VIRTUAL SUMMER ACADEMY

July 13-15, 2021

SCIENCE AND SUSTAINABILITY

D R A F T A G E N D A

Science and Sustainability (SAS) was supported by a grant from the Instructional Materials Division (IMD) of the National Science Foundation's Education and Human Resource Directorate, by the Science Education for Public Understanding Program (SEPUP) at the Lawrence Hall of Science, University of California, Berkeley. The program uses personal, societal, and environmental issues to teach science and has an integrated, interdisciplinary approach.

The Academy is designed for teachers who have used SEPUP's Science and Sustainability program for at least a year and is designed to explore topics in depth. If you have never used the program, or are a novice user, we suggest you contact us for a new-user implementation training.

- We will meet online from 12-3 pm EDT using a Zoom meeting platform. Your Zoom invites will be sent to you approximately a week before the meetings.
- Program files can be viewed here: [insert Padlet url here]
- Our daily program will be followed by a 30-45 min informal Q&A time, where participants can chat with the day's presenters, if desired
- Questions? Lisa Kelp will handle all logistics-related inquiries. Lisa's cell phone: 513-256-3820, E-mail: lkelp@lab-aids.com
- Sessions with **Breakout** as part of the title will incorporate Zoom small group work

SAS Academy Staff

For Lab-Aids

- Laura Baumgartner, Senior Consultant, Bellevue (WA) Public Schools
- Dr Mark Koker, Lab-Aids Institute, San Leandro, CA
- Lisa Kelp, Lab-Aids Institute, Novi, MI
- Din Seaver, Lab-Aids Institute, VT
- Chris Keller, Technology Manager, Lab-Aids, Littleton, CO
- Hethyr Tregerman, Lab-Aids Product Manager, Lab-Aids, Littleton CO

For SEPUP

- Barbara Nagle, SEPUP Director Emerita, Oakland CA

Before the meeting:

At least three weeks before the meeting

- Register and pay program fees at [insert URL here]
- Post your 50-75 word bio statement and your Friday elective choices in the participant google survey, online at [insert URL here]

At least one week before the meeting

- Schedule a short (30 min) video call to check in and get acquainted with members of your conference working group. We will assign you to a group of 3-4 teachers/administrators based on our top-secret compatibility algorithm at least two weeks prior to the meeting, and will post your group info in the "Participant Information" google sheet, online at [insert URL here]
- Make sure you have received your box of meeting equipment and materials (the "Academy box"); if not, please contact Lisa Kelp at lkelp@lab-aids.com

Anytime before the meeting

- *Review program files and please do your advance reading, available on the conference padlet* [insert URL here]

Tuesday, July 13

Focus on Unit 1, Living on Earth and introducing the Sustainability and Issues based themes of the program, Literacy?

11:55 Log into the Zoom meeting

12:00 Welcome and introductions
We will assign lab groups two weeks prior to the meeting so you can meet each other online.

12:15 Short introduction to using lab notebooks with SAS, Lisa
How do students make sense of what they are learning? Student sensemaking can take many forms, including the use of science notebooks. Whether digital or paper, interactive or spiral bound, notebooks give students a place to record, process, and retrieve information. We will share several options and methods for using notebooks with your students, both digital and on paper. Participants will have a paper and digital notebook to use for the week.

12:30 Technology tools in SAS, Chris and Laura/Din
Overview of online digital support tools for teaching SAS, including the Magic Box portals. We will also model the use of Jamboards for remote instruction and alternatives to the STELLA software used in Activities 7.2 and 8.4.

1:00 Activity 1.1 What Do We Want to Sustain? *Laura and Din*
Uses *Material World* and sets the focus on issues and sustainability for the SAS program.

2:00 Literacy tools and approaches in SAS (Laura, Lisa)
SEPUP has adapted strategies to support reading comprehension (Read, Think and Take Note) and writing (Writing Frames) and will discuss their use for Activities 4.3, 4.4, and 4.5, which uses authentic, historical texts. We will share samples of student work and strategies for using these tools with SAS.

2:55 Free write: How do today's activities support the theme of sustainability as used in the SAS program?

3:00 Dismiss; staff to remain for 30 min to discuss any teacher questions.

Wednesday, July 14

Focus on Units 2 and 3, Feeding the World and Using Earth's Resources and introduction to assessment in SAS

11:55 Log into the Zoom meeting

12:00 Activity **12.1**, Soil Nutrients and Fertilizer, Laura, Din
Compare the nitrogen content of two different soils and discover how well each soil absorbs nitrogen from fertilizer. AQ 5 (and 12.3, AQ 6) is an opportunity to assess the UC variable with your students.

1:00 Introducing the SEPUP Assessment System (Mark, Laura)
The SEPUP Assessment system is a practical approach to analyzing student responses to open ended prompts using five scoring guides (Understanding Concepts, Analyzing Data, Designing Investigations, Communicating Information, and Evidence and Tradeoffs). It has a proven research base and has been featured in national publications. We will investigate two scoring guides (DI and ET) this week, after this short overview.

1:15 Activity 14.2, Exploring the Physical Properties of Elements, Laura
This is a DI type activity. We will view the activity and moderate samples of student work.

2:15 Demos, Laura and Din
Activity 21.3 Distillation of Simulated Crude Oil, (demo) featuring the SAS distillation tool; Activity 24.1, Extracting Metal from a Rock

2:55 Free write: How do today's activities support the theme of sustainability as used in the SAS program?

3:00 Dismiss; staff to remain for 30 min to discuss any teacher questions.

Thursday, July 15

Focus on Unit 4, Moving the World and ET Assessment

11:55 Log into the Zoom meeting

12:00 Investigating the Decomposition of Hydrogen Peroxide 33.4, Din
Iron (II) Chloride is used to catalyze the process and the calorimeter allows for the measurement of energy changes. Students write a balanced chemical equation for the reaction.

1:00 ET Assessment moderation, Laura and Lisa
*We will view the labs and moderate sample student work from **35.4** (AQ4) and 31.2 (AQ3), time permitting.*

2:50 Free write: How do today's activities support the theme of sustainability as used in the SAS program?

2:55 Group Zoom Portrait

3:00 Dismiss; staff to remain for 30 min to discuss teacher questions