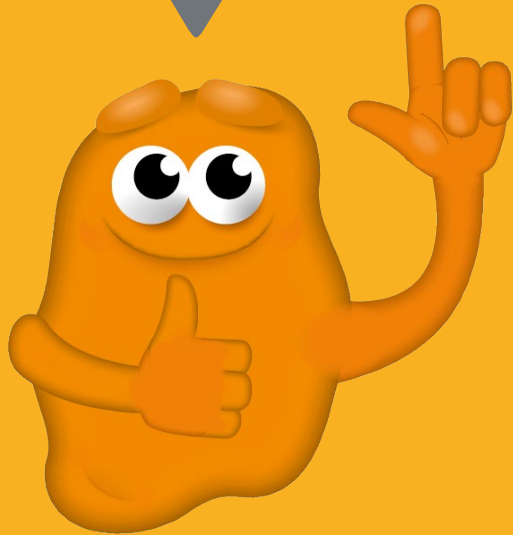


A POLYHEDRON CRYSTAL

**Good luck and have fun
with this lesson!**



LESSON PLAN: A POLYHEDRON CRYSTAL

- Age: from age 9
- Learning area: Math
- Preparation time: 5 minutes
- Duration: 60 minutes

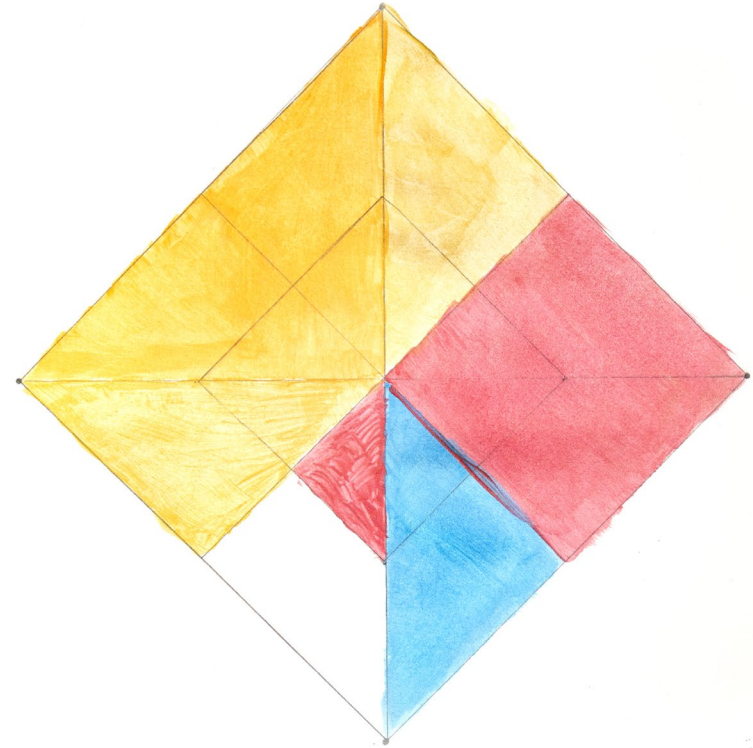
A POLYHEDRON CRYSTAL

WHAT DO YOU NEED?

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

WHAT WILL YOU BE DOING?

You draw a crystal and calculate its surface area.

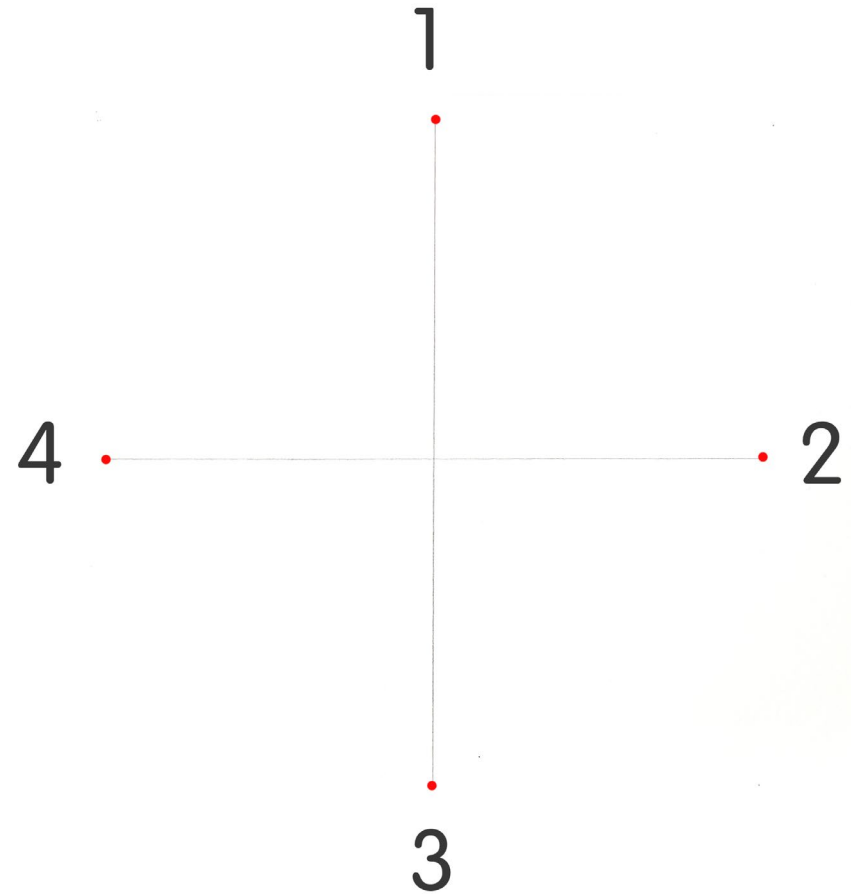


A POLYHEDRON CRYSTAL

STEP 1

How do you calculate the area of a square? And how could you calculate the area of a triangle?

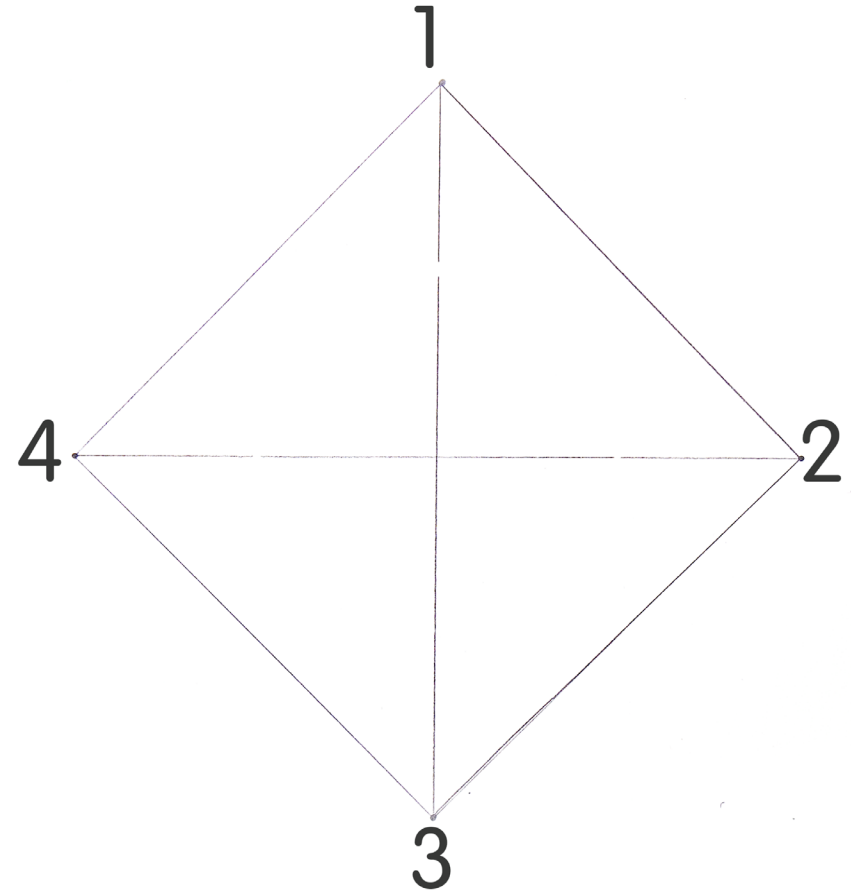
Measure out half the sides of your paper. Put a dot there. Do that for all four sides of your paper. Give each dot a number: the top one is 1, the right dot is 2, etc. Draw a line from dot 1 to dot 3 and from dot 4 to dot 2.



A POLYHEDRON CRYSTAL

STEP 2

Now draw a line from dot 1 to dot 2, a line from dot 2 to dot 3, from dot 3 to dot 4 and from dot 4 to dot 1. Now a rhombus is created. Measure and calculate the surface area of the rhombus

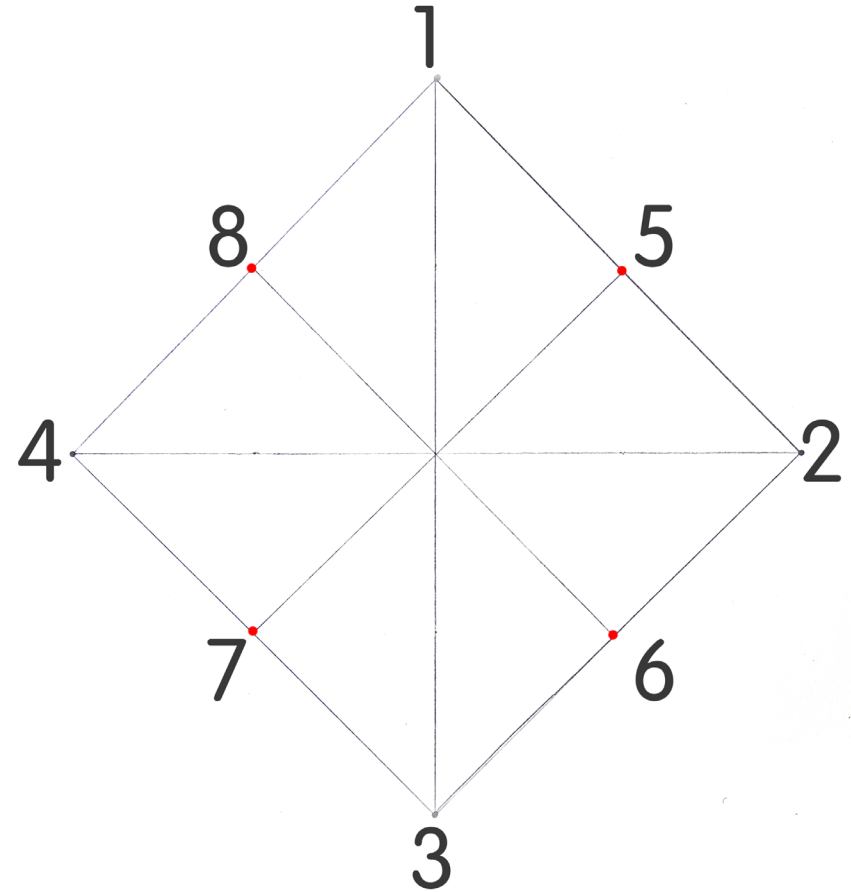


A POLYHEDRON CRYSTAL

STEP 3

Now put 4 dots on the half of the 4 outer sides of your diamond. Also give these dots numbers: the dot between 1 and 2 is dot 5, between 2 and 3 is dot 6, etc. Draw a line from dot 5 to dot 7 and from dot 6 to dot 8.

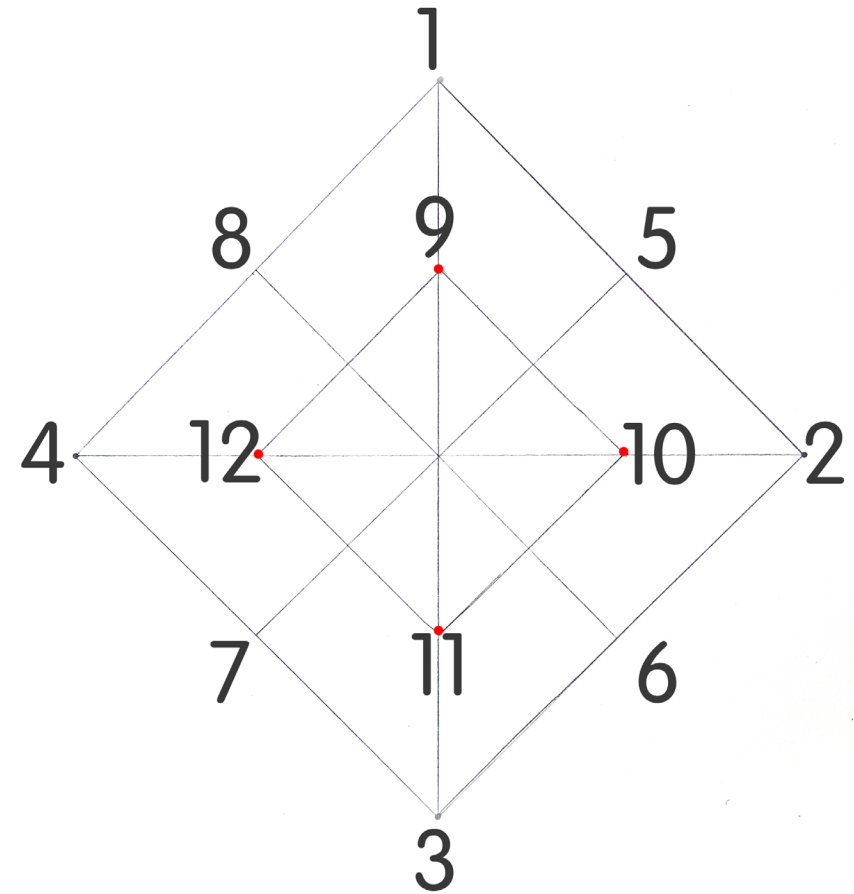
You have now drawn 4 smaller diamonds. How big is the area of one small diamond, do you think? Why do you think this? Measure and calculate whether you have estimated correctly.



A POLYHEDRON CRYSTAL

STEP 4

Now put 4 dots on the half of the lines of the plus sign. These are dots 9, 10, 11 and 12. Draw lines from dot 9 to dot 10, from dot 10 to dot 11, from dot 11 to dot 12 and from dot 12 to dot 9. You have now drawn another rhombus. How big is its surface, do you think? Measure and calculate again whether you have estimated correctly.

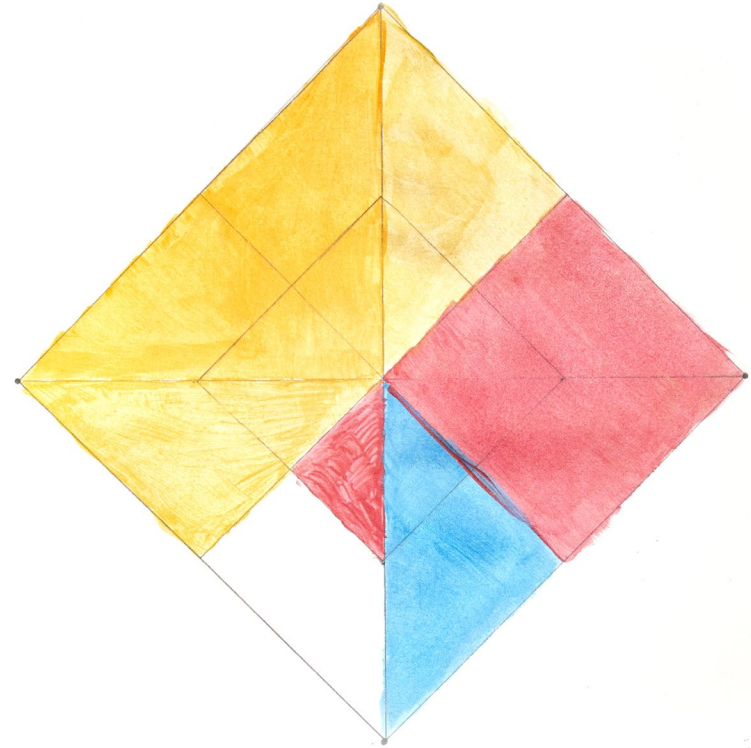


A POLYHEDRON CRYSTAL

STEP 5

Do you also see triangles in your drawing? Which triangles can you discover? How big are the areas of those triangles, do you think? Calculate whether your estimate is correct.

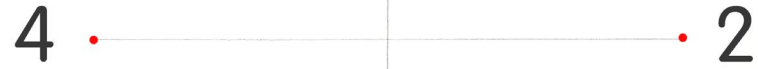
Paint a few triangles and squares of different sizes to make your crystal shine.



A POLYHEDRON CRYSTAL

Step-by-step instructions

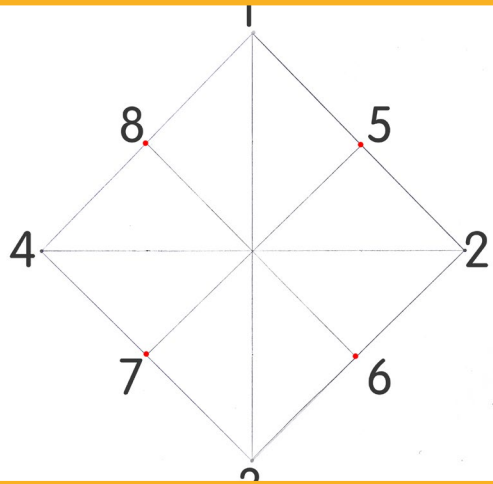
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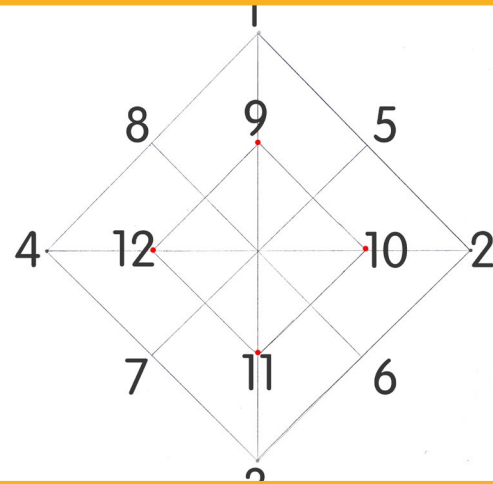
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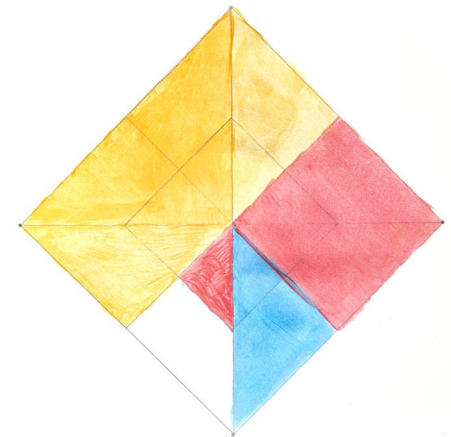
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4



5



IT'S MORE FUN WITH YOU

Good job!

