

APSI Day One Agenda

Monday-AM

Warm-Up Question (5 minutes)

The complex structure of proteins can be explained in terms of four levels of structure: primary, secondary, tertiary, and quaternary.

- (a) Primary structure involves the sequence of amino acids that are bonded together to form a polypeptide. State the name of the linkage that bonds the amino acids together.
- (b) Beta pleated sheets are an example of secondary structure. State one other.
- (c) Tertiary structure in globular proteins involves the folding of polypeptides. State one type of bond that stabilizes the tertiary structure.
- (d) Outline the quaternary structure of proteins.
- (e) Show the general structure of an amino acid.

Introductions (25 minutes)

- (a) What is your name?
- (b) Where do you teach?
- (c) Where did you go to college?
- (d) How long have you've taught?
- (e) What subjects do you teach and how long have you taught them?
- (f) Is there any other interesting information you want to share?

Goals of the Workshop (5 minutes)

- (a) Share information about ourselves.
- (b) Understand that no question is a bad question.
- (c) Be flexible. We may need to change direction as the workshop progresses.
- (d) We'll try to meet the expectations of each of you individually, while fulfilling the needs to the group.
- (e) Complete a lot of labs and activities and share best practices.
- (f) We'll have time to reflect and share out.

Review of Schedule and Materials (10 minutes)

Monday:

Start Onion Mitosis

Activity: Cell-to-cell communication

Diversity in the classroom, Equity and Access (Pg 27 in Workbook)

Inquiry (Pg 55 in Workbook)

Activity: Getting on the Teacher Community.

Go to: <https://apcommunity.collegeboard.org/web/apbiology/home>

Labs:

Diffusion Osmosis Lab/Potato (Big Idea 2)

Restriction Enzyme Lab (Big Idea 3)

Review and Reflection of the labs—teacher led group presentations to the class.

Homework Assignment: Find an easily incorporated activity that you do with your students that can be built into a lesson (that runs while you are teaching and can be viewed at the end of the lesson to drive home the content of the lesson). Be ready to discuss this with the class and share out.

Tuesday:

Warm-up question

Activity: Dialysis tubing and corn syrup

Activity: Explore the Workshop Workbook

Activity: Curriculum Framework

BLAST Lab (plus Cladistics Extension on Wednesday) (Big Idea 1)

Cell Respiration and Photosynthesis Lab (Big Idea 2)

Photosynthesis (DPIP and Floating Disk) (Big Idea 2)

pGLO Lab (Big Idea 3)

Enzyme Lab (Big Idea 2)

Review and Reflection of the labs—teacher led group presentations to the class.

Activity: Explore/amend/build your syllabus

Wednesday:

Warm-Up question

Activity: Diffusion with dyes and agar

AP Biology Exam Activity

AP Biology short answer (FRQ) grading activity

Finish pGLO Lab (Big Idea 3)

Hardy-Weinberg Lab (Big Idea 1)

BLAST Lab Extension (Big Idea 1)

Review and Reflection of the labs—teacher led group presentations to the class.

Thursday:

Finish Onion Mitosis

Meiosis activity (*Sordaria* and/or Reebops)

Predatory-Prey Simulation

Review and Reflection of the labs—teacher led group presentations to the class.

Norm Setting (5 Minutes)

Be respectful of others

Be helpful

Be on time

We're all professional, leave as needed.

Help us stay on topic, especially during discussions.

Limit the sidebar conversations during discussions.

Ask questions

General Schedule (5 Minutes)

Mornings:

Begin with a Warm-Up question and settle in.

Quick activity (for incorporation during lesson)

Get through some of the nuts and bolts of the workshop lesson.

Perform a couple of activities for curriculum, help during the year, syllabus, exam, short answer questions, grading, etc.

Discuss and share experiences of the lesson/activity.

Explore the activity.

Afternoons:

Labs

Discussion

Reflection and sharing

Activity (20 Minutes)

Set up and run the Cell-to-Cell Activity

Discussion (60 Minutes)

Diversity in the Classroom: Equity and Access (Pg 27 in Workbook)

What is Equity and Access to you?

What does your school do to promote equity and access?

Inquiry (Pg 55 in Workbook)

What is inquiry to you? How do you promote inquiry in your classroom.

POGIL

Break (15 minutes)

Web Activity (30 Minutes)

Using a search engine, find the following:

The AP Biology course description

The Lab Manual, pdf files of individual labs, and the entire lab manual, the free response questions and answer sheets

The Quantitative Skills Guide

Activity (20 Minutes)

Revisit the activity and discuss

Lunch (45 Minutes)

Monday-PM

Afternoon Labs (180 Minutes)

Diffusion Osmosis Lab/Potato (Big Idea 2)

Restriction Enzyme Lab (Big Idea 3)

Review and Reflection of the labs—teacher group presentations to the class.

Answer these questions:

1. What did I learn about the lab(s) today?
2. What are/were the key ideas?
3. What are some ways I can incorporate this into my classroom along with inquiry? If there are no ways to incorporate it, why not?
4. What did I understand well?
5. What do I need from others to help me so I understand it better?
6. How does it related to other areas of the curriculum?
7. What suggestions would you make to a colleague who has to do these activities in a non-lab based classroom?