The Nucleation Game

Instructions for demonstrators

About this activity

‘The nucleation game’ is a hands-on activity of quickly assembling a crystal structure similar to those depicted in your reference figures using the blue pieces. The aim is to replicate the crystal structure as accurately as possible within the shortest time frame.

Key information

Science topic(s): Crystallisation, Framework materials.

Age range: 5+, including adults.

Activity duration: 3 minutes – 10 minutes

Health and safety considerations: Zoob pieces can pinch fingers.

Special requirements: n/a

A blue plastic pipe structure

Description automatically generated

What’s in the box?

1. These instructions for demonstrators.
2. Risk assessment.
3. Materials for the activity:
   1. Zoob pieces (Blue only for 36 pieces)
   2. Example models (either pre-built or images)
   3. Stopwatch
   4. Table or flat surfaces for assembly
4. Information to display about the activity (Laminated A4 sheet).
5. Postcards about the activity to give out (A6 card).
6. Stickers for giving out to/counting participants.

How to set up this activity

1. Count for at least 36 pieces of blue Zoobs, and make sure each Zoob is separate
2. Check the stopwatch is set up already.
3. Display the laminated information and postcards somewhere nearby (e.g., on a table) and have the stickers on hand to give out when participants have completed the activity.

How to demonstrate this activity

1. Briefly explain the purpose of the game- Make a structure as fast as you can.
2. Clearly explain how to assemble the pieces, emphasizing the goal of replicating the structures shown in the provided figures.
3. Discuss the variations and their implications for strategy and difficulty. (Optional- you could do this after playing)
4. Offer tips and help manage any difficulties with piece connections, especially for beginners or younger participants.
5. Facilitate a discussion about their experiences and their assembly strategies. Encourage participants to describe their structures and any insights they gained regarding the relationship between music and crystallization.

Taking this activity further

You can use the activity to discuss any of these subjects:

* Defects
* Amorphous material
* Epitaxial growth
* Structures of plastic

How to pack this activity away

* Disassemble all of the crystal constructions, try to sort the Zoob pieces as you go (this helps with the activity next time).
* Discard any broken pieces.

This activity goes well with…

* The Nucleation Game
* Mineral crystals
* Crystallisation of a magic crystal tree

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