

## Course 2: Volume and measurement - A design course

### Part 1: Creating a box

1. Create a Brainstorm using PADLET for each group.  
**What kind of box do the students want to create to use in the classroom?**  
Sharing ideas from each group in Teams (the HLC method from course 1).  
Before starting, show pictures of different containers.
2. The teacher makes an introduction to the GeoGebra math program:  
How to draw a prism grid in GeoGebra:  
<https://www.youtube.com/watch?v=Q4rKMO4sHoo>
3. Draw one prism from the ideas from each group.
4. Draw a prism grid of their box on cardboard, cut it out, and make a box.
5. Calculate the area and volume of the box they made.

### Part 2: Design a swimming pool

1. Design a swimming pool and a terrace for a family in the garden. The swimming pool needs at least 15.000 litres, and the depth needs a maximum of 1.7 meters. The terrace area needs to be a maximum of 30 m<sup>2</sup>. Use GeoGebra to create a solution. Before starting the process, the teacher shows a different variation of swimming pools.
2. Make a brainstorm in the HLC Groups in an open Word document, and the teacher gives comments to ensure that the students are creative and search for better solutions.
3. Prepare an oral presentation that includes the results of the calculations and different drafts.
4. Make the presentation for the class.
5. Evaluation and feedback/feedforward in the HLC Groups. How can the students improve the design of the swimming pool and terrace?