2022 Cobb County STEMapalooza Conference STARS Volunteer Service Hours Report and Verification

Prepared by Rita Dwivedi

If there are any questions, concerns, or a need for further clarification or documentation regarding this report or our STEMapalooza Conference activities, please contact any of our officers at waltonstars@gmail.com.

Introduction

After the Walton STARS Team and Ms. Amodeo collaborated to bring a crystal-growing lesson to her 8th grade science class and enter them into the 2022 Cobb County Crystal-Growing Competition, Ms. Amodeo invited us, the Walton STARS Team, to present at the 2022 STEMapalooza conference at Kennesaw Mountain High School on June 15th, 2022 and share our crystal-growing lessons with STEM Teachers. We were delighted and immediately agreed.

The STARS team members involved in this conference were:

1. Susanna Huang, Founder
2. Selina Huang, President
3. Andrew Fang, Vice President
4. Rita Dwivedi, Secretary and Treasurer

Preparation

To begin our preparation, the STARS Team held a group meeting via Zoom for two hours on June 4th from 4PM to 6PM to decide on general topics to cover, create a plan and basic outline, and draft speaker notes for the presentation, entitled *Crystallizing Student Interest in Science*. This outline along with the speaker notes may be found here:2022 STEM Conference presentation details.

Because the conference is meant to spread note-worthy ideas to local enthusiastic teachers about science that could be easily applied in the classroom, we decided for our presentation to focus on the same three main advantages we covered last year for hosting or participating in a crystal-growing competition or related activity. These topics were then divided up among our members to present and included:

1. Increased back-to-school social-emotional engagement, since crystals are beautiful and fascinating, which fosters social interaction. (Rita)

2. Relative affordability and easy accessibility, since salt is a relatively safe and commonly found household material and because STARS Team already has all the documents and rules ready, with no need to start from scratch. (Selina)
3. Enhanced scientific skills and exposure to the vanguard field of crystallography, since students can learn about the scientific method and the principles of crystallography. (Andrew)

Furthermore, Susanna and Selina were chosen to introduce the topic of crystal-growing and crystallography, and to prepare and lead an interactive lab-experiment for the teachers during the conference.

After this meeting and with these topics and responsibilities in mind, each member worked individually on their section of the presentation and their speaking notes for approximately four hours over the next week.

On June 11th, the STARS team held another meeting via Zoom for one hour from 4 PM to 5 PM to review and finalize the presentation, with each member critiquing and crossediting the work of other members. At the conclusion of this meeting, the presentation and speaking notes was nearly complete, and the final version may be found here: Crystallizing Student Interest in Science.

To receive feedback on our work, STARS Team met via Zoom with Ms. Amodeo on June 13th from 3PM to approximately 4PM to do a quick rehearsal for one hour, which went smoothly. After the rehearsal, the STARS team held a last-minute editing session from approximately 4-5PM to incorporate Ms. Amadeo's suggestions.

Lastly, on the evening of June 14th and the morning of June 15th, Susanna and Selina spent approximately three and a half hours preparing for the interactive lab segment. This time was spent procuring materials (a full list of which can be found attached to this report), dividing them into prepared sets to be distributed among the teachers, and creating the keepsakes (messages hidden in sand in the test tubes).

Thus, our preparation was complete.

Conference Day

Finally, on June 15th, the STARS Team and Ms. Amodeo presented together at two STEMapalooza sessions (one virtual, one in-person). All members arrived at Kennesaw Mountain High School at 10 AM. The virtual presentation began at 11AM and lasted for approximately half an hour. The in-person session followed, beginning at 12:30 PM and lasting for approximately one hour.

During the virtual presentation, Ms. Amodeo began by introducing the team, after which the STARs team explained the importance of crystallography and its significance for students K-12th. Many of the online Zoom audience teachers offered kind, appreciative words in the chat and out loud as they left the Zoom session at the end of the first presentation. One of the teachers was

even Susanna Huang's previous middle school science teacher, and she was very excited to introduce the crystal-growing activity to her own middle school in the following fall semester.

In the second, in-person session, the STARS team presented live to a group of roughly one dozen science teachers in room 504. The session consisted of roughly the same presentation that was presented to the virtual session, but with an additional interactive lab-experiment component for the teachers in the remaining time in which we showed the teachers how to grow crystals inside cups and gave them keepsakes (messages inside lab tubes). The STARS team then listened to the amazing ideas that the teachers had to bring crystallography to their own students. For example, one teacher spoke of making sugar crystals to eventually have the students consume, and another talked about having the experiment after state exams to solidify concepts taught throughout the year.

Conclusion

We, the Walton STARS Team, were all very glad that we had this amazing opportunity to share our ideas about the importance of crystal-growing activities for students' creativity and scientific skills. We will continue sharing our love of science with others, inspiring others and spurring creativity, and kindling the spirit of scientific exploration.

Itemized Claim

- **2 hours: June 4th (4-6 PM), Initial drafting meeting**
- **4 hours: June 4th-June 11th, Individual work over the next week on presentation, speaking notes**
- **1 hour: June 11th (4-5 PM), Group review, editing, and finalization meeting**
- **2 hours: June 13th (3-5PM), Rehearsal with Ms. Amadeo + After-rehearsal editing**
- **3.5 hours: June 15th (10 AM-1:30PM), STEMapalooza Conference**
- **(Susanna and Selina Only) 3.5 hours: June 14th and 15th, Preparing the interactive lab and keepsakes**

Total Service Hours claimed for preparing the presentation and presenting at the STEMapalooza conference:

Susanna Huang (16 hours); Rita Dwivedi (12.5 hours); Andrew Fang (12.5 hours); Selina Huang (16 hours).

If the above is correct, please sign below:

_____ _____

Dodgen Middle School Science Teacher – Ms. Amodeo Date

Appendix

Speaker Notes and Presentation Outline

https://docs.google.com/document/d/1R2d04u4MPYbudbzT2t77wcKE487Z4uMJ3MAJpsKq63Q/edit?usp=sharing

Finalized Presentation

https://docs.google.com/presentation/d/1QFvJq86tk0KD8wUBq_-MonLbhiwki7m9O-h7Y6iRDTA/edit?usp=sharing

Presentation Schedule

List of Lab Materials

- 35 pairs of plastic/rubbers gloves
- 35 stirrer/plastic spoons
- 35 Crystal Journal pages
- Sharpies + highlighters
- 35 plastic cylindrical container for taking solution home
- 35 plastic bag/with empty cylindrical container, preparation with message and sand and pointy rock
- 1 measuring cup (use sharpie to mark down the line that goes with 50mL)
- 1 gallon of distilled water
- 35 Small, pointy (rinsed) granite rocks
- All crystal samples to pique interest
- UV light source
- Scale
- Alum bottles
- Hammer
- 35 Clear plastic cups
- 10 Translucent plastic cups with the ridges

- 1 roll of tin foil (for weigh boats)
- 1 Electric kettle/hot water heater