Exploring volume

Topic: Geometry

Theme: Exploring volume

Abilities: Students visualize the meaning of volume by playing with cubes and solid nets and convert volume units of measure

Material: 1cm³ volume cubes, millimeter paper, scissors, a ruler

Level: 1th year of school (age 14/15)

Math Reality

The volume of a body is the size of space it occupies.

Exercice 1

You got a set of 24 cubes. Arrange the cubes and make a cuboid. Complete a worksheet, count the cubes in all the cuboids you can make.

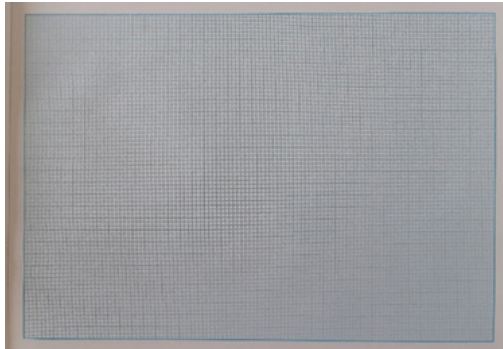|	Cuboid Length (a)	Cuboid Width (b)	Cuboid Height (c)	a·b·c
1. OPTION				
2. OPTION				
3. OPTION				
4. OPTION				
5. OPTION				

You can do the same exercise using

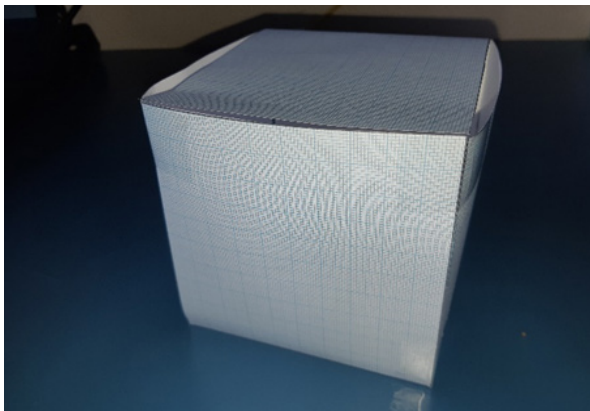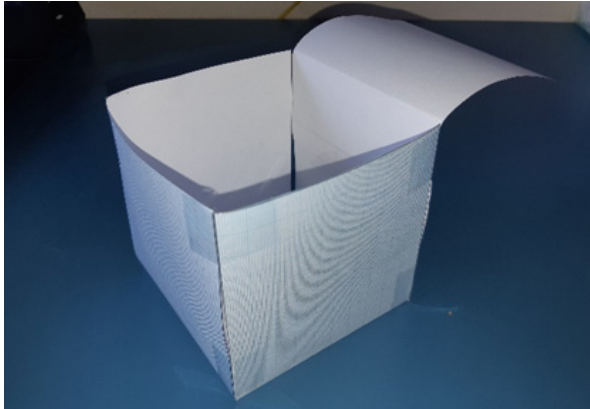- 36 cubes
- 48 cubes
- 32 cubes

Exercice 2

Task 1: Make a cube net that has a volume of 1dm^3, using millimeter paper.

Task 2: Make a cube using the cube net from task 1.

Task 3: Explore how many 1cm^3 volume cubes
(that you use in excercise 1) could fill the 1dm^3 volume cube
you made at task 2.

Task 4:
- (a) how many 1cm^3 volume cubes are needed to fill a cube of volume 8dm^3?
- (b) how many 1cm^3 volume cubes are needed to fill a cube of volume 1m^3?