

Dear Susan,

It's hard to believe that it's been five years since we all sat together learning about Open Top Chambers (OTC) and phenology. The APPLES team is in the process of updating the APPLES webpage and we want to include your experience.

This journal template highlights the 2016 East Coast Apples Workshop has been shared with you as a starting point for your APPLES Google Doc Story. Posts from the Forum and Photo Journal have been copied and pasted into your story. Feel free to edit and add information as you like.

Please update the document by adding additional pictures, links to sample lessons, and information that will enhance your story of the APPLES experience and classroom implementation. The most recent story should appear at the top of the document.

To help others see the incredible work that you do as a teacher this document has been linked to your name on the APPLES webpage. Since it is viewable by the public on the Internet, please comply with federal and school guidelines for posting pictures of students and others. We look forward to updates of your incredible APPLES story!

Please let us know if you have collaborated with a colleague at your school on the APPLES concept. We would be happy to reach out to

them, and offer them support to continue engaging their students in phenology based projects.

If you have questions or need help please contact Cinda Murray
cmurray@nwsd.org



Who I Am...

Susan Braun is a 9-12th grade teacher at State College Area High School, PA.

Be creative and write a synopsis of who you are!

Possible information may include your favorite subjects, how you became interested in climate change research, awards you've received, how long you've been teaching, etc.

What Is APPLES?

APPLES stands for Arctic Plant Phenology--Learning Through Engaged Science, but what does that really mean? APPLES prepares educators to use polar research to engage their students in similar studies in the classroom. Educators in this project will have access to, contribute to, and disseminate information from the long-term and ongoing research project which focuses on changes in the phenology of arctic plants and how this relates to climate change. APPLES will demonstrate, through training, the results obtained by phenological observation and experimentation.



My APPLES Experience Begins July 2016

My APPLES story began with the 2016 Workshop at Penn State University. At the workshop Eric Post introduced us to his phenology work in Greenland. We learned how to use time-lapse cameras and how to assemble open top chambers, which are used in field studies. Throughout the week I was immersed in the lectures from experts and gained new ideas for bringing hands on, authentic learning experiences back to my classroom. I'm looking forward to future collaborations with my peers and the incredible APPLES Team. From the APPLES Photo Journal

Pictures from the APPLES Photo Journal

Posted on July 1, 2016 by [iamryancherry](#)

July 2016 Workshop



Checking out the time lapse cameras before bringing them back to their school class rooms



Kathy teaching



Working on a plan to collaborate with others.





Mostly everyone gathered for this shot



In the courtyard

MASTER MODEL IDEAS

- 1) Can be continuum-based
- 2) Collaboration
- 3) Diagram of plan
that will evolve over time
- 4) Students may develop
part of the plan

Brain

Lit. &

Budg

Master model ideas

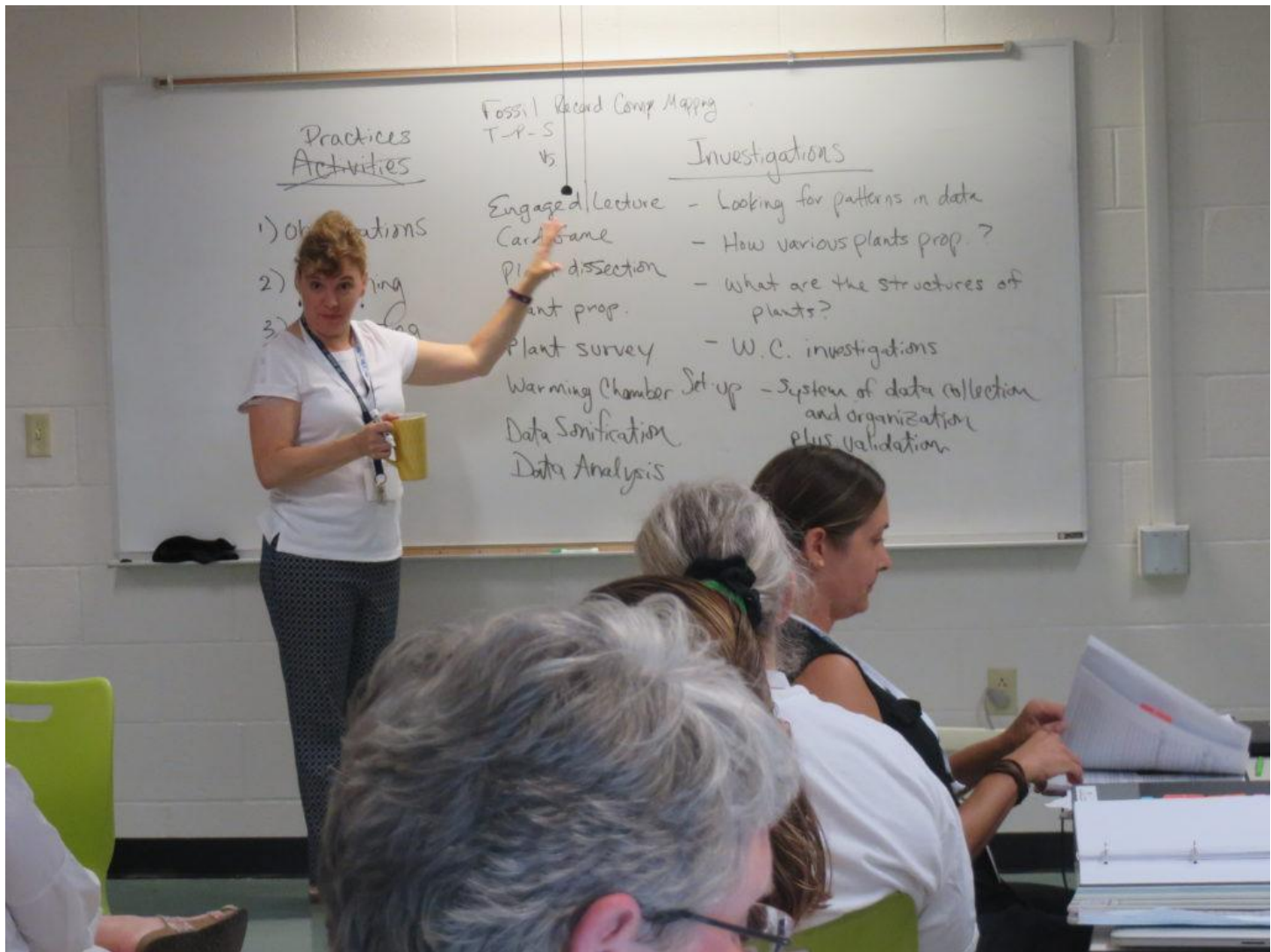


Summary





Russ explaining the Mammoth tooth



Kathy talking investigations



Eric and Heidi.



How does growing season length influence crop yield?

1. How does timing of planting affect yield?
 id "OPTIMAL" planting time
 --- early vs. late

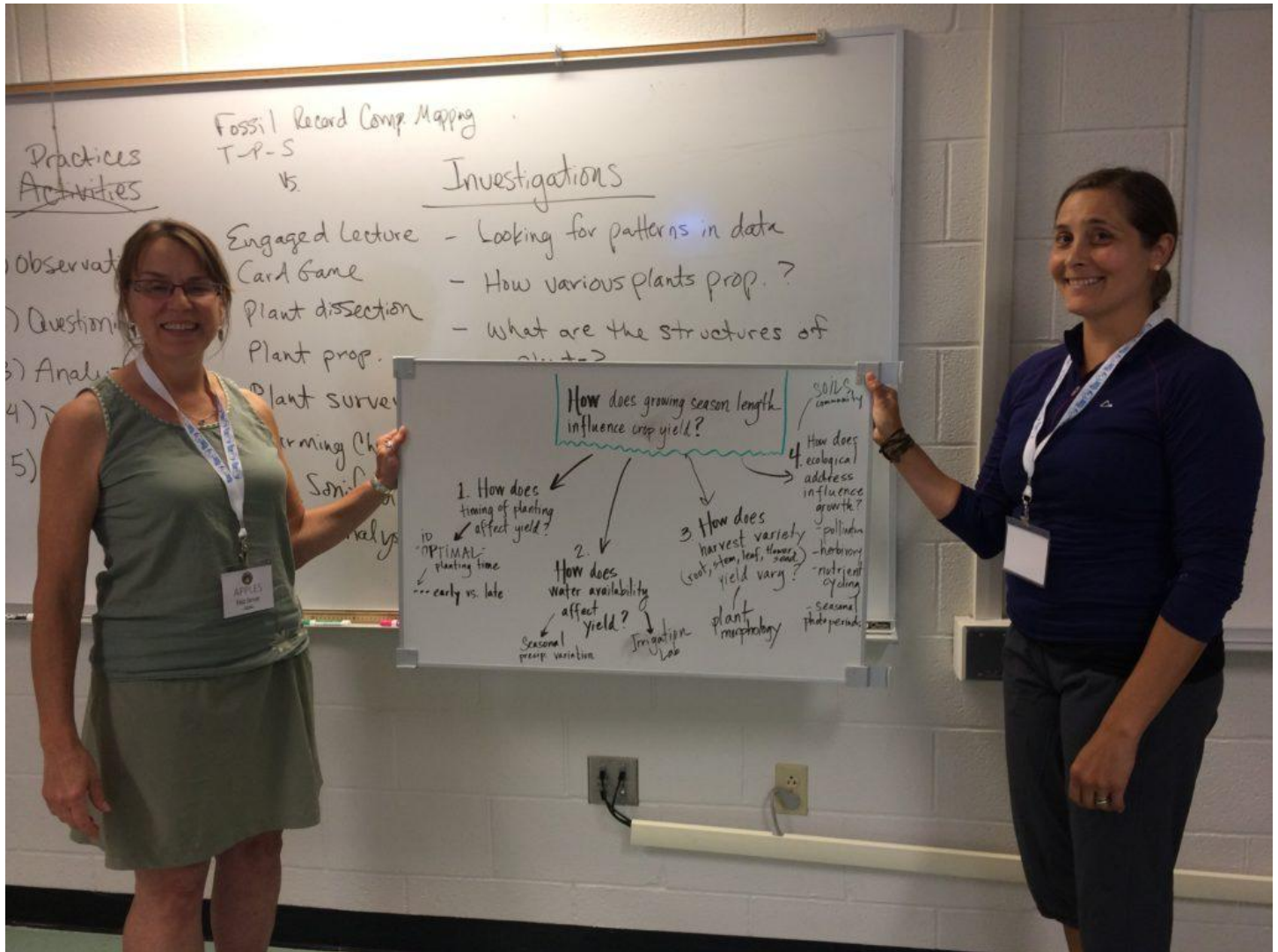
2. How does water availability affect yield?
 Seasonal precip. variation
 Irrigation Lab

3. How does harvest variety (root, stem, leaf, flower, seed) yield vary?
 plant morphology

soils community

4. How does ecological address influence growth?
 - pollinators
 - herbivory
 - nutrient cycling
 - seasonal photo periods

How does growing season length influence crop yield?



A lot of sharing back in the classroom



Showing of ice cores





Inside the ice lab at Penn State



In July the ice lab is great place to be in, but only for a little bit



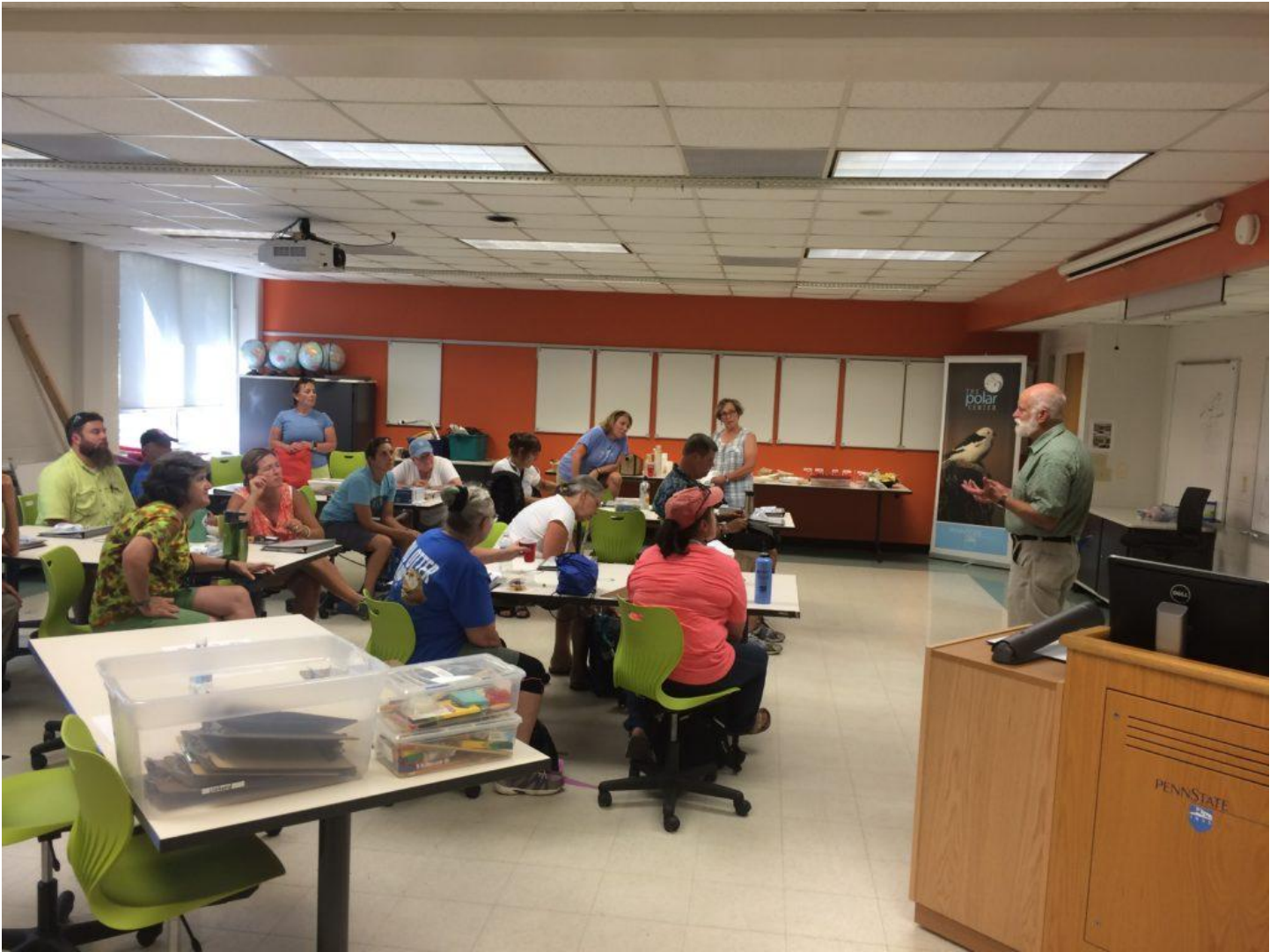
Russ Graham talks Mammoth tooth



Morning at the Arboretum.



Entering the "Ice Lab"



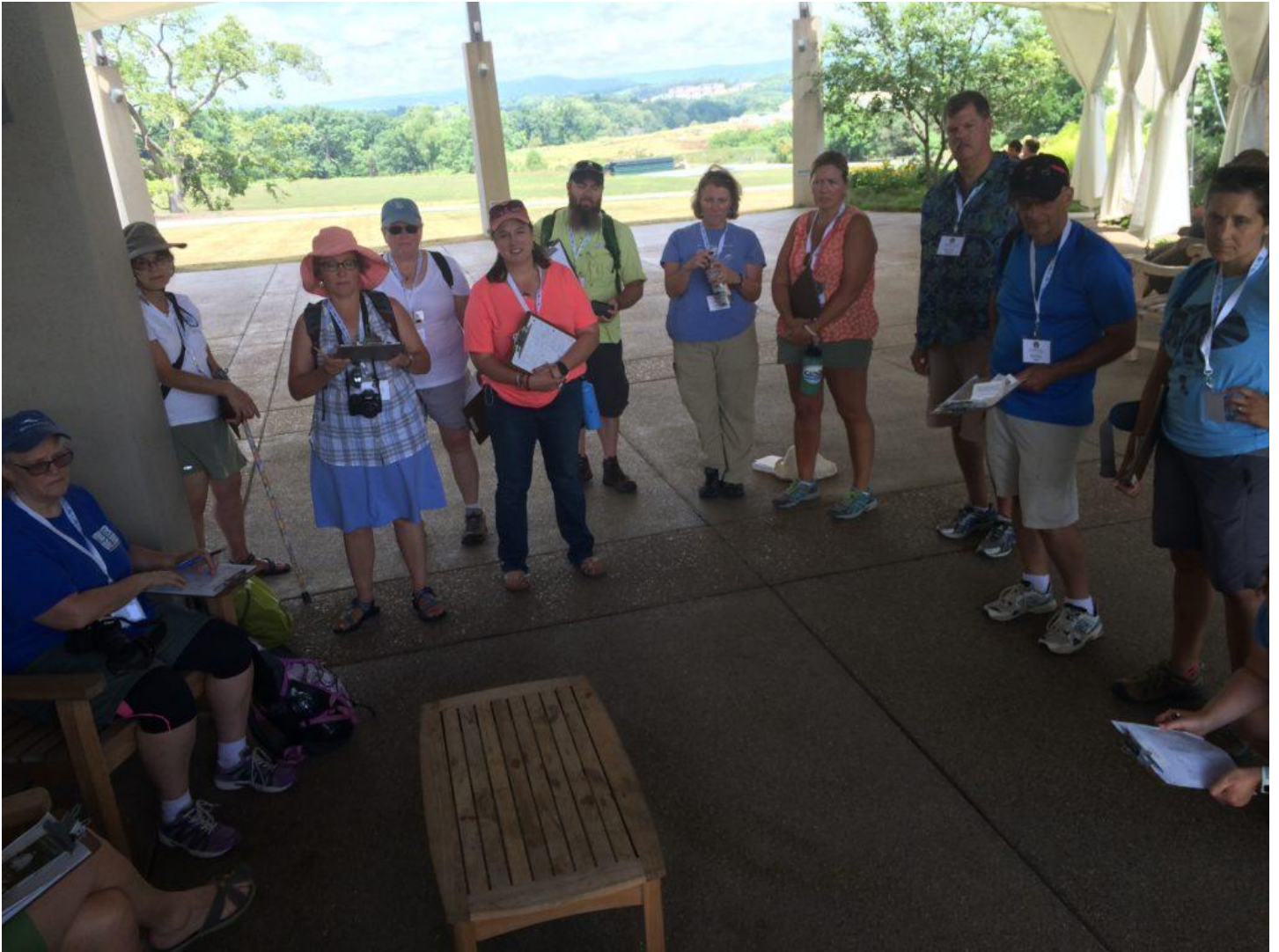
Don Voigt, geoscientist prepares everyone for a trip to the "Ice Lab"



Taking a closer look at the time lapse cameras provided for every teacher



Going through the actual process of assembling an ITEX cone



Assembly and sharing notes before leaving the Arboretum.



Working at The Arboretum at Penn State



The Arboretum at Penn State provided a perfect location for inquiry based learning



Learning hands-on plant phenology and plant parts



Teachers presenting to each other



Taking a closer look at the Mammoth tooth



Researcher and teachers sharing knowledge



Teachers working



Annmarie Ward explaining the master model

Pictures from the Greenland Research Presentation





A visit to the inland ice cap





Heidi, Christian and Nell visiting the long-term field site in Greenland before the workshop



Penn State undergraduate students with Nell and Heidi
