Cooprative groups, Individual work for interactive exercises</i>	<i>Using mathematical aids and tools, Mathematical communication, Symbols and formalism, Representation, Mathematical thinking</i>


10 mins	Solving interactive crossword (http://www.mathgoodies.com/puzzles/crosswords/ilogic1.html) Homeworks: worksheets1 , worksheet2 , worksheet3	Using mathematical aids and tools
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Summary

This lesson took part in the classroom for Computer Science. Students enjoyed lessons with computers. This topic is very dry in the traditional classroom, but with interactive exercises, crosswords, worksheets it can be more interesting in the 21st century. I organized this lesson with the students in the bilingual classes (they learn some subjects – like maths- in English and in Hungarian or Serbian) – I can use these online materials without linguistic problems, they understand the texts, lessons, they learn mathematical terminology also in English.

Supplements

Used materials: http://www.mathgoodies.com/lessons/toc_vol9.html
 Interactive crossword puzzle
 (<http://www.mathgoodies.com/puzzles/crosswords/ilogic1.html>)



Math Goodies™
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Interactive Logic Crossword
Level 1 - Easy

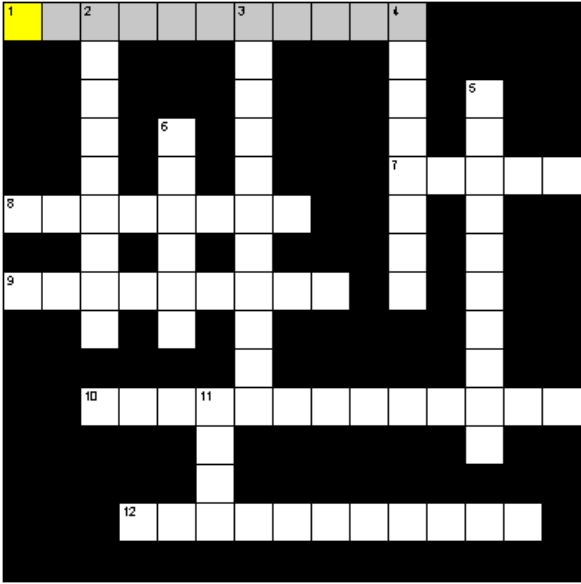
Clear All

Check Word

Reveal Word

Reveal Letter

00:00



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Across

1 A compound statement formed by joining two statements with the connector OR.

7 A _____ table helps us to see the truth values of logic statements.

8 A _____ statement is a sentence that consists of two or more statements separated by logical connectors.

9 A logical _____ combines simple statements into compound statements.

10 A _____ statement is defined to be true whenever _____

Down

3 A compound statement formed by joining two statements with the connector AND.

4 A statement and its _____ have opposite truth values.

5 When two statements have the same exact truth values, they are said to be logically _____

6 A _____ sentence is an objective statement which is either true or false.

11 An _____ sentence is a statement which contains a variable and becomes either true or false depending upon the value that replaces the variable.

Photos: *I didn't make photographs unfortunately...*