

The Strength of crystals

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Capital High School

Destiny Erickson, Hansel Chavez, Michael Montano

Irina Cislaru

Mr. Gunter

SUMMARY: Our project was based on research to conduct an experiment with changing the structure of crystals and their durabilities. We compared the structure of salt to iron and took iron's attributes and put them into our salt model to make it more durable. Our model represents the salt crystalline structure under different temperatures. On NetLogo we looked at the different types of crystals already coded and got inspiration from those models.

PROBLEM: Salt is a common household substance that is used in many different ways, mostly cooking. The salt crystal has a solid structure that is durable in strength to a certain degree of temperature and force. The iron crystal structure is much more durable and used to uphold its structure in many environmental tests. By looking at, and by modeling, the structure of salt and iron, we will be able to identify what the differences in their structures are and how that can contribute to each of their strengths. Our goal is to make a model of the salt crystal structure that has the same durability as Iron.

METHOD/SOLUTION: We solved our problem by asking scientists who specify on crystals and their structures. We used NetLogo to create our model and like said before most of our project was based on research.

DISCUSSION: We verified our model by testing it and resetting it over and over again.

RESULTS: We were able to make a stronger structure and test it under environmental factors.

CONCLUSION: It's possible to make a stronger salt however it depends on the structure.

SOFTWARE/REFERENCE/TABLES: NetLogo, python- failed,

<https://www.ibiblio.org/e-notes/Cryst/NaCl.html>

<http://www.csun.edu/~an6862/coursework/695/Growth%20and%20Development/Growth%20&%20Development.htm>

ACHIEVEMENT: Succeeding in making the model work.

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