

2018 AP Biology APSI Agenda

June 26-29, 2018 – University High School, Morgantown, WV

Kathy Van Hoeck

This is our tentative schedule for the week. We can always change it or move things around to best suit your needs. We will NOT be doing all the labs in the lab manual, but we will review and critique as many as possible.

****Those seeking graduate credit must complete an additional 15 hours. To complete the additional hours, participants must create a syllabus and complete readings as assigned. More information will be provided on the first day of the institute.**

DAY 1: BIG IDEA 1 EVOLUTION

AM Introductions and Overview (group norms & partners)-**15 min**

- [Why I teach AP](#), [How I help struggling students](#)-
- Google Drive

Updates on AP Curriculum, Labs, and/or Exam (Visit to AP Central)

Curriculum Framework Activities:

Big Ideas & Enduring Understandings (bulletin board idea-kids see this every day)

Syllabus/Audit

[Learning Objectives](#) Clear Biology Website-**1 hour**

[Power Words](#) Clear Biology Website

[Tips for writing AP FRQ's](#) Clear Biology website

HW: 2017 Exam debrief part 1: FRQ #3-30 min

LABS: (laptop needed for 2 & 3)

Investigation 1: Artificial Selection (discussion only)

Investigation 2: HWE Mathematical Modeling (discussion only)

Investigation 3: **BLAST-Whales, Walruses and Seals, Oh my!**-**1 hour**

PM Set up or Prep for: (2.5 hours)

Investigation 11: Transpiration lab (whole plant version)-set up

Investigation 4: Diffusion and Osmosis Part 1-prep

Investigation 8 and/or 9: Biotechnology-Transformation-**prep**

Share Ideas: Alternative Labs for Big Idea 1-(15 min)

Using Models and Representations: **(30 min)**

POGIL

[Evolution in Action: Data Analysis](#) (HHMI)

[Sea Shell Biodiversity & Phylogeny](#) (HHMI)

[Biology of Human Skin Color activities](#) (HHMI)

Resources for teaching evolution: (30 min)

[Rock Pocket Mice](#) or [Stickleback Evolution virtual lab](#) (HHMI)

Fishy Frequencies

Evolution by Natural Selection (Serendip)

What did T. rex Taste Like? (UCMP)

Peppered Moths Simulation - <http://peppermoths.weebly.com>

Classroom Activities to Share - [Quantitative Skill Modules](#) (15 min)

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DAY 2: BIG IDEA 2 CELLULAR PROCESSES: ENERGY & COMMUNICATION

AM Nature of Science Activity 2-[The Data Dilemma](#) -30 min

Searching for the Science Practices-30 min

Introduction to Evidence-based Claims-30 min

2017 Exam debrief: FRQ #1, write #5, #7-30 min.

LABS: 1.5 hrs.

Investigation 4: Diffusion and Osmosis

Investigation 4 Extension: Water Potential set up (w/inquiry)

Cell Communication in Yeast-set up

Investigation 11: Transpiration – Day 2

PM LABS: 2.5 hrs.

Defining Inquiry

Investigation 5: Photosynthesis (Floating Disc Assay and Algae Beads– mini posters with I² strategy-1.5 hr

Models and Representations: **30 min**

POGIL

Case Study

Alternative Labs for Big Idea 2, Classroom Activities to Share
Reflections-**30 min.**

DAY 3: BIG IDEA 3 GENETICS AND INFORMATION TRANSFER

AM Show Inner Life of the Cell, John the Motor Protein, GTCA Song videos

Unpacking Illustrative Examples and Exclusion Statements-15 min.

Importance of the Science Practices activity

2017 Exam debrief part 3: FRQ #3, #6-30 min.

Teaching Students How to Answer Free Response Questions

Tips for Grading Free Response Questions

LABS: 2.5 hrs.

INVESTIGATION 8: Biotechnology - Bacterial Transformation-Inquiry

INVESTIGATION 9: Biotechnology – Restriction Enzyme Analysis of DNA

INVESTIGATION 11: Transpiration – Day 3

PM LABS: 1.5 hrs.

Investigation 4: Water Potential results (Groups will share results)

Cell Communication in Yeast-day 2

Using Models and Representations: **1 hour**

- Flow of Genetic Information Kits
- Amino Acid Starter Kits/baby beads
- Cell Communication activity-Sticklebacks (also includes Chi Square)

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Alternative Labs for Big Idea 3

Reflections

DAY 4: BIG IDEA 4 INTERACTIONS (8:00-2:30 pm)

AM Data Nuggets website-15 min

AP Insight-15 min.

Diversity in the Classroom: Equity & Access-15-20 min

AP Instructional Planning Report (IPR)-30 min
Chief Reader Report, Community, etc.

Scientific Argumentation in AP Biology-30 min.

LABS: 2.5 hrs.

INVESTIGATION 11: Transpiration – Day 4 (final results)

INVESTIGATION 8: Bacterial Transformation Inquiry (results)*

Yeast Lab Cell Communication-final results

INVESTIGATION 10: Energy Dynamics-**Owl Pellets (discuss only)**

INVESTIGATION 12: Animal Behavior (**discuss only-termites, caterpillars, beta fish**)

FRQ's-#2, #4, #8

PM LABS: 1.5 hrs.

INVESTIGATION 6: Enzyme Lab/Introduction to Probeware (Vernier/Pasco)

Using Models and Representations: **1 hour**

- *POGIL*
- Food Chain and Food Web Activity (HHMI)
- HHMI Short Film – Some Animals are More Equal than Others
- And So it Grows-population math activity
- Alternative Labs for Big Idea 4

Wrap Up Unfinished Business from Earlier in the Week

Review & Summary

Evaluations - CB consultant number: 8082

Door Prizes

Final Reflections – THANK YOU!

ENJOY THE REST OF YOUR SUMMER!!! 😊

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