

Magma Board Game



CASE ID: UA 639-25/562-23

BACKGROUND

Teaching how minerals crystallize as magma cools has been a challenge for educators and simulation designers because it involves complex heat exchanges that change matter. Traditional methods often oversimplify this process, making it hard to show how minerals form at specific temperatures. Many existing simulations prioritize fun over scientific accuracy, making it difficult for students to fully understand how mineral formation really works.

DESCRIPTION

The inventors have created a board game that simulates mineral crystallization in a cooling magma chamber, using a temperature scale based on Bowen's Reaction Series. Players must combine element chips to form specific minerals, but they can only do so when their chamber's temperature is within $\pm 100^{\circ}\text{C}$ of the mineral's formation point. A temperature marker decreases in fixed increments, creating a time-sensitive challenge that mirrors real-world cooling dynamics. Action cards introduce strategy by modifying turn order and resource flow, making the game both competitive and scientifically accurate.

ADVANTAGES

- Educational and Interactive
- Accessible and engaging
- Adaptable Mechanics

APPLICATIONS

- Geology Classroom Simulation
- Corporate Workshop

INTELLECTUAL PROPERTY

- Copyright
- Trademark



Playing card.



Playing card.

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