

Qualified Generations with STEAM Education short-staff training meeting outcomes

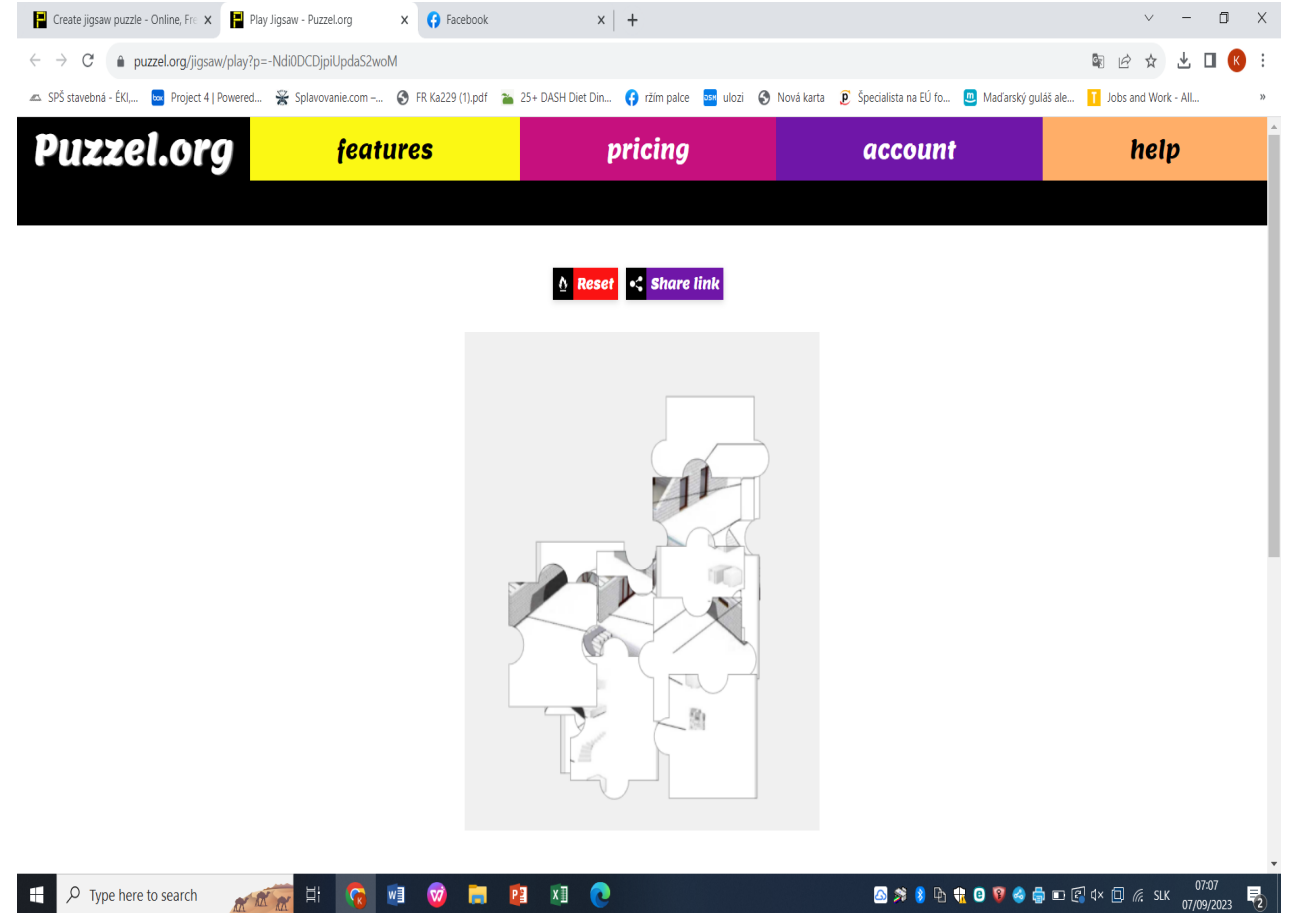
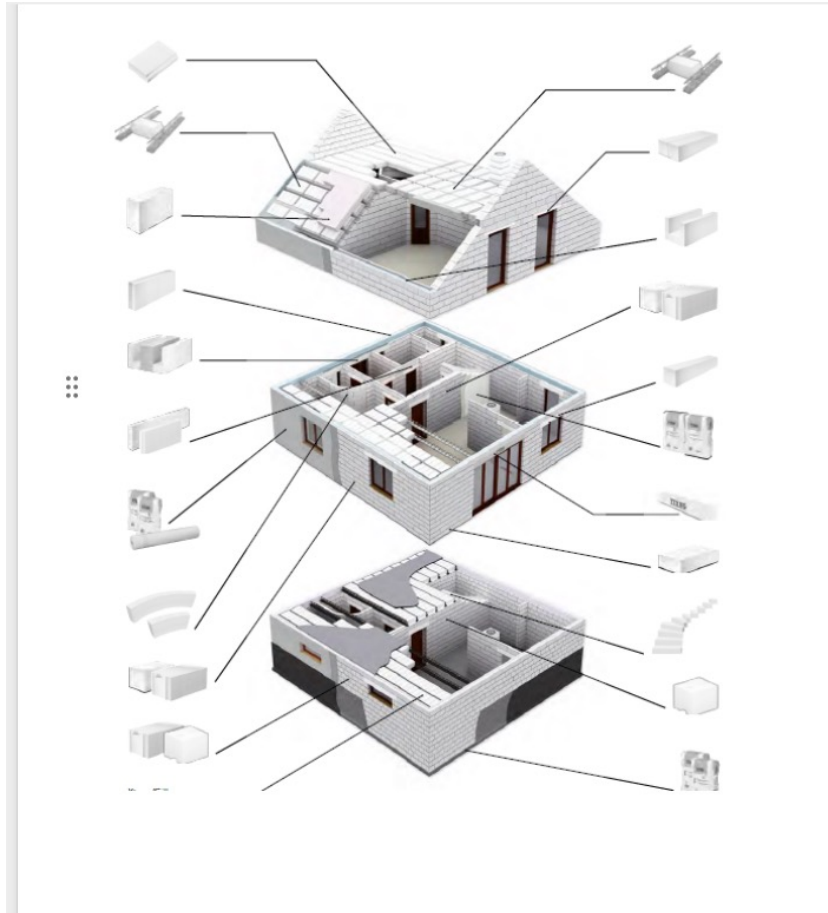


Stredná priemyselná škola stavebná - Építőipari
Szakközépiskola, Konkolyho 8, Hurbanovo
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CIVIL ENGINEERING - digital skills



MATHEMATICS

- **TASK DESCRIPTION** – students are divided into teams of 3 or 4
- They are given a box of shapes (different shapes, colours and sizes)
- **TASK:** different tasks:
 - create a shape according to the assignment or
 - use the shapes to create their own shapes in which they find 3D shapes
- **THE AIM** is to improve their creativity, teamwork, teamspirit, collaboration skills, problem solving, find recurring motifs/ornament
- **INTERDISCIPLINARY RELATIONS:**
 - Different fields of mathematics (fractals, probability, measure theory, series...)
 - Finding symetries in engineering (basics of rosettes)
 - Chemistry – the structure of molekules
 - English language – CLIL
 - Find periods where a rosette is a typical feature/pattern/element/ornament

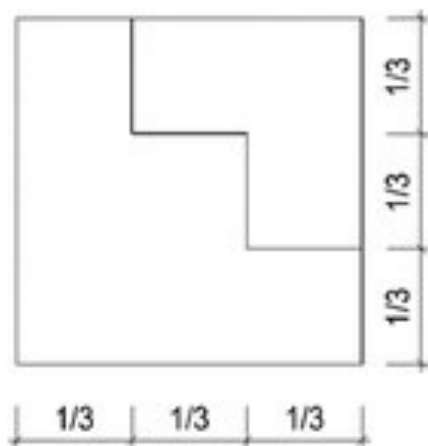
SHAPES

- printable material
 - cardboard cuts
 - wooden shapes
 - online activities
- <https://mathigon.org/tangram>

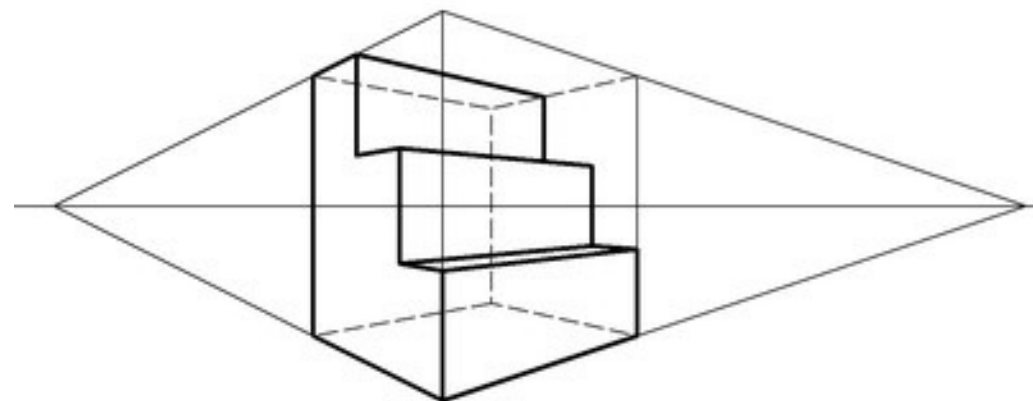
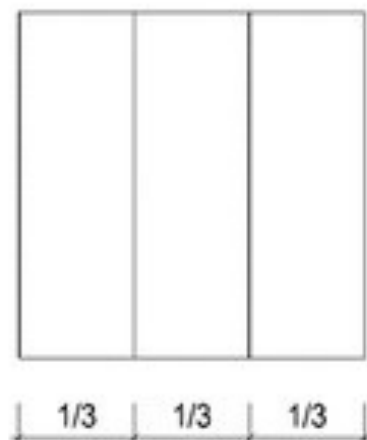


CIVIL ENGINEERING/construction

OLDALNÉZET

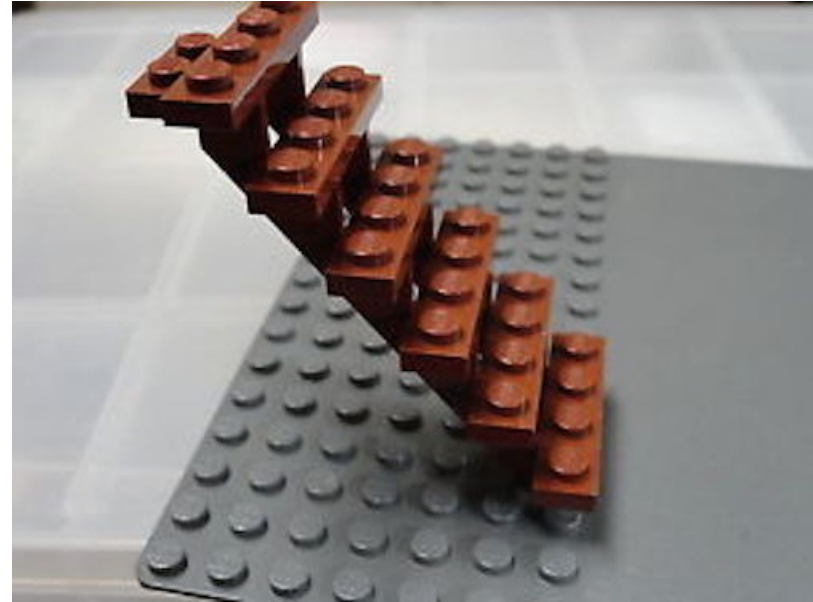


FELÜLNÉZET



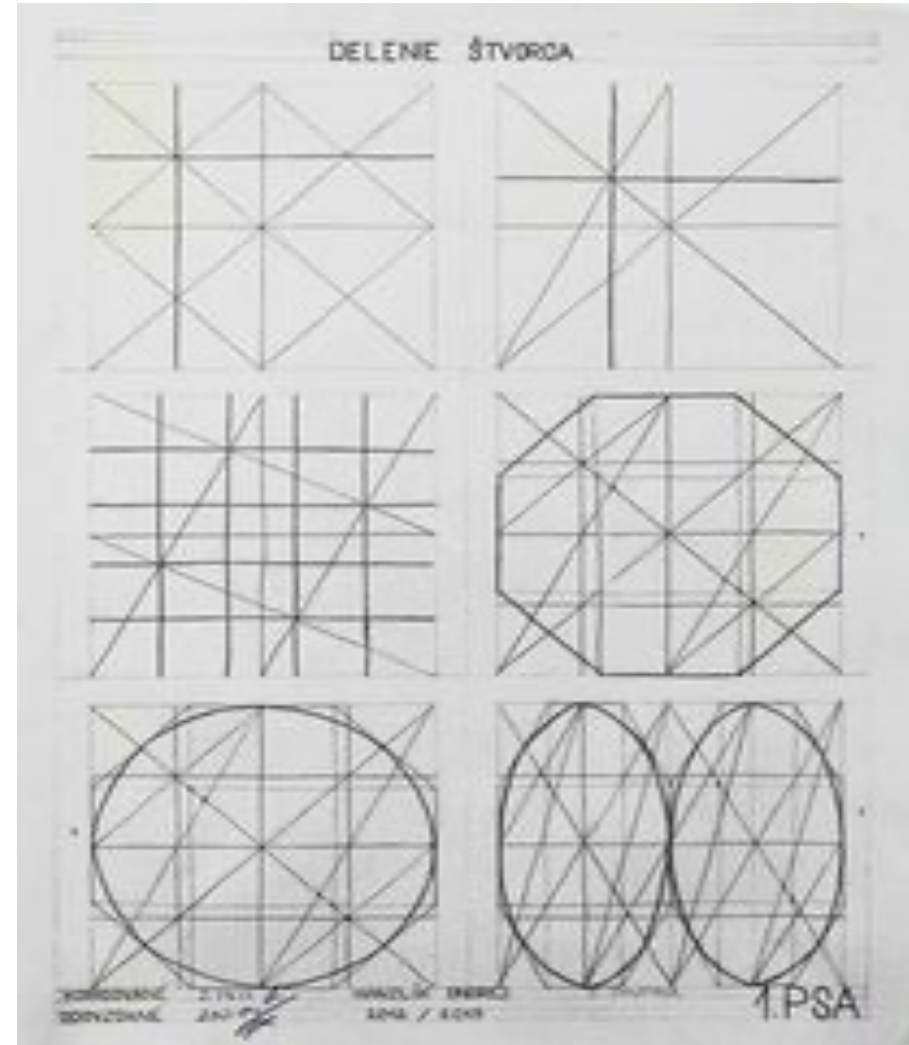
TASK DESCRIPTION

- students work in pairs
- they are given two pictures/drawings and a box of lego cubes
- the task is to use the cubes to make stairs as on the right

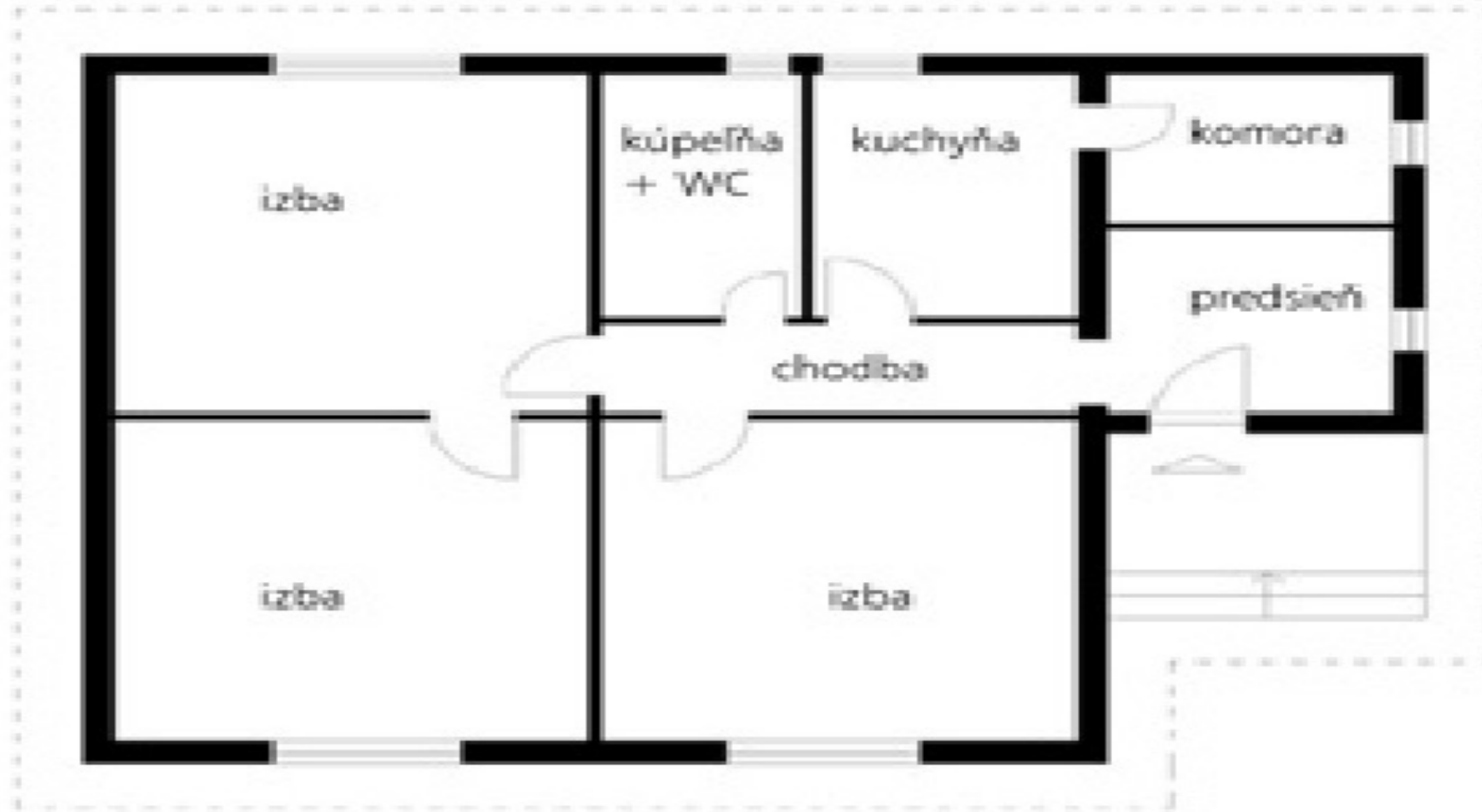


CIVIL ENGINEERING (combining math, drawing skills and civil engineering)

- aim is teach pupils how to create objects in perspective, to train their logical thinking and math skills
- they can't use rulers to divide pictures/shapes as they don't dimensions



CIVIL ENGINEERING (combining measuring, dimensions, measurements, mathematics, digital skills, esthetics)



INSTRUCTIONS

- work in pairs
- design the house with furniture and equipment (in compliance with regulations, norms, standards...)
- use creativity and problem-solving strategies
- improves soft skills

CIVIL ENGINEERING - problem solving activity/case study

- work in pairs
- students are given the task instruction in English (CLIL)
- Task instruction:
 - you are meeting a client who owns a plot near the Danube River
 - the client requires a design that harmonises with its surrounding (the house facing the river, blends with the nature...)
 - the plot is quite narrow and you can build only on 30% of it
 - the client requires 2 floors and 3 bedrooms

THE PLOT

