BUILD A ROPE BRIDGE BY FAUST VRANČIĆ

<table>
<tr><td>Name of the object and creator</td><td colspan="5">Build a rope bridge based on inventions of Faust Vrančić published in “Machinae Novae” at Venice in 1615/1616.; Marija Barlek – Teacher of Visual Arts at Lovre pl.Matačića Primary school</td></tr>
<tr><td>Recommended ages</td><td colspan="5">10-14</td></tr>
<tr><td rowspan="2">Thematic areas combined (STEAM)</td><td>Sciences</td><td>Technology</td><td>Engineering</td><td>Arts</td><td>Mathematics</td></tr>
<tr><td>☑</td><td>☑</td><td>☑</td><td>☑</td><td>☑</td></tr>
<tr><td>Materials needed</td><td colspan="5">• different paper and cardboard (A3 format)
• collage paper
• hot glue gun with cartridges/white glue for wood
• pencil, eraser, ruler, triangle
• scissors and scalpel knife
• a ball of wool or rope
• tempera or acrylic colors and brushes
• small packaging boxes
• a stack of wooden skewer sticks</td></tr>
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Outline of the steps	1. Each group **investigates the drawings of bridges** on the internet link given below and chooses a different one. 2. **Construct and build a rope bridge** using provided material and tools showing different skills (measuring, drawing, cutting, connecting, gluing, intertwining). 3. **Test the balance of the bridge** using a toy car, marble or a small ball.
References	https://www.morski.hr/nacrti-fausta-vrancica-inspiracija-za-mostove-u-dubrovniku-i-san-franciscu/

STEP BY STEP: How to build rope bridges of Faust Vrančić

Step 1: Choose your bridge from the drawings of Faust Vrančić	Estimated time: 5 min

• Divide into groups of three students. Distribute material and tools. Each group investigates and chooses their bridge from the presented.

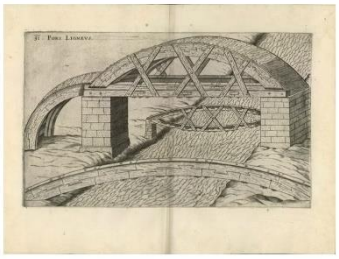

Photo: MC Faust Vrančić

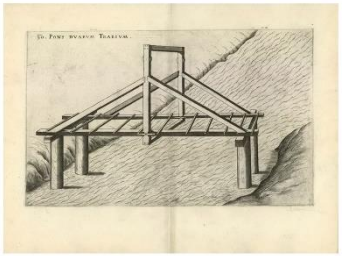

Photo: MC Faust Vrančić

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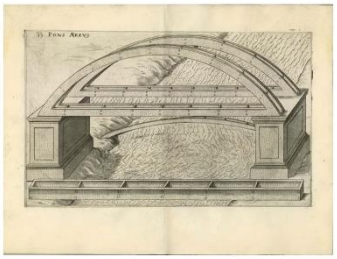

Photo: MC Faust Vrančić

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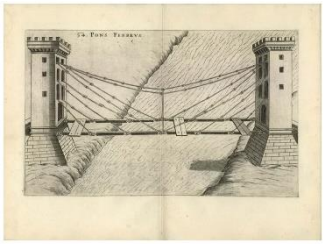
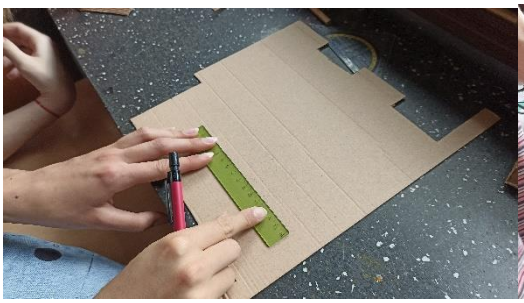
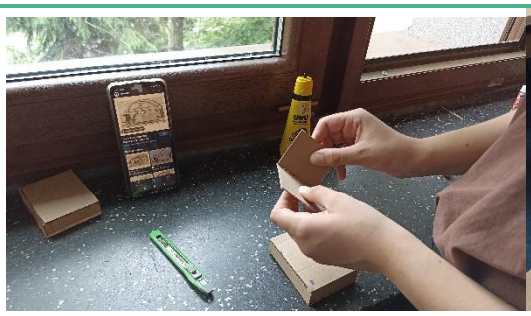


Photo: MC Faust Vrančić

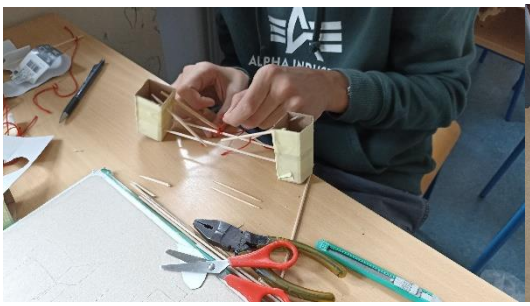
Step 2: Construct and build your bridge	Estimated time: 70 min



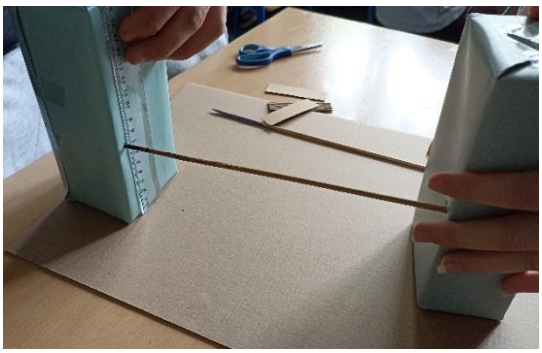
• It is crucial to **measure** cardboard and wooden sticks when constructing parts of the bridge in order to keep everything in **balance** afterwards. Also, you can reuse small boxes but be sure to cover their surface with collage paper first.




• Once the parts are drawn and measured, you can **cut** them out using a sharp scalpel knife (for cardboard and wood) or scissors (for collage paper). Then **glue** them together using white glue for wood or hot glue gun.

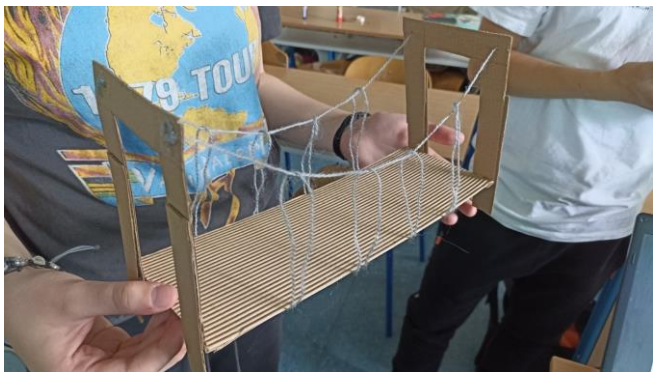



• After the base of construction is made, you can start **connecting** the pieces with skewer sticks and threads (rope, wool). Be free to **investigate** and invent ways to do that by zooming into your picture of the bridge.

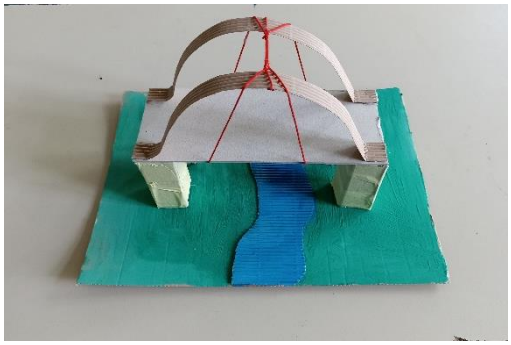
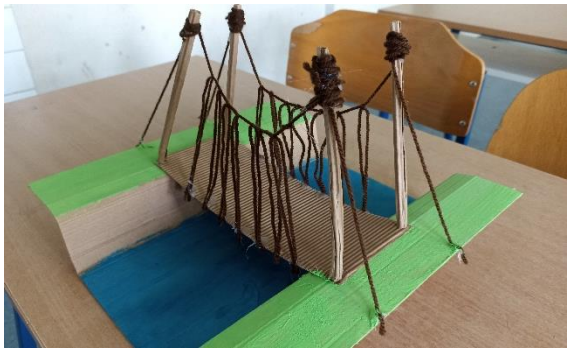
• The most complicated phase of construction is **intertwining** the rope or wool which is why **teamwork** and **cooperation** is important as well as punctuality in measuring or creativity in ideas.

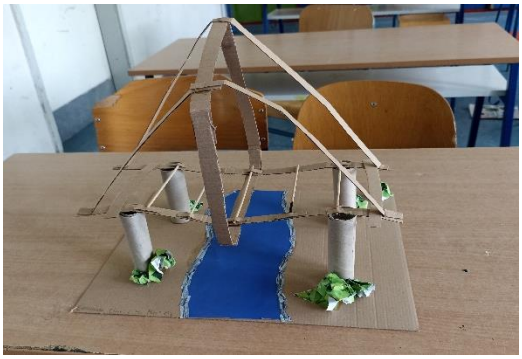
Step 3: Test your bridge – balance and stability	Estimated time: 20 min

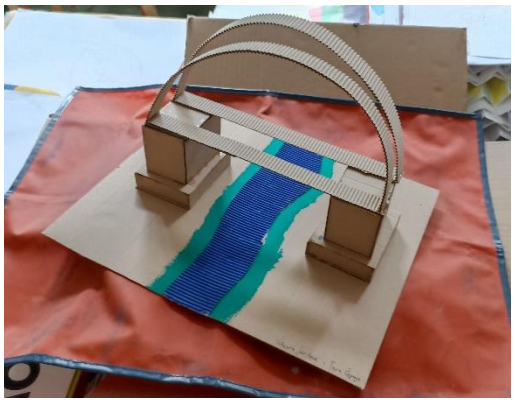


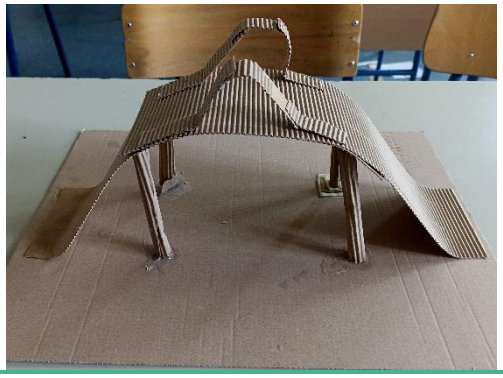
Check if your bridge is stable and in balance by using a small toy car or a ball. Fix if there are some loose ends or imperfections. Use color and glue to make your rope bridge more appealing.

FINISHED RESULTS:	







STEAM IN TIMES

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