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# Lesson Scenario

no.2

BASED ON THE STEM  
LEARNING CONCEPT AND  
METHODS OF NON-FORMAL  
EDUCATION

# ABOUT

The STEM concept is an educational idea concerning the subjects of Science, Technology, Engineering and Mathematics. Rather than dividing them into separate curriculums, as in the traditional system, the new concept focuses on an interdisciplinary approach. This way promotes finding connections and is more in touch with modern labour market.

The STEM approach is based on activating pupils in the classroom and providing a "hands-on" experience which enables young people to learn based on their own findings. This project based style creates also a chance to develop soft skills and practice cooperation, group work and problem solving abilities. Combining the STEM idea with non-formal learning methods promotes self-awareness about personal development, builds confidence and, above all, fosters motivation through curiosity.

# PASTA BRIDGE

Pupils will try to build a bridge from unboiled spaghetti that will span a distance of 1 meter and be able to withstand 2 kg of load. The team that uses the least material wins.

For whom?	6th / 7th Grade
How much time do you need?	2 x 45 minutes
What will you learn?	How different shapes transfer force Geometry Basic concepts of material physics
What soft skills will you develop?	Group roles Task division and delegation Managing scarcity of materials Constructive criticism
What do you need?	1 kg of unboiled spaghetti per group Hot glue and glue guns Rubber bands 2 liter bottle of water

# INSTRUCTIONS

## DESIGN TESTS BY BUILD DESIGN TESTS

01.

Divide the class into groups of about 8 pupils

02.

Establish group roles in each group

03.

Create designs and test material strength

04.

Build bridges

05.

Test the load capacity of each design with the 2 litre bottle

06.

Check the amount of materials used

07.

Discuss the properties of each bridge design and the experience of group work

This lesson scenario was prepared by the participants of an Erasmus+ Youth Exchange Project titled Learning STEMs from Curiosity.

Participating Organizations:

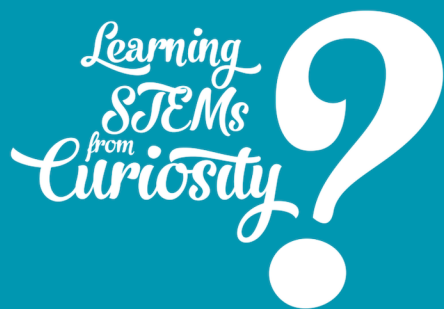
Stowarzyszenie Przyjaciół Szkoły Podstawowej nr 1 w Barczewie

Vilniaus r. Nemencines Gedimino Gimnazija

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*For more information and resources please visit the project website by scanning the QR code below.*

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