

CRYSTALMATCH 2021

FIRST ICMAB CRYSTALLIZATION CONTEST

For the first time a crystallization contest is organized by ICMAB. A contest for all of us to discover and teach what a crystal is and experiment how to make them grow. The crystals, made individually or in groups, will be presented and evaluated during the week of the ICMAB party.

From the organization we will provide the chemicals needed to create the crystals to participate in the ADP-KIT category, as you will see in the rules. However, there is also the OPEN category, where anyone can participate with the type of crystal they think is most convenient.

It is an activity designed for everyone, young and old, and we hope it will have a huge participation.

Contest rules

A. Categories

The contest consists of two categories.

- **ADP-KIT category:** All crystals must start from the same chemical compound which, in this case, is ammonium dihydrogen phosphate (ADP). Food coloring or other substances can be used to color the crystals. From the organization we will provide the kit to grow the crystals to participate in this category.
- **OPEN category:** Any type of compound can be used to grow the crystal. In this edition you can also participate with crystals that are already made (but that you have grown yourself, not bought).

B. Individual or group participation

You can participate individually or in groups. Groups can be formed with family, friends, or other ICMAB members. Up to 6 people. We recommend that if you have children, they participate. It is a good activity to share together at home.

C. Criteria

The following aspects will be assessed for each crystal

- **Technical criteria:** crystal size, color and transparency, crystal faces, mass and volume of the crystal composition or single crystal.



- **Aesthetic value and creativity:** the way the crystal is presented and the originality are valued.
- **Oral defense of the crystal:** It is necessary for group members to defend their crystal in an open session. They will be able to use complementary material to explain how they grew it. Clarity, attitude and behavior, originality of the assembly, and the degree of conviction will be valued.

D. The winning crystals

Within each category, there will be the following jury awards:

- Largest crystal award
- Award for the most original and creative crystal (assembly, presentation)
- Award for the most beautiful crystal

In addition, there will be a single public award, by popular vote.

E. Awards

The prizes consist of special ICMAB sweatshirts for the occasion, and another surprise prize.

F. Calendar

Registration: from May 24 to 31, 2021 in the form:

<https://forms.gle/7iewh7C7xetu6mAH8>

Explanatory seminar and collection of material (ADP-KIT): Tuesday, June 1, 2021, at 12 pm (noon) (Seminar Room Carles Miravittles)

Day of presentation of the crystals: Friday, July 16, 2021, from 10 am to 1 pm, ICMAB Terrace.

G. Presentation and evaluation day

On the day of the presentation, participants must defend their crystal in front of a jury. They will also be able to bring photographs of the crystal, and make any type of assembly to present the crystal.

H. Jury

The jury of the competition, which will evaluate the crystals with the criteria mentioned in section C, will consist of: Teresa Calvet (UB), Jordi Rius (ICMAB), Anna Crespi (ICMAB), Nico Dix (ICMAB), Carles Miravittles (ICMAB).

There will be a single audience award, where everyone at the contest will be able to vote for the best crystal.

I. Security



It is an activity that can present certain risks (heat source, liquids at high temperature, etc.). Therefore, we ask that minors be always supervised by an adult during the procedure.

J. Organization

The organizing committee is formed by Nico Dix, Anna Crespi, Judith Oró, Roberta Ceravola and the Department of Communication (Anna May and Artur Martínez).

K. Resources

ADP-KITs Manual:

- <http://www.ub.edu/laubdivulga/concurscristalitzacio/doc/GuiaTriana.pdf>

Videos:

- <https://www.ub.edu/ubtv/video/cristallitzacio-de-l-adp>
- <https://krystala.fundaciondescubre.es/sala-de-cine/audiovisuales/iucr-worldwide-crystal-growing-competition-2017-ii/>

Additional information for ideas:

- <http://www.ub.edu/laubdivulga/concurscristalitzacio/materials.html>
- https://www.concursocristalizacioncantabria.unican.es/concurso-2016-2017/Recursos_Didacticos.html
- <https://krystala.fundaciondescubre.es/noticias/cinco-equipos-de-jovenes-premiados-en-la-decima-edicion-del-concurso-de-cristalizacion-en-la-escuela-de-andalucia/>

Movie "The Mystery of the giant crystals"

- Movie in Spanish: <https://vimeo.com/165270859>
- Trailer in Spanish: <https://vimeo.com/16092711>
- Movie in English: <https://vimeo.com/166181199>
- Trailer in English: <https://vimeo.com/170446147>
- Making of in Spanish: <https://vimeo.com/98794964>

Protocol for crystal formation with the ADP-KIT:

Kit Contents:

- A bag with 300 g of ADP
- A plastic cup + plastic lid
- A porexpan box

Additional material required:

- A heat source (heating plate...)



- A container with a minimum volume of 1 L (pot, flask, beaker...)
- A stirring utensil, preferably made of glass (rod, spatula, spoon...)
- Absorbent material (paper, cloth...)
- Insulating material to hold the container (gloves, cloth...)
- A laboratory / oven thermometer
- Protective goggles and gloves

Procedure:

1. Pour the contents of the bag (300 g of ADP) into the container of your choice.
2. Add 500 mL of water.
3. Heat the container. Shake intermittently to dissolve the salt more quickly. Continue heating until the solution comes to a boil to make sure that all the solute has dissolved. If small lumps appear, try to dissolve them.
4. At this point, a dye can be added.
5. Turn off the heat source and allow the solution to cool for about 3-4 minutes, until the temperature drops to 80 °C (otherwise, the plastic lid of the cup will shrink).
6. Make sure the plastic cup is inside the porexban box.
7. Pour the solution into the plastic cup inside the porexpan box. Do this carefully so as not to suffer burns. Try to drag all the contents of the pot or container used when depositing the solution in the plastic cup.
8. Cover the plastic cup and then cover the foam box. Let stand at room temperature without opening.
9. Open the box after 2 days and if you can / want to wait, leave it longer. You can vary the way the crystal cools, to get different results.
10. Remove the crystal from the cup, and store it in a safe place until the contest day.

