

NASA Resources for AP Biology classes

Essential knowledge 1.B.2: Phylogenetic trees and cladograms are graphical representations (models) of evolutionary history that can be tested.

Lesson Plan: Telephone–Phylogenetics - This activity lets students participate in the process of reconstructing a phylogenetic tree and introduces them to several core bioinformatics concepts.

<http://csunplugged.org/wp-content/uploads/2014/12/PhylogeneticsUnplugged.pdf>

Essential knowledge 2.D.1: All biological systems from cells and organisms to populations, communities and ecosystems are affected by complex biotic and abiotic interactions involving exchange of matter and free energy.

Lesson Plan: Measuring Temperature Islands - Use the information at the end of this page to find sources of existing data and references to detailed protocols and methodologies for collecting and analyzing temperature and other information. <https://www.epa.gov/heat-islands/measuring-heat-islands>

Essential knowledge 2.E.2: Timing and coordination of physiological events are regulated by multiple mechanisms.

Data Source: EarthData - Find information and links to our print and multimedia outreach products, Sensing Our Planet publications, links to recorded monthly webinars and data tutorials, as well as other links to information on how to find, access and use NASA Earth science data information, data services and [data tools](https://earthdata.nasa.gov/user-resources). <https://earthdata.nasa.gov/user-resources>

Essential knowledge 4.A.5: Communities are composed of populations of organisms that interact in complex ways.

Lesson Plan: Exploring Regional Differences in Climate Change - Using modeled climatological data from the University of New Hampshire's EOS-EarthData, you will obtain modeled, annual predictions for minimum temperature, maximum temperature, precipitation, and solar radiation for Minnesota and California. <https://serc.carleton.edu/eet/climate/index.html>