A POLYHEDRON CRYSTAL

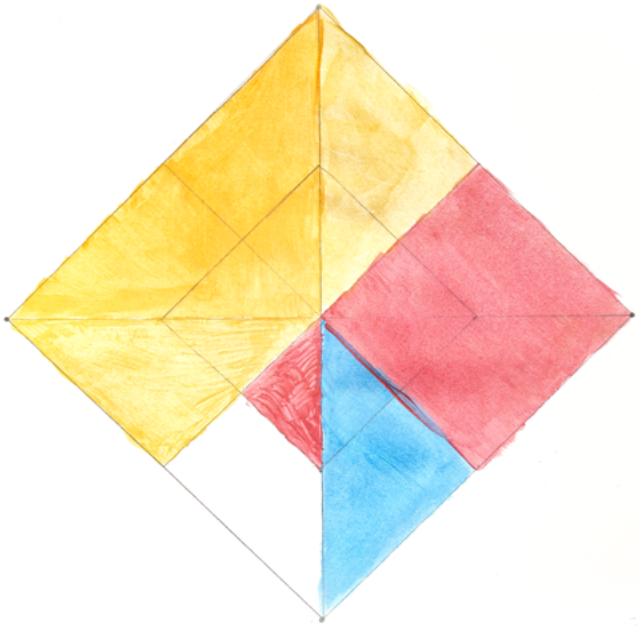
from age 9 | preparation time: 5 min | duration: 60 min | math

MATERIALS

- Sturdy paper 20 x 20 cm
- Pearlescent paint such as Creall Pearl
- Ruler
- Pencil
- Possibly an eraser

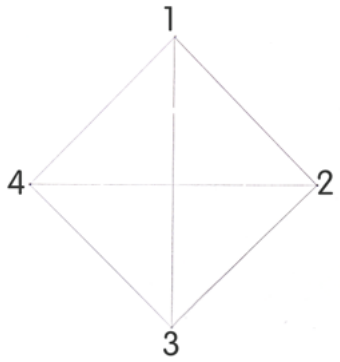
LEARNING OBJECTIVE

Calculate the perimeter of squares and the area of squares and triangles (via the squares). Reasoning about the effect of increasing the surface area of figures.



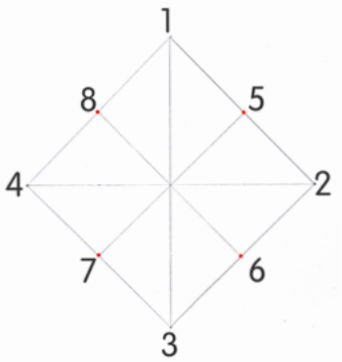
A POLYHEDRON CRYSTAL

1



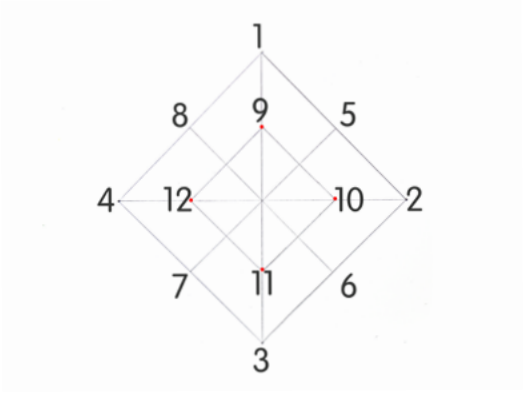
Give each student a 20 x 20 cm sheet of paper. Have them put a dot on half of the four sides. From there they make a plus sign. Have them connect the ends of the plus sign.

2



Have the students calculate the area of the rhombus. What happens to the surface area if the rhombus is twice as small? And 4x as small? The students put dots on half of the slanted sides of the rhombus. Have them again draw diagonal lines to the opposite point.

3



Then they put dots on half of the lines of the plus sign. Have them connect those dots.

4

Several squares and triangles of different sizes have now been created. Have the students reason, measure and calculate what the areas of those figures are.