AP Biology “Phenomenal Lab/Activity” Ideas

As a way to drive learning throughout the new AP Bio units, I’ve been incorporating some labs in between themes. They are used partially as review of the information from the prior unit and to drive inquiry in the next.

For instance, in between Unit 1 and Unit 2 this year, I ran a transpiration lab. Students first made conclusions for the action of transpiration in their tests based solely on hydrogen bonding (since that was their prior knowledge from Unit 1). They had trouble explaining the varied rates of transpiration when different variables were applied (wind, light, humidity, etc.). Throughout the next unit, students learned about cell transport and water potentials and returned to their lab to write a final revised conclusion using their expanded knowledge. Deeper understanding was gained through revision of their writing; in fact, they were responding to this lab as students do NGSS Phenomena.

This is the first year treating the labs with the revised curriculum, and I am open to your ideas for improvement. Please let me know if you have any questions or suggestions.

Unit 1: Chemistry of Life
   → Transpiration Lab

Unit 2: Cell Structure and Function
   → Study of cell structure vs. function in varied tissue types

Unit 3: Cellular Energetics
   → Enzyme Dynamics

Unit 4: Cell Communication and Cell Cycle
   → Cancer Activities, HHMI

Unit 5: Heredity
   → Wisconsin Fast Plants (Artificial Selection)

Unit 6: Gene Expression and Regulation
   → Transformation Lab
   → Genetically Modified Mosquitoes, HHMI

Unit 7: Natural Selection
   → Tusk-less Elephants, HHMI

Unit 8: Ecology