

Good practices INTER_505BC_EN

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Description of the problem / exercise: **Human hair and 'dimension compression'**

Relationship between human hair thickness, length, and poly-dimensional works created by dimensional compression.



One of the special creative methods of the inventor of the Poly-Universe Game is 'dimension compression'.

In the first step it consists of a basic form, see 'Dimension Antennas' artworks below. The artist continuously reduces one dimension / extent of the plain, while in the work leaving it free to run in the other direction in order to retain its area. The square, meanwhile, becomes a rectangle, then a thinner and thinner line-like shape.

Task 1: our starting square is 10×10 cm

In how many steps can we achieve the thickness of human hair at 1/2 and 1/3 pressing? How long will our imaginary hairline then be?



Task 2: Measure the length of your neighbor's hair in centimeters, measure it in micrometers, or estimate its thickness based on average data.

Let's reverse the first line of thought and imaginatively condense all of her/his hair, back into the plane. Calculate and draw how big squares can be created if we have used all the hairs of our fellow partner in our imagination, and covered the shape with it.

Task 3: Make your own art creation in a small group of 3–4 people with this creative method from paper and yarn, until it just fits into the classroom, then the next step needs to exit to the corridor of school.

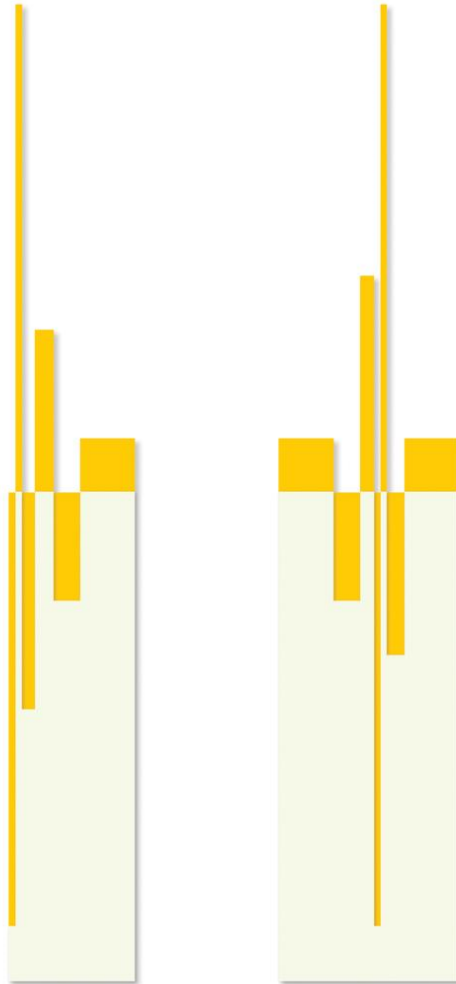


Figure 1: SAXON, Dimension Antennas I-II, 1999, oil on wood 40×200 cm

- *Why this exercise is good:* Relationship between human hair thickness and length and poly-dimensional works created by dimensional compression. Anthropomorphisation.
- *Level of teacher training:* Subject teacher, secondary school
- *School subject(s):* Biology, mathematics, technology, creative arts
- *Comments:* To solve this question, students should look at the data while taking the measurements: Blonde hair thickness = 0.05 mm and an average of 150,000 hair. Dark hair thickness = 0.2 mm (4 times the previous one) and the wearer has an average of 110,000 hairs. Hair colors other than this are worth estimating between the two extreme data.