

**School:**  
**Name of Student:**  
**Sets:** triangle, circle, square  
**Further tools:** paper, scissors, glue, computer  
**Date:**

**STUDENT**  
**PUSE Task Number**  
**BC**  
**511**

### Description of the task:

Examine regular Platonic solids such as the tetrahedron, hexahedron, octahedron and icosahedron. How were these solids formed? Why are the symmetrical versions of solids interesting for mathematicians and artists? Talk to your peers about the philosophy, history and significance of Platonic solids in our environment.

Review the basics of visual art, i.e. the composition of the image. The basic elements of the picture: point, line, surface, volume. Variables of the element: size, shape, position, direction, number, density, distance. Types of composition: tension, rhythm and balance.

### Examples:

Architecture and History: Pyramids – Egypt

Engineering & Architecture: Tower of Winds – Greece

Environment, Architecture and Chemistry: Montreal Biosphere – Canada

Art: Dürer – Melancholy, M.C. Escher's geometry, Piet Mondrian composition\* 2018, statues of Alexander Calder, mobiles, sculpture



Exercise 1 and 2 move from two-dimensional to three-dimensional

1/a Draw Poly-Universe shapes in 2D: circle, quadrilateral, triangle

1/b Draw in 3D: ball, tetrahedron, hexahedron, octahedron, icosahedron

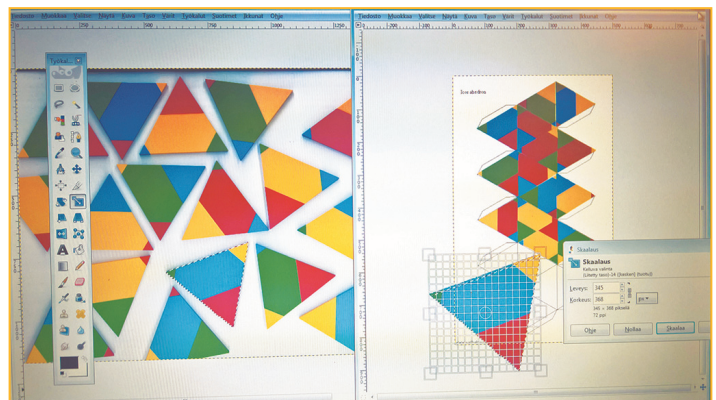
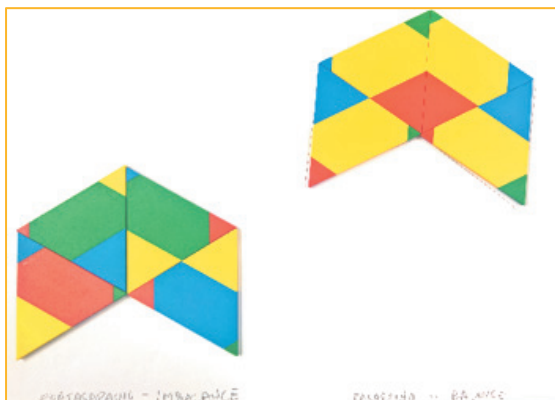


Image on the left: scanned or photographed, image on the right: designed with computer

2/a Create an octahedron out of triangles. Use a ready-made drawing, if necessary.

You can create your compositions using a computer, a camera or a scanner. Print your work. Examine the composition of the image.

2/b Make a three-dimensional solid from the printed image. Let's combine the pieces into one piece of collective artwork and hang it up as a mobile. Let's examine the basic elements of this sculptural composition in groups. In what aspects do the basic elements of composition differ in the case of triangles, 2D images and sculptures?

**Solution(s) of the task:**

**Remarks / Self-evaluation:**