

35th Satellite and Educators Conference

A Challenge For Teachers!
Be the BEST for Our
Students!

Saturday, July 30, 2022

Dr. Barbara Shannon

bshannonpersonal@gmail.com

(323) 388-9889



Recap from Sessions Yesterday

- ♦ Europa Clipper – to be launched October 2024, Going to Europa to look for life
 - ♦ How can this information be used across disciplines
 - ♦ Life science – Looking for traces of life – Water means ability to sustain life?
 - ♦ Chemistry – What kind of minerals are in the rocks and how does this affect the possibility of life
 - ♦ Physics – Using gravity to help Europa Clipper on its way; Orbital mechanics
 - ♦ Geology – What is the terrain like? What about the mountains? Oceans ?
- ♦ Creating an artificial intelligence forecasting model to analyze the parameters of exoplanets and rate them according to ideal habitability conditions for life to exist.
- ♦ CubeSATS, A₃Sat and other methods to gather information
 - ♦ Readily available data from satellites
- ♦ Less formulas and equations; substituting 3D models to help understand mathematical concepts
- ♦ Projects that students could engage in where they must collaborate and work in teams.
 - ♦ NASA DEVELOP
 - ♦ NASA TechRise Student Challenge
- ♦ Finding your passion in what you do.

Challenge 1

- ♦ Organize for success
 - ♦ Lots of information. What do you do with it all?
 - ♦ Are you ready for your first day? How do you know? How will your students know?
 - ♦ No flying by the seat of your pants – It will be obvious!
 - ♦ Start with an activity that is stimulating.
 - ♦ Use Engage, Explore and Explain today
 - ♦ Save the Elaborate and Evaluate for later
 - ♦ Example: Observation – important for all disciplines; Communication – orally and written
 - ♦ Slowly pull students back in and go through your first day procedures.
 - ♦ Will you set up lab journals? How? Why?
 - ♦ I like to start my regular class with a quick write and/or a quick video.
 - ♦ You tube - <https://www.youtube.com/watch?v=yl7mcj-Wu9k> – Life on Jupiter's Moon – 2:14
 - ♦ You tube - <https://www.youtube.com/watch?v=IL9n3Our4ys> – Is There Alien Life on Jupiter's Moon – Europa – 4:43

Using an Interactive Lab Journal



CartoonStock.com

Principles of Biomedical Laboratory Journal



"I WAS SUCH A GOOD STUDENT THAT I SKIPPED A YEAR IN MEDICAL SCHOOL - BUT THAT'S WHY I NEVER LEARNED ABOUT KIDNEYS."

CartoonStock.com

Name _____

Room _____ Teacher: Dr. Shannon

WHO? - This is your laboratory journal. Take responsibility for it.

WHAT? - This is a tool to keep you organized and help you study.

WHY? - Keep this up to date so you will do well on tests and quizzes.

Value	Expectations
It keeps you organized. It helps you express your creativity. It helps you study. It allows your parents to see what you are doing in class. It helps you prepare for success on tests and quizzes. Colleges use it to determine what you accomplished and how to place you.	If lost, replace it immediately. You must keep it up to date. Bring it to class everyday. You must be present for notebook checks in order to receive full credit. DO YOUR OWN WORK! Manage your own behavior and not be disruptive or disrespectful.

I have read and understand all of the information above. I will not cheat on my laboratory journal by giving or taking answers that are not my own. I will make no excuses for not having completed my assignments.

Student's Signature _____

Date _____

Your Laboratory Journal is the place where you will write your notes and ideas from class content. Here you will document experimental design and data from your labs and reflect on observations you make or information you gain during the class activities, projects and problems. The majority of your drawings will be done here first, annotated and then submitted via google drive.

You should work on your journal ANY chance you get during class.

YOUR NAME in the upper right-hand corner
DATE in the upper right-hand corner beneath your name
TITLE in the center on the top line
Page Number on the bottom outside corner
SIGNATURE of your Partner on the bottom in the inside corner

Activity 1.1.1 – A Sketchy Scene

Page 1

This grade sheet is very important. It will help you keep up with where you are in the class at all times. You are to write down every assignment given, the date it is due, the date you turned it in, the total possible points and the points you receive. The last column is for you to write comments. Examples include, I found this assignment difficult, I did not understand, This assignment was pretty easy, etc.

[illegible]

Challenge 2

- ♦ What do you bring to the table?
 - ♦ Hard work – interesting lessons
 - ♦ The Teacher as Warm Demander – Educational Leadership, September 2008, Volume 66, Number 1, Positive Classroom, pages 54-58 by Elizabeth Bondy and Dorene D. Ross
 - ♦ The Warm Demander: An Equity Approach – Edutopia. April 13, 2016 by Matt Alexander
- ♦ What do your students bring to the table?
 - ♦ Themselves and everything else that happens in their lives
 - ♦ A feeling they can do nothing right or nothing at all
- ♦ How does this all fit?
 - ♦ Growth mindset – okay to fail! (safe space)

Challenge 3

- ♦ Design your lessons with the end in mind.
 - ♦ NGSS begins with what the students should know by the time they complete a section
 - ♦ Plan this way. It will save you time and frustration
- ♦ Keep teacher run class time to a minimum
 - ♦ More student voice – use activities and projects
 - ♦ Allow choice of way students present their information
- ♦ Look for every opportunity to bring in new ideas, yours and theirs.
 - ♦ Conferences, Newspaper article, magazines, news report (Radio or TV), NASA channel
 - ♦ Science News for High School students; Current science
- ♦ Be flexible
 - ♦ Okay so there is a fire drill you forgot about!

Challenge 4

- ♦ It's okay not to have all of the answers
 - ♦ Find the answer together
 - ♦ Assign the finding of the answer to different groups
 - ♦ Ask for volunteers
- ♦ Don't let standardized assessments get the best of you!
 - ♦ Yes you CAN teach literacy with science and math!
- ♦ Have FUN!!
 - ♦ It is amazing how good you feel after a day of having fun. Those 200 lab notebooks don't look so bad after all.

Thank you! Question?

- ♦ You've Got This!
- ♦ Teach Like a Champion : 49 Techniques That Put Students on a Path to College by Doug Lemov
- ♦ Never Work Harder Than Your Students & Other Principles of Great Teaching – by Robyn R. Jackson